Evaluating the SWAN (Scaling Walls A Note at a time) Program: How Do Their Music Lessons Impact the Children of Incarcerated Parents?

Jessica Yorks

Dr. Mahaffy
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Abstract

This paper evaluates the SWAN program, an organization that offers free music lessons to children with a history of parental incarceration. The goal of this research project was to assess to what extent SWAN provides children with cultural capital, or the non-financial resources that enable individuals to overcome difficulties they face and achieve higher status in society. A total of seven children participated in this study. Seven additional children matched by sex and age comprised the comparison group and all were found from networking through local organizations. Surveys were distributed that collected information on children’s musical knowledge, academic grades, commitment to SWAN, self-evaluations, and pertinent demographics.

Results showed that children in SWAN received significantly more cultural capital, as measured by their amount of musical knowledge, than children not in the program. The data also indicates that children enrolled in SWAN have better overall academic grades than children not enrolled in SWAN although results were not statistically significant. The majority of children had academic GPA increases after taking SWAN music lessons for a year. Finally, we found that children in SWAN reported doing less homework over time but have high music lesson attendance rates. Limitations to this study are examined and recommendations for the program are discussed.
Introduction

It has been well documented through empirical research that children of incarcerated parents are at a high risk for a host of negative outcomes in life (Hoffman, Byrd, and Kightlinger 2010). For my research project, I am interested in studying this population and discovering if SWAN, Scaling Walls A Note at a Time, a Lancaster county program that provides children of incarcerated parents with music lessons, is effective in providing these children with the cultural capital that may mitigate some of the problems they face. Therefore, my research question is: to what extent does the SWAN program create cultural capital for the children it serves?

Studying the effectiveness of SWAN is of tremendous sociological importance. Hoffman et al.’s (2010) research revealed that children whose parents are imprisoned experience an increased risk of juvenile delinquency, behavioral and emotional issues, and lower academic success. Another study by Raeder (2012) found that children of incarcerated parents have higher rates of homelessness, unemployment, poverty, and unstable living conditions than their counterparts. Because the United States incarcerates more people now than ever, many of whom have children, there is a growing population of children who face these and numerous other problems outlined by research (Kjellstrand and Eddy 2011). While the quality of life for these children may be greatly affected by the imprisonment of a parent, their families, communities, and even society pay for these consequences as well. For example, incarcerating an individual in the correctional system costs taxpayers thousands of dollars per year and research shows children with a parent incarcerated are at a higher risk of committing crimes than the general population (Hoffman et al. 2010). It would be disastrous and unwise to imprison a growing number of these children when services like SWAN are available to help prevent them from engaging in criminal
behavior. Moreover, there are not many programs designed specifically for the needs of children whose parents are incarcerated although there is great demand for them. Therefore, it is enormously beneficial to discover if SWAN is helping these children gain cultural capital so that similar programs can be expanded and implemented on a larger scale. All of these measures will not only benefit the children with an imprisoned parent but society as well.

Overview

In this paper, I highlight existing research that is relevant to my topic and discuss Pierre Bourdieu’s Social Reproduction Theory. I then describe my research design, characteristics of my sample, and my sampling strategy. I also address the ethical issues my study raises and how I minimized these problems. After this discussion, I state my hypotheses and develop the concepts of my study by defining them. From these sections, I discuss how I collected data. Next, I analyze and report my findings before describing the limitations of my study and proposing recommendations for future studies involving the SWAN program. Finally, I conclude my paper with a summary of my findings as well as a discussion of the implications of my research.

Outcomes of Children of Incarcerated Parents

There is a great deal of existing research that focuses on measuring the outcomes of children with an imprisoned parent. Most of this research suggests that these children experience many significant problems in life. For example, a study conducted by Kjellstrand and Eddy (2011) examined whether parental incarceration affects children’s problem behaviors and serious youth delinquency in adolescence. The researchers analyzed an already existing longitudinal data set called Linking Interests of Families and Teachers. This data set is a school-based intervention
distributed to first and fifth graders and their families in twelve elementary schools in the Eugene-Springfield area of Oregon, all of which are in the top 50% of neighborhoods in the area that had police contact with juveniles. After participating in this study, the children and their families were contacted again for follow-up evaluations in eighth and tenth grade.

One of the main concepts the researchers were interested in studying was children’s problem behaviors, in which parents and teachers rated each child on thirty antisocial behaviors on a scale of 0 (not true) to 2 (very true) on the Child Behavior Checklist. Examples of problem behaviors include “physically attacks people,” “destroys things,” and “argues a lot.” Another important concept examined by researchers was serious youth delinquency, in which youth self-reported their engagement in eleven serious antisocial behaviors on a scale of 0 (not at all) to 5 (over 15 times) on the Elliot Delinquency Scale. Examples of serious youth delinquency include “used forced to rob a person, store, bank, or business,” “sold hard drugs,” and “raped someone” (Kjellstrand and Eddy 2011).

