

ABSTRACT

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RACIAL DIFFERENCES IN THE
EFFECTIVENESS OF AFTER SCHOOL
PROGRAMS

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After school programs (ASPs) are intended to support children by providing supervised academic and recreational activities during after school hours. Recently ASPs have been gaining popularity and public support which has led to increased funding for such programs. Before we increase federal funds further, it is important to know whether these programs are effective. The research on the effectiveness of ASPs is mixed and inconclusive. Therefore more research is needed. The focus of this study is to see if ASPs are differentially effective for students in different racial groups. The ASP was implemented in five low-performing middle schools in Baltimore County. Students were randomly assigned into treatment and control groups. No significant interactions of race by ASP were observed. A marginally significant interaction ($p < .10$) was observed for math scores and victimization. The marginally significant interactions were explained by pre-treatment variables. Race does not play a major role in the program effects of ASPs.

**RACIAL DIFFERENCES IN THE EFFECTIVENESS OF AFTER SCHOOL
PROGRAMS**

by

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Chapter 1. Introduction

After school programs (ASPs) have recently been gaining popularity and public support. This support has led to a \$100 million dollar increase in funding for 21st Century Community Learning Centers (CCLC), one of the largest and federally funded ASPs, giving 100,000 more children the ability to attend ASPs in 2008 (www.afterschoolalliance.org).

ASPs offer support to children by providing supervised academic and recreational activities during after school hours when arrests for juvenile crime peak between 2 p.m. and 6 p.m., with a peak around 3:00 pm. (Snyder et al., 1996; Sickmund et al., 1997). Recognition is growing that children need attention not just during school but after school (Durlak et al., 2007). Families struggle to arrange care for their children because the school day is considerably shorter than an adult's full-time work day. Too often children are left unsupervised during after school hours leaving them at risk for victimization or involvement in risky behavior and delinquency. It is estimated that 12% of elementary school children are left alone after school and as many as 70% of those age ten and up are unsupervised (Dryfoos, 1999). It has been estimated that about seven million children are without adult supervision some time after school (Durlak et al., 2007). Attending an ASP is crucial for these children who would otherwise be left alone.

The research has been growing about the effectiveness of ASPs on children. Durlak and others (2007) in their meta-analysis of 73 ASPs, found that children who attend ASPs, improve their positive self image, grades and test scores. They also found that participation in ASPs reduces problem behaviors and drug use. Another meta-

analysis by Vandell, et al. (2007) also supports these findings. They analyzed 35 ASPs, and found regular participation in ASPs increased standardized test scores and reduced problem behaviors in disadvantaged youths. Although there have been studies that have shown positive effects of ASPs, the evidence for the effectiveness of ASPs on academic and problem behavior outcomes has been mixed.

Recent large scale evaluations of ASPs have yielded mixed results, finding some positive impact on attitudes toward school but limited impact on their academic performance (Kane, 2004). Kane evaluated four large ASPs and failed to find any robust impacts in student grades and test scores. However the attendance in the ASPs evaluated was sporadic and one would expect modest impacts on academic performance. Despite the low participation rates, students were more likely to complete their homework and parents were more likely to participate in schools (Kane, 2004).

A nationwide evaluation of 21st-CCLC found that middle-school participants engaged in more negative behaviors than non-participants, with no improvements in feelings of safety, and few effects on developmental outcomes. Participants did not perform better academically than non-participants, nor were they more likely to complete their homework, despite heavy emphasis on homework assistance in 21st-CCLC (James-Burdumy et al., 2005).

A possible reason for mixed results may be because studies have not looked at race differences in the effectiveness of ASPs specifically. The overall null results of effectiveness may mask different effects for different race groups. ASPs may have different effects for different race groups because certain race groups are more at risk than others. Minorities, especially Blacks, are more likely to reside in communities with

concentrated disadvantage, neighborhood disorder, high levels of poverty, unemployment and family disruption (Wilson, 1998). Individual and family level risk factors are likely to be associated with community disadvantage. Children reared in disadvantaged communities are more likely to grow up in single parent families and experience family disruption.

Black families have higher rates of single parent homes. Female-headed families are heavily represented in poverty populations and are disproportionately black (Wilson, 1998). This is associated with black children increasingly growing up in families without fathers because more black women are getting divorced, separated, or widowed, and not getting married (Wilson, 1998). This has been attributed by high rates of male joblessness especially for Blacks (Wilson, 1998).

Children who live in disadvantaged communities and disrupted families tend to have weaker family attachments and social bonds. (McNulty and Belair, 2003). Adolescents that are likely to experience school failure, youth violence, substance use, and sexual behavior are labeled "at risk." This increased chance of risky behavior can stem from individual characteristics of youth, the contexts they live in, and the situations they encounter. Given the large numbers of youth who are likely to be at risk, knowledge about the individual, situational, and community factors involved in delinquent behaviors is important to inform practitioners and future research. This is especially true for minorities who are more at risk and face greater challenges.