Kjellstrand and Eddy (2011) found that adolescents with a history of parental incarceration had significantly higher levels of problem behaviors at grades five, eight, and ten than adolescents without this history. The researchers also found that strength of these associations increased over time. Additionally, the researchers discovered that serious delinquency in tenth grade was significantly higher for adolescents who had a history of parental incarceration than for adolescents without this history. Thus, this study suggests that children who have a history of parental imprisonment are at an increased risk of problem behaviors and serious youth delinquency in adolescence than their counterparts without familial incarceration.
Moreover, a study by Geller, Garfinkel, Cooper, and Mincy (2009) also focused on measuring the outcomes of children who have an incarcerated parent. The purpose of their research was to examine the effect of parental imprisonment on children’s economic and residential instability as well as children’s behavioral problems. To answer their research question, the researchers analyzed a preexisting data set called the Fragile Families and Child Wellbeing Study, which is a population-based sample of children in twenty large U.S. cities, where incarceration is most widespread. From 1998 to 2000, both married and non-married parents were selected at hospitals in these cities within twenty four hours of giving birth and were interviewed for three years after.

One of the concepts that Geller et al. (2009) examined was economic outcomes, which was defined as whether parents were employed, the number of weeks parents worked in the last year, parents’ most recent hourly wage, parents’ gross income for the previous year, and, if applicable, fathers’ monetary contribution to their family through shared earnings or child support. Another important concept that was examined was residential instability, which the researchers defined as whether the parents were married, cohabitating, or were nonresidents when their child was three years old as well as the number of residential moves since the child was born. The researchers also measured children’s behavioral problems. For this concept, the researchers asked parents to report their children’s problem behaviors related to aggression, anxiety, depression, and withdrawal by using the Child Behavioral Checklist. From this measure, researchers then converted the parents’ scores to a scale of either 1 (child sometimes engages in behavior) or 2 (child often engages in behavior).
The researchers found that children who have a father who was imprisoned have significantly lower economic outcomes than children without an incarcerated father. In particular, these children have fathers who are less likely to be employed, work fewer weeks in the last year, and earn less per hour as well as yearly. Similar results were found for children who have a history of maternal incarceration although results were not significant. Also, the researchers found that children whose parents have been incarcerated experience significantly more residential instability because they move more often than those with non-incarcerated parents, which is problematic since this process disrupts children’s need for stability and breaks down social ties to others in the community. Finally, the researchers discovered that male children who have a father with a history of incarceration score significantly higher for problematic aggressive behavior. Overall, this study shows that children who experience parental incarceration are more likely to experience economic hardship, residential instability, and male aggressive problem behaviors than their counterparts without this history (Geller et al. 2009).

Thus, both of the studies that examined the outcomes of children of incarcerated parents will help inform my research because they indicate that these children experience a number of negative outcomes in life including problem behaviors, serious youth delinquency, economic hardship, and residential instability. Both of these studies suggest that the children I examined in the SWAN program are at a higher risk of these kinds of issues than their peers without parental imprisonment.

Although there has been a tremendous amount of research studying the outcomes of children of incarcerated parents, none of it discusses how music lessons may improve some of the difficulties they face. Therefore, it is necessary to describe research outlining the positive
effects of music lessons in the general population so that connections can be made to bring the
two fields of research together.

**The Effect of Music Lessons on Academic Achievement**

There has been some research indicating that music lessons have a positive impact on
children’s academic achievements. For example, a study by Wetter, Koerner, and Schwaninger
(2008) looked at whether musical training improved children’s school performance in grades
three to six and if these hypothesized improvements extended across all school subjects or only
to specific areas of study. To gather data, the researchers went to two local schools in
Switzerland in which seven classes volunteered to participate in the study. In this non-
randomized cross-sectional design, the researchers had a total of 120 children whom they divided
into three groups based on their presence or absence of involvement with music: group 1 was
comprised of participants who took music lessons, the majority of which were piano; group 2 did
not practice any music lessons or handicrafts; group 3 had handicraft lessons only.

The main concept that Wetter et al. (2008) examined was children’s overall academic
performance, which was measured by teachers’ assessment of the students’ work across all
subjects in school. The researchers also looked at students’ performance in the subjects of
German, French, mathematics, history/natural history/geography, handicraft (wood and textiles
or drawing and painting), music, and sports. For both measures, the teachers rated each of their
students on a scale of 1 to 6, with 1 (the worst), 4 (sufficient), and 6 (the best).

The researchers found that children in group 1 who received regular music lessons
achieved significantly higher average marks across all school subjects than those in group 2 and
group 3. Additionally, the researchers discovered that group 1 scored significantly higher than group 2 and group 3 on their average marks for each particular subject except for sports. Thus, this study suggests that children who are enrolled in music lessons perform significantly better both in school in general and in the particular school subjects than those who are not taking any musical lessons (Wetter et al. 2008).

Furthermore, a study by Southgate and Roscigno (2009) examined how musical involvement affected children and adolescents’ math and reading performances. The researchers analyzed population-based data previously collected by the Department of Education. The first of the studies that researchers focused on was the Early Child Longitudinal Study, which was administered to about 20,000 kindergarteners in the United States with follow-up evaluations in first, third, and fifth grade. The second study the researchers analyzed was the National Educational Longitudinal Study, which followed 25,000 adolescents starting in eighth grade to beyond their high school graduation.

One of the concepts that Southgate and Roscigno (2009) examined was musical involvement, which they defined as whether children received musical instruction/support through learning about music in school classroom settings, music lessons outside of school, or parental involvement in attending concerts. The researchers also looked at academic achievement as a concept and measured this variable by taking the standardized test scores in math and reading from the two data sets they were examining.

In measuring these concepts, the researchers controlled for the family and children’s SES, race/ethnicity, and gender. They found significant effects for SES as well as race/ethnicity on children and adolescents’ overall academic achievement but found no effects for gender. For
reading achievement, the researchers found that music involvement in school positively predicted reading achievement for adolescents and small children. The researchers also discovered that music lessons outside of school are positively associated with higher reading achievement in adolescents. Additionally, the findings also indicated that music participation in school and parental involvement is positively associated with math performance. Although researchers found a positive association between math achievement for adolescents taking music lessons outside of school, results were not significant. Thus, this study suggests overall that music involvement, both inside and outside of school, as well as parental involvement with music does impact reading and math achievements to varying degrees (Southgate and Roscigno 2009).

Thus, both of these studies inform my research because they indicate that music lessons are positively associated with children and adolescent’s higher overall academic achievement in school, higher academic performances across particular subjects in school, and on standardized reading and math tests. I can apply this knowledge to my evaluation of SWAN because it suggests that, if SWAN is effective in providing cultural capital to children enrolled in the program, their grades should theoretically be higher than children who are not receiving its services.

**Social Reproduction Theory**

Although none of the articles emphasized using Pierre Bourdieu’s theory of social reproduction as a means to examine how music lessons help youth, it is beneficial to examine this theory in relation to my the purposes of my study. In his social reproduction theory, Bourdieu examined the mechanisms through which social classes reproduce and perpetuate
themselves and, from this discussion, he derived the important idea of cultural capital. Bourdieu described cultural capital as individuals’ cultural resources that act as a form of capital that can be just as powerful as money. In particular, these resources can be seen as assets that are given to an individual such as knowledge, skills, education, objects, and recognition that help them navigate the world around them and achieve upward social mobility. Cultural capital acts as a means for all individuals including those who are economically disadvantaged to achieve a higher status in society so that they can have more power to affect change in their lives (Bourdieu and Passeron 1977).

In this way, the studies described above suggest that SWAN may be providing children with cultural capital by offering music lessons. Because the instructors involved with SWAN take the time and effort to teach children the knowledge and skills involved with playing a musical instrument, the children in the program can use this newly-gained cultural capital to advance their social positions and overcome the many obstacles they face.

Relevance

Although previous research has identified many of the issues affecting children of incarcerated parents as well as how music lessons improve children and adolescents’ academic achievement, there are many areas upon which these fields can be improved. One way my study fills a void in existing research is that it “bridges the gap” between music lessons’ effect on academic achievement and outcomes of incarcerated parents. Currently, there is no research that specifically aims to bring together these important fields of research although there is a very logical connection between the two. Thus, my study connects these issues to see if music lessons improve the outcomes of children with a history of parental incarceration.
Lastly, my study adds knowledge to Bourdieu’s theory of social reproduction and, in particular, cultural capital, by demonstrating how his theory applies to music. While some examples of cultural capital have been well established through research, my study can help elaborate on the idea of music lessons as another form of cultural capital.

**Research Design**

My study was a quasi-experimental design because I generated a comparison group by matching all of the children in the SWAN program with children not in the program based on their age and sex. All concepts but one were cross-sectional measurement; participants’ academic grades were collected at two points in time.

**Characteristics of the Sample and Sampling Strategy**

I had a total of fourteen participants in my study, seven of whom were in SWAN and seven of whom were not. To collect my sample, I first tested the seven children enrolled in SWAN. To create a comparison group, I used convenience sampling by networking with various Lancaster-based organizations that serve children with a history of parental incarceration. My sample is not generalizable to a larger population due to lack of random assignment into groups.

**Ethical Issues**

For guardians, the ethical issues included embarrassment or unease discussing previous incarceration or incarceration of a loved one; for children, ethical issues involved embarrassment or unease about their self-evaluations, grades, and musical knowledge.
I reduced harm to participants by first getting my research approved by professors in the sociology department as well as Millersville University’s IRB, letting people know their participation is voluntary and that they may end their participation at any time, and informing participants about the risks involved with the study in the informed consents. When two of the children in my study reported negative self-evaluations and told me about bad feelings they had, I explained that there are people who care about them that they can talk to and I referred them to their school counselors.