ASPs provide an opportunity to enhance learning, present positive adult role models, give adult supervision, teach social and personal skills, and provide shelter from unsafe neighborhoods (Gottfredson, et al. 2007). ASPs have potential to benefit

adolescents and their communities. ASPs are premised on the belief that providing pro-social opportunities for adolescents in the after-school hours can reduce their involvement in delinquent behavior in the community. ASPs target a range of risk factors including individual level factors (self-esteem, self-control, antisocial behavior, and social competency skills) and family factors (counseling, family skills training) that may reduce delinquency and victimization. Aside from their potential for delinquency prevention, ASPs enhance the well-being of children and at the very least contribute to their safety during the critical period of the day in which many children might otherwise be unsupervised by adults.

Because Blacks are higher on risk factors targeted in ASPs, they are more likely to benefit from these programs. I hypothesize that ASPs will have different effects for minority youths compared to White youths. Minorities will show greater increases in academic outcomes and greater reductions in deviant behavior relative to White students when they participate in ASPs.

Chapter 2. Literature Review

This study is based on a larger study conducted by Gottfredson, et al. (2009). Their purpose was to examine the efficacy of an enhanced ASP in improving academic outcomes and problem behaviors of middle school children, grades 6 through 8 in five schools in the Baltimore County.

The study consisted of an enhanced ASP with three specific intervention strategies. The components were: structured tutoring to improve literacy and math, All Stars curriculum to reduce substance use and aggressive behavior, and monitoring and reinforcement to increase school and ASP attendance (Gottfredson et al., 2009). The enhancement plan was partially implemented with the structured tutoring program being abandoned and replaced by a tutoring component.

The study found that participating in the ASP did not have any impact on conduct problems, academic performance, school attendance, prosocial/ antidrug attitudes, social competence, school bonding, or positive peer influence (Gottfredson et al., 2009). The only significant effect was on time spent with friends with no adults present. Youth attending the ASP reported being with their friends with no adults present about one-half day less than control youths.

Overall Effectiveness of ASPs

Large scale evaluations on the effectiveness of ASPs generally agree that ASPs can benefit those that participate (Durlak et al. 2007; Lauer et al. 2006, Vandell et al.,

2007). However many programs have been shown to have null effects or potentially negative effects after participation (James-Burdumy et al., 2005; Kane 2004).

Durlak et al.'s (2007) meta-analysis of 73 ASPs summarized effects for programs that focused on personal and social development. They found that youth who participate in ASPs improve in feelings and attitudes, behavioral adjustment, and school performance. Youth who participated in ASPs improved in feelings of self-perceptions, school bonding, positive social behaviors, grades, and achievement test scores. There were decreases in problem behaviors and drug use. The ASPs studied in their analysis found an overall positive and statistically significant impact on participating youth (Durlak et al., 2007).

Lauer et al., summarized 35 out-of-school time programs that were intended to supplement learning in reading and math (2006). The meta-analysis indicated small but statistically significant positive effects on both reading and math achievement. The average effect size overall for reading was .13 and for math was .17, both statistically greater than zero.

Vandell et al. (2007) focused on economically disadvantaged, minority youth in elementary and middle ASPs. The elementary sample was 88% minority (77% Hispanic, 8% Black, 3% Asian) and 89% received free or reduced-price lunch at school. The middle school sample was 69% minority (49% Hispanic, 13% Black, 7% Asian) and 63% received free or reduced price school lunch.

Findings from this study indicate that elementary and middle school students who participated in high quality ASPs (alone or in combination with other activities) across two years demonstrated significant gains in academic performance when compared to

their peers who were routinely unsupervised after school (Vandell et al., 2007). They also found reductions in elementary and middle school students' reports of misconduct (such as skipping school, fighting), and middle school students' drug and alcohol use. Furthermore, program attendance was associated with gains in work habits and task persistence (Vandell et al., 2007).

An evaluation of the largest ASP, 21st CCLC found mixed and negative results of program participation (James-Burdumy et al., 2005). Generally the program had no impact on academic achievement. There were no significant differences among the treatment and control groups' reading tests scores or grades. The program had no impact on homework completion, despite homework assistance being the most common activity among the centers.

There were mixed impacts of the program on developmental outcomes. Although most developmental outcomes showed no differences, middle school treatment-group students were more likely than control-group students to say they expected to graduate from college. Also, elementary students in the treatment group were more likely to report helping other students after school in the first year. However, in the second year, the treatment-group students were less likely to say they worked well in teams, and teachers rated them lower in getting along with others.