Finally, I insured the confidentiality of participants by giving each child and his/her guardian a random number from 1-14, which were located at the top of their surveys. I used these random numbers to collect their information and analyze my findings.

Hypotheses

My analysis, following the discussion above, uses a cultural capital framework to address the extent to which SWAN provides non-economic resources to the children it serves, how music lessons impact children’s self-evaluations, and how music lessons impact children’s academic performance. From these ideas, I came up with four hypotheses to test:

H$_1$: Children enrolled in SWAN have greater cultural capital than children not enrolled in SWAN.

H$_2$: Children enrolled in SWAN have a more positive self-evaluation than children not enrolled in SWAN.

H$_3$: Children enrolled in SWAN have better overall academic grades than children not enrolled in SWAN.

H$_4$: Children currently enrolled in SWAN have better academic grades than before their music lessons began.
Concepts

Commitment to the SWAN Program

To measure the concept of SWAN children’s commitment to the program, I examined two variables: SWAN children’s lesson attendance and homework completion. I defined children’s lesson attendance in SWAN as the percentage of times children attend their weekly music lesson. I defined the homework completion of the children in SWAN as the self-reported frequency of how often and how many minutes children said they practiced their voice or music lessons during their first week in music lessons as well as their last week in music lessons.

Cultural Capital

To measure the cultural capital, I defined this concept as children’s overall musical knowledge. In measuring musical knowledge, I first asked all of the children in the study to identify particular musical symbols/notes. Then I placed the children in SWAN into a voice, guitar, or violin group depending on the lessons they are taking and asked them to either identify vocal ranges, label parts of a guitar, or label parts of a violin. I defined musical symbol/note identification as the percentage of musical symbols, musical notes, and how many beats musical notes get that are correctly identified. For children not in SWAN, I matched each child on his/her age and sex with another child in the program and place him/her into the appropriate group.

Self-evaluation

I also measured all the children’s self-evaluation, which I defined as the five feeling words children think are most representative of them at the present time. (See appendix A for list of adjectives presented to children.)
Academic Grades

To measure all the children’s academic grades, I defined the concept as each child’s GPA, which I calculated based on the overall grades children received at the end of the last school year as well as their final grades this academic year. All of this data was obtained from the children’s schools. Since the participants are in different grades at different schools, and each school has a different grading scheme, it was necessary to recode all of the children’s grades so that they were standardized into GPAs. In order to calculate each child’s GPA and, thereby each group’s average GPA, I recoded their grades by hand.

Participation in SWAN

I defined participation in SWAN as whether the child is currently enrolled in SWAN.

Demographics

Finally, I collected pertinent demographic information on all the children in my study as well as their guardians. For the children, I collected their sex, age, ethnicity, race, and grade in school. For the guardians, I asked them was their sex, age, highest level of education, marital status, employment status, ethnicity, race, level of income, their relationship to the child in my study, if anyone in their household has ever been incarcerated, if anyone in their household was currently incarcerated, if they have ever been incarcerated, their level of interest in playing a music instrument, and whether they have ever played a musical instrument.
Data Collection

To collect data, I first obtained each SWAN child’s contact information from the executive director of SWAN. From the list she provided, I called each child’s guardian to explain my study. All of the guardians agreed to participate and gave assent for their children so I mailed them the informed consent forms. I also set up times with the guardians to conduct structured survey interviews with their children. However, I had to call almost all of the guardians several times about returning the forms. Over the course of a few months, I was able to get the letters I needed from repeated phone calls to the guardians and house visits. Once I went to collect the information in person, I finally received all of the required data from the SWAN group.

To find children for the comparison group, I first attempted to contact parents on SWAN’s waiting list. Unfortunately, I found that all of these children did not match the ages and sexes of the SWAN children or their guardians did not return my calls. From that point, I decided it would be best to network through several local organizations. For several months, I worked with a few organizations to find children who were the same age and sex as the children in SWAN and ran into similar issues with my phone calls not being returned and phones being disconnected. Finally, I was able to match all of the children in SWAN. I had all of the guardians fill out the necessary forms so I could conduct the children’s surveys at the same time. After a few months, I was finally able to complete the data collection process.

Analytic Strategy and Results

To make my data easier to understand, I divided my statistical analysis into three parts: descriptive statistics, comparative analysis, and comparative analysis for program participants vs.
non-participants. For the descriptive statistics section, I describe the characteristics of the sample such as children’s demographics and lesson attendance. For the comparative analysis section, I analyze data on SWAN participants only and examine comparative relationships such as homework completion between the first and last week of lessons, grade changes before and after joining SWAN, and correlations between age and percent correct on the musical knowledge test. Finally, for the comparative analysis for program participants vs. non-participants section, I evaluate the differences between SWAN and non-SWAN children on measures such as the two groups’ self-evaluations, academic grades, and musical knowledge scores.

**Descriptive Statistics**

**Demographics of Sample**

A total of 14 children participated in my study. Of the 14 children, 10 (71.4%) were female and 4 (28.6%) were male. The average age of the children in the study was 10.5 years old (min = 7, max = 16, SD = 2.71). Of the 14 children, 6 (42.9%) identified as Hispanic/Latino(a). Five (35.7%) children said they were “African American (Black),” 5 (35.7%) identified as “Other Race,” 2 (14.3%) self-reported as “Caucasian (White),” and 2 (14.3%) indicated that they were “White and Black.” Finally, the lowest grade in which a child was enrolled in was grade 2 and the highest grade was grade 10 (mode = 3).

To understand the background of the children in the study, and thereby understand the context in which they are living, it is also imperative to examine their guardians’ demographic information. There were a total of 12 guardians in the study. Five (41.7%) guardians said that their highest level of education was “some high school”. Half of the guardians (50%) indicated
that they were “single (never married)” and only 2 (16.7%) said they were married. Additionally, 4 (33.3%) of the guardians said that they were not employed at the time the surveys were distributed. Furthermore, 7 (50%) of the guardians said their household’s annual level of income was “less than $15,000.” Eight (66.7%) of the 12 guardians surveyed identified that their relationship to the children as their “parent”. 4 (33.3%) of the guardians said someone in their household has been incarcerated in the past while 3 (14.3%) of the guardians revealed that someone in their household is currently incarcerated. Finally, 4 (36.4%) of the guardians said they have been incarcerated in the past.

The findings that 41.7% of the guardians only had “some high school” education, 50% of them were “single (never married),” and 50% of them had annual incomes of “less than $15,000” are particularly worrisome because it indicates that these children may be experiencing lack of access to financial and social capital. Thus, SWAN’s free music lessons are likely beneficial for these families because it provides their children with the resources and opportunities needed to overcome their social positions.

**Commitment to the SWAN Program**

In total, there were six children with records of their music attendance. The average attendance rate was 86.33%. Half of the six children were there for at least 84.5% of their lessons. The lowest rate of attendance was 78% and the highest rate 94.4%. Although questions about home instability were not asked of participants and cannot therefore be demonstrated numerically, it is noteworthy to comment that, of the four children with the lowest attendance percentages, three of them have experienced home instability. Furthermore, all of those three have moved at least twice since starting the SWAN program and they all have been homeless at
least once. This finding suggests that, the more home instability the children in SWAN face, which is more common among children with a history of parental incarceration, the less likely they are to attend their music lessons. This data shows that SWAN children still had high commitment to attending their music lessons despite all of these issues of residential instability.

**Comparative Analysis**

**Commitment to the SWAN Program**

Table 1:
Frequency of Homework Completion Last Week by Frequency of Homework Completion during the First Week (in frequencies and percentages)

<table>
<thead>
<tr>
<th>Frequency of Homework Completion Last Week</th>
<th>Not At All</th>
<th>1 Time a Week</th>
<th>2-3 Times a Week</th>
<th>Everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not At All</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (33.3%)</td>
</tr>
<tr>
<td>1 Time a week</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (33.3%)</td>
</tr>
<tr>
<td>2-3 Times a Week</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (33.3%)</td>
</tr>
<tr>
<td>Everyday</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>1 (33.3%)</td>
</tr>
</tbody>
</table>

n = 1  n = 2  n =1  n = 3
Table 2:
Duration of Homework Completion Last Week by Frequency of Homework Completion during the First Week (in frequencies and percentages)

<table>
<thead>
<tr>
<th>Duration of Homework Completion Last Week</th>
<th>No Minutes</th>
<th>1-10 Minutes</th>
<th>11-20 Minutes</th>
<th>21-30 Minutes</th>
<th>Over 30 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Minutes</td>
<td>1 (100%)</td>
<td>1 (50%)</td>
<td>0 (0%)</td>
<td>1 (100%)</td>
<td>1 (33.3%)</td>
</tr>
<tr>
<td>1-10 Minutes</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>11-20 Minutes</td>
<td>0 (0%)</td>
<td>1 (50%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>21-30 Minutes</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Over 30 Minutes</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2 (66.7%)</td>
</tr>
</tbody>
</table>

Both of these homework completion measures are troubling because they indicate that the majority of SWAN children are no longer practicing their music between lessons or they are practicing them at lower rates than when they started. Consequently, if these children are not
immersed in the musical learning process, they are not as likely to receive the many benefits the program offers.

**Correlations**

**Cultural Capital and Age**

A correlation between children’s age and percent of answers correct on the musical knowledge test revealed a significant relationship, $r = .581$, $p < .05$. The correlation coefficient is .581, which is a moderately strong, positive relationship. Thus, as a child gets older, his/her score on the musical knowledge test improves.