Treatment-group students were more likely than control-group students to engage in negative behaviors. Negative behaviors were higher for the treatment group than the comparison group in both years, and the difference was statistically significant. For both elementary and middle school students, treatment-group students were more likely than

control-group students to be disciplined by their regular school-day teachers and to be suspended from school.

Kane (2004) also found no significant differences in the academic outcomes of four large scale evaluations of ASPs: The After-School Corporation (TASC), Extended-Service Schools Initiative (ESS), San Francisco Beacons Initiative (SFBI), and 21st CCLC. None of the evaluations reported a statistically significant impact on achievement test scores after one year of participation. The TASC evaluation had no impacts on math or reading achievement test scores in the first year, but did report positive impacts on math performance after two and three years of participation, however there was no statistically significant impact on reading scores after three years. The SFBI evaluation also failed to find impacts on grades or test scores. The 21st CCLC elementary school evaluation failed to find impacts on reading scores.

Overall, the literature reviewed in this study shows that ASPs can produce positive changes on academic and problem behavior outcomes, although they do not always do so. Also, participation can have negative effects. Even though research is beginning to coalesce around certain characteristics and factors that make ASPs effective, it is far from reaching a general consensus on which programs are effective and to whom it benefits most. The questions of “What works?” and “Who does it work for?” still remain unanswered.

Although there is empirical evidence suggesting the effectiveness of ASPs in general, not much is known about race differences in the effectiveness of ASPs. Very few studies report academic and behavioral outcomes separately by racial group. The demographic makeup of programs varies widely in the literature which does not facilitate

racial comparisons. The study populations in many studies were racially homogeneous with a majority of students being members of a minority. While others are predominantly majority (Fashola 1998, Woodland, 2008). Data from past studies show a wide variety of programs with great ranges in the size of the programs, the objectives, the activities offered, and the target populations (Durlak et al., 2007, McComb & Scott-Little, 2003).

Racial Differences in Academics

ASPs have the potential to benefit students in terms of grades and achievement test scores. This section discusses race differences in academics, demonstrating that minority students are typically more at risk than are majority students for school failure. This section also summarizes research suggesting that ASPs are more effective for at-risk students. These facts provide a rationale for expecting that ASPs may be more beneficial for minority students.

Maguin and Loeber (1996) found that poor academic performance is related to the onset of delinquency, and rise in the frequency and seriousness of offending, while better academic performance is associated with desistance. Poorer academic performance led to a 2.1 times higher odds of delinquency (Maguin & Loeber, 1996). Research has shown that Black students score below White students in the subjects of science, math, reading and writing, and the achievement gap between the two groups have remained fairly constant over the years (Fashola, 2003). Minorities students' standardized test scores are much lower than white students (Columbia University, 2005).

Lee and Burkam (2002) found that low SES Black and Hispanic children enter kindergarten more than half a standard deviation below the national average in math and reading achievement. Black children were .68 below the mean in math and .56 below the mean in reading and Hispanic Children were .71 below the mean in math and .69 below the mean in reading in comparison to high SES White children who scored far above the national average in math and reading (Lee and Burkam, 2002).

Lauer et. al. (2006), meta-analysis combined the results of 35 quasi experimental and experimental studies of ASPs and reported that the test scores of at risk youth improved significantly in both reading and mathematics after they participated in ASPs. The students who participated in the ASPs were at risk for school failure. Positive effects that were significantly greater than zero were found when comparing at risk treatment students with at risk control students. The results suggest that students who participate in ASPs improve in learning outcomes more than students who do not participate (Lauer et al., 2006).

McComb and Scott-Little's study (2003) found that low achieving students benefited more than students with higher achievement who attended. In their meta-analysis, a few studies reported that effects were greater for children with limited proficiency in English and for children who were in the lowest group of achievers at the beginning of the program (McComb & Scott-Little, 2003).

Several of the studies in McComb & Scott-Little's (2003) meta-analysis reported higher scores on standardized reading and math tests of after-school participants. Although in some cases the differences were not significant between the at-risk students and the entire sample, in some cases they were significant when the effects were

disaggregated. Results from these studies provide mixed results on academic outcomes of program participants.

Lauer et al. (2006) concluded that aggregating results across programs in their evaluation masked some positive outcomes. Disaggregation of data can reveal that the students most at risk for school failure seem to benefit the most from after-school programs (McComb & Scott-Little, 2003). Since minority students are behind white students academically, they are more at risk for school failure and may benefit more from ASP participation.

Racial Disparities in Offending

ASPs can help prevent juvenile delinquency and victimization. This section summarizes research suggesting that offending behavior also varies between races, therefore providing a rationale for anticipating that ASPs can have different effects for different racial groups.