**Cultural Capital and Lesson Attendance**

A correlation between children’s percent of music lessons attended and percent of answers correct on the musical knowledge test did not reveal a significant relationship, $r = .333$, $p > .05$. The correlation coefficient is .333, which is a moderate, positive relationship. Thus, as a child attends more lessons, his/her musical knowledge test improves only slightly.
**Academic (Music) Grades**

Table 3: SWAN Children’s Academic (Music) Grades from Last Year to This Year

<table>
<thead>
<tr>
<th>Child</th>
<th>SWAN Children’s Music Grades Last Year</th>
<th>SWAN Children’s Music Grades This Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child 1</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Child 2</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Child 3</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Child 4</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Child 5</td>
<td>B</td>
<td>C+</td>
</tr>
<tr>
<td>Child 6</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>Child 7</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

As indicated by the table above, 5 out of 7 (71.4%) of SWAN children did not experience any letter grade changes in their school-based music classes while enrolled in SWAN. Of the two children whose music grades changed, one was in a negative direction and the other was in a positive direction. Thus, SWAN’s music lessons do not appear to affect children’s music grades in school.
**Academic Grade Change in SWAN Children as a Group**

Table 4:

SWAN Children’s GPA from Last Year to This Year

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Mean Rank</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWAN Children’s GPA Last Year</td>
<td>7</td>
<td>2.9</td>
<td>3.38</td>
<td>.5416</td>
<td>2.3</td>
<td>3.7</td>
</tr>
<tr>
<td>SWAN Children’s GPA This Year</td>
<td>7</td>
<td>2.9</td>
<td>3.75</td>
<td>.5260</td>
<td>2.3</td>
<td>3.7</td>
</tr>
</tbody>
</table>

A Wilcoxon Signed Rank Test revealed no change SWAN Children’s GPA from last year to this year and results were not significant, \( z = -.631 \), \( p > .05 \). Additionally, the group’s overall average remained the same between both years (\( M = 2.9 \)). Thus, my hypothesis that children currently enrolled in SWAN have better academic grades than before their music lessons began was not supported by these results. However, it is important to note that, since the sample is very small (\( n = 7 \)), the results are skewed by one of the children in SWAN who experienced a decrease in his/her GPA by 0.9 points. Whether this decrease in academic grades is due to more rigorous academic standards, different learning material, trouble acclimating to a new environment, or personal problems interfering with the learning process is not investigated in this study and would require a more in-depth analysis.

**Academic Grade Change in SWAN Children as Individuals**
Table 5:  
SWAN Children’s Academic Grades from Last Year to This Year

<table>
<thead>
<tr>
<th>Child</th>
<th>GPA Before SWAN Music Lessons</th>
<th>GPA After SWAN Music Lessons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child 1</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Child 2</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Child 3</td>
<td>2.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Child 4</td>
<td>3.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Child 5</td>
<td>3.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Child 6</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Child 7</td>
<td>3.3</td>
<td>3.7</td>
</tr>
</tbody>
</table>

As indicated by the table above, 4 out of 7 (57.1%) of SWAN children experienced an increase in their academic GPAs after taking SWAN music lessons for a year. Thus, although the SWAN group’s average GPA remained the same, this finding shows that SWAN’s music lessons may affect individual children’s grades in school.

Comparative Analysis for Program Participants vs. Non-Participants
### Self-Evaluation

Table 6:

<table>
<thead>
<tr>
<th>Word</th>
<th>Top 6 Feeling Words for SWAN Children</th>
<th>Top 6 Feeling Words for Non-SWAN Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Times Mentioned</td>
<td>Percentage of All Adjectives Mentioned</td>
</tr>
<tr>
<td>Happy</td>
<td>6</td>
<td>17.1%</td>
</tr>
<tr>
<td>Peaceful</td>
<td>5</td>
<td>14.3%</td>
</tr>
<tr>
<td>Okay</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>Strong</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Confident</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Satisfied</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Nervous</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>31.4%</td>
</tr>
</tbody>
</table>

All the children were given a list of feeling word prompts from which they chose the top five and ordered those five from most like them to least like them (see Appendix A). Because the top six responses to the self-evaluation measure make up the majority of the responses for both the SWAN and non-SWAN group, it is clearer and more concise to examine the differences between the two groups in this way. As indicated within the tables, the majority of children in both groups had an overall positive self-evaluation. The most frequently chosen adjective was “happy” (17.1% of all responses in both groups). Additionally, the adjectives “peaceful,” “okay,” “strong,” “happy,” “satisfied,” and “nervous” were the most commonly used adjectives.

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1 The top five responses contained ties so the top six responses were used instead.
and “strong” were also consistently chosen by both groups. It is noteworthy to add that three children in SWAN chose “nervous” as an adjective because they had an upcoming SWAN-related ensemble performance shortly after this survey was given. Because the majority of children responded positively to the self-evaluation question, these findings do not support my hypothesis that children enrolled in SWAN have a more positive self-evaluation than children not enrolled in SWAN. However, it is important to add that I was not able to contact children in the non-SWAN group prior to the distribution of this survey to develop rapport with them, so it is likely that many of those children simply put positive adjectives because it is not socially appropriate to talk about bad feelings with someone with whom one is unfamiliar. If I had been able to develop rapport, perhaps I would have received a more accurate representation of how the non-SWAN children felt about themselves.

**Cultural Capital between SWAN and Non-SWAN Children**
Table 7:
Score on the Musical Knowledge Test by Membership in SWAN (in percentages)

<table>
<thead>
<tr>
<th>Children’s Membership to SWAN</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musical Knowledge Correct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-SWAN Children</td>
<td>7</td>
<td>28.086</td>
<td>26.8374</td>
</tr>
<tr>
<td>SWAN Children</td>
<td>7</td>
<td>66.929</td>
<td>32.3544</td>
</tr>
</tbody>
</table>

A total of 14 participants completed the musical knowledge tests. The 7 participants not in SWAN had an average score of 28.056% correct on their musical knowledge test while the 7 participants in SWAN had an average score of 66.929% correct on their musical knowledge test. Thus, children in SWAN had a much higher average of correct answers than children not in SWAN. This data suggests that, on average, children in SWAN are learning more musical knowledge than children not in SWAN.

Table 8:
Score on the Musical Knowledge Test by Membership in SWAN

<table>
<thead>
<tr>
<th>Percent of Musical Knowledge Correct</th>
<th>Children’s Membership to SWAN</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWAN Children</td>
<td>7</td>
<td>10.14</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Non-SWAN Children</td>
<td>7</td>
<td>4.86</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

Mann-Whitney U 6
Wilcoxon W 34
Z -2.364
Asymp. Significance (2-tailed) .018

Because the standard deviations were not equivalent in Table 13, I used a Mann-Whitney U test, which revealed a significant difference in the percentage of answers correct on the musical knowledge test of SWAN children (Mean Rank = 10.14, n = 7) and non-SWAN children (Mean Rank = 4.86, n = 7). U = 6, z = -2.364, p = .018/2 = 0.0085 (1 tail test). Thus, SWAN Children scored significantly higher than non-SWAN children on the percentage of correct answers on the musical knowledge test. These findings support my hypothesis that children enrolled in SWAN have greater cultural capital than children not enrolled in SWAN. This finding is very important because it demonstrates that SWAN does provide those very valuable non-economic resources (cultural capital) that will enable children to achieve a higher status in society despite their economic disadvantages.

**Academic Grades between SWAN and Non-SWAN Children**
Table 9:

<table>
<thead>
<tr>
<th>Children’s Membership to SWAN</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children’s GPA Last year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWAN Children</td>
<td>7</td>
<td>2.9</td>
<td>.5416</td>
</tr>
<tr>
<td>Non-SWAN Children</td>
<td>5</td>
<td>2.6</td>
<td>.3536</td>
</tr>
<tr>
<td>Children’s GPA This year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWAN Children</td>
<td>7</td>
<td>2.9</td>
<td>.5260</td>
</tr>
<tr>
<td>Non-SWAN Children</td>
<td>5</td>
<td>2.7</td>
<td>.4359</td>
</tr>
</tbody>
</table>

According to Table 9, SWAN children, on average, did not experience any changes in their grades while taking SWAN music lessons. (With the small sample size, it is likely that the results are affected by the child in SWAN who experienced a net decrease in his/her GPA of 0.9.) Although the non-SWAN group experienced a positive change in their grades, children in SWAN still had a higher average GPA both last year and this year. This finding supports my hypothesis that children enrolled in SWAN have better overall academic grades than children not enrolled in SWAN. Also, a Mann-Whitney U test revealed no significant difference between SWAN and non-SWAN children’s GPA this year or last year.

**Limitations and Recommendations**

My study presented numerous limitations and, therefore, it is necessary to propose some recommendations for future projects related to SWAN.

First, a major limitation of this study is the difficult and time-consuming process to identify children for a comparison group. For future research related to SWAN, it is necessary to
network with preselected organizations or individuals willing to release their children’s contact information so that children will be identified and located early-on in the study.

Moreover, another limitation to my study was, ironically, that all of the children in the comparison group came from other organizations in the Lancaster area. This was a limitation because these other organizations may act as buffers in children’s lives and reduce some of their negative outcomes, just as SWAN aims to do. Although this is great for the children, it may be more beneficial to study children not involved with any program to see how the absence of a program has impacted them.

Next, another major limitation with this study is that, while I tried to develop rapport with the children in the SWAN group, I did not know the children in the comparison group before interviewing them, which could certainly affect my results. For example, almost all of the participants in the study self-reported positive feelings about themselves, which may or may not be actually representative of how they’re feeling. Since I was unable to establish a relationship or rapport with children in the comparison group, it is likely that they decided to present themselves as feeling positive since it is not socially acceptable to talk about bad feelings with a stranger. For future studies, it would be beneficial if the researcher has previous contact with all the participants before interviewing them for sensitive questions such as this.

Furthermore, another limitation of my study was that I was unable to use some of the attendance logs for the children in SWAN to assess their commitment to the program because attendance records were not well-maintained. It would be beneficial for SWAN instructors to understand the importance of keeping more detailed attendance logs that more accurately articulated so the children’s attendance can be more easily evaluated.
Also, as discussed above, this study is very limited in its depth and cannot ask deeper questions to fully capture the various ways in which SWAN impacts the children it serves. This study cannot also answer why some of the results occurred, such as the child who experienced a 0.9 decrease in his/her GPA. Because these questions require more comprehensive interviewing, it would be tremendously beneficial for future researchers to talk to those involved in the program and ask them more in-depth questions about the program and about their life experiences that this study raises.

Additionally, based on the data outlined above, there are several areas of improvement in the program that would be beneficial for SWAN to note so future changes can be implemented.

First, as discussed previously, SWAN children with more home instability were more likely to miss more music lessons than children without this issue. Because home instability is a bigger problem for children with a history of parental incarceration, this finding is very problematic and SWAN should find ways to try to overcome it.

Finally, another recommendation for the SWAN program is to incentivize children to continue practicing their music between lessons. Since both measures of homework completion showed that the majority of children had stopped practicing by the week before they were interviewed, their commitment to their music lessons and SWAN appears not to be very strong. If a child is truly immersed in the musical process and dedicated to taking music lessons, he/she would be more likely than others to receive the many benefits of playing a musical instrument.

Conclusions and Implications
As a growing body of research shows, parental imprisonment can have severe and devastating effects on children such as emotional and behavioral problems, lower academic achievement, economic hardship, residential instability, and juvenile delinquency (Kjellstrand and Eddy 2011) and (Hoffman et al. 2010). Additionally, there is a great deal of emerging research that also suggests music lessons can increase the academic grades of children in the general population (Wetter et al. 2008). This study expands upon existing research and brings these fields of research together to determine the extent to which SWAN lessons mitigate some of the problems children whose parents are incarcerated experience.

The results of this study showed that children in SWAN have increased cultural capital as evidenced by their statistically significant higher score on the musical knowledge test than children not in the program. This finding is incredibly important because it shows that SWAN is giving children cultural capital, or the resources and tools, to overcome the difficulties of having an imprisoned parent. Additionally, because half of the guardians in my study said they had incomes of “less than $15,000” annually, this highlights the importance of the music lessons being free. If SWAN did not offer these services for free, children from families in this category would likely not be able to receive music lessons and the benefits therein.

The findings also demonstrated that the SWAN group of children as a whole had higher GPAs than children not in SWAN although there was no positive difference in the SWAN group’s overall GPA after taking music lessons for a year. While the children in SWAN did not experience an increase in their GPA as a whole, the results, however, showed that the majority of children individually experienced positive GPA increases. Although not hypothesized, this
finding supports previous studies on the effect of music on children’s academic achievement and it further highlights the importance of SWAN’s music lessons.

Finally, the analysis showed that both groups of children reported overall positive self-evaluations. This finding was particularly surprising because I thought continuously learning and improving one’s skills during music lessons would boost SWAN children’s confidence and positive feelings far more than those not taking music lessons. However, these results could be due to cultural norms about positive self-presentation as discussed previously. It is noteworthy to mention that, despite all of the difficulties faced by children who have an imprisoned parent, they still self-reported positive feelings after taking SWAN lessons for a year.

Although my study did not fully support all of the previous evidence in the literature review, it does suggest that children in SWAN have increased cultural capital and higher academic grades than their peers not in the program. Due to these findings, it is worthwhile to support this newly-formed Lancaster organization while continuing to conduct evaluation research on the program. With more studies like this, sustained social support, and financial resources, SWAN will be able to better assess the needs of the children in the program, make any necessary changes, and continue to improve upon the invaluable services they provide for the growing number of children in the Lancaster area who have an imprisoned parent. Ultimately, if future research corroborates these findings, there will be a very strong case for societal support of this program and others like it. Because everyone pays for the rising rates of mass incarceration, especially in terms of decreased community safety and higher taxes, we must turn our attention to this pressing issue and find ways to alleviate this problem now.
References


Appendix A:

List of feeling words presented to children:

CONFIDENT
NERVOUS
HAPPY
OVERWHELMED
SCARED
OKAY
SAD
CONFUSED
SATISFIED
PEACEFUL
CONTENT
STRONG
DISCOURAGED
DISAPPOINTED
ANGRY
UPSET
ALONE
DOUBTFUL
HURT
BORED
WORRIED