Blacks are arrested at a disproportionately high rate for nearly all offenses, (Hindelang, 1978; Hindelang et al., 1979). The arrest rate is about 3 times higher for blacks by their proportion in the population. Among individual offenses there are larger differences with the more serious crimes.

Black youth accounted for 42% of arrests for violent crimes compared to 55% for Whites. However, Black youth are disproportionately arrested, especially in the crimes of murder/ non-negligent manslaughter and robbery. In 2008, Blacks juveniles made up 58% of murder/ non-negligent manslaughter compared to 39% for Whites. Robbery

arrests had an even greater disparity, with 67% of Blacks compared to 31% of White arrests.

Black youths comprised 15% of the juvenile population but they accounted for 26% of the juveniles who were arrested. White youth made up 79% of the juvenile population and 71% of the juveniles arrested (Office of Juvenile Justice Delinquency Prevention, 2002).

Although whites are arrested more in total number of arrests, Blacks are disproportionately arrested for nearly all offenses. This raises the question of whether police discrimination or selection bias accounts for the racial differences. Even if there was such rampant discrimination of Blacks, it could not possibly explain such magnitude in the differences (Lafree, 1995). Another, more likely explanation for the differences is that there is a differential involvement of Blacks in crimes, especially the violent crimes, that accounts for such discrepancies (Hindelang, 1978; Hindelang et al., 1979, and Blumstein, 1982).

In terms of problem behaviors, blacks are more likely to offend than their white peers (Hindelang, 1978). In 2007, a higher percentage of black students reported having been in a fight than white, Hispanic, and Native American students (KewalRamani et al., 2007). A higher percentage of black students (10 percent) reported being threatened or injured on school grounds than white students.

ASPs provide intervention and prevention services to young children that may reduce juvenile delinquency and risky behavior. This is especially important to minority children who are more often involved and victims of crime (Hindelang, 1978). Wilson et al.'s (2007) meta-analysis of two hundred forty nine experimental and quasi-experimental

studies found positive overall effects of school-based interventions on aggressive and disruptive behavior. The larger effects were for better-implemented programs and those involving children at higher risk for aggressive behavior. These programs showed potential for reducing aggressive and disruptive behavior especially for students whose baseline levels were already high prior to school-based intervention. The most effective programs were universal programs and targeted programs for selected/indicated children.

Universal programs delivered intervention in classroom settings to all the students in the classroom. The children were not selected individually for treatment but received it simply from being in the class. The schools with such programs were often in low socioeconomic status and high crime neighborhoods, thus may be considered at risk by their SES background and neighborhood context (Wilson et al., 2007). Students with low SES achieved significantly greater reductions in aggressive and disruptive behavior than middle class students, and younger students had significantly greater reductions than older students.

Selected/indicated programs were provided to students who were specifically selected to receive treatment because of conduct problems in class. Most of these programs were delivered to the selected children outside of their classroom. Higher-risk students showed larger effect sizes than lower-risk students. SES was significantly correlated with risk such that higher-risk students tended to be of lower SES. Better-implemented programs produced significantly larger effects than poorly implemented programs and behavioral programs produced larger effects than other modalities of the selected/indicated programs.

The mean effect sizes for universal and selected/indicated programs are 0.21 and 0.29, respectively. The two types of programs have similar effect sizes across different formats and treatment modalities. Also the risk level was similar across programs with larger treatment effects from higher-risk students. These findings reinforce the idea that a program cannot have a large effect unless there is sufficient problem behavior to allow for significant improvement (Wilson et al., 2001).

Wilson et al. (2001) meta-analysis produced similar results of treatment characteristics associated with larger effects that targeted higher risk juveniles. The programs included in their analysis included programs that provided large amounts of contact with youth, behavioral, skill-oriented, and multimodal programs. Most of the interventions were provided to a general student population (72%) and slightly over a quarter were restricted to a population identified as high-risk for problem behaviors. The high-risk samples were predominately male, and the median proportion of Whites was only slightly less than 50%.

The majority of the programs were delivered in a group setting (73%), and the remaining programs included both a group and a one-on-one format. Overall, the programs in their analysis produced a small positive effect on problem behaviors. The program effects on school problems (0.16) and other problem behaviors (0.17) were about three times greater than for delinquency (0.04) and alcohol and drug use (0.05). Studies that were restricted to a high-risk population observed larger effects (0.20) than studies directed at the general population (0.07).

Many of the problem behaviors targeted in these programs had a low frequency of occurring in the general population, limiting the upper bound of the observable effect

(Wilson et al., 2001). It is difficult to decrease a behavior that has a low rate of occurring prior to any intervention which is consistent with Wilson et al.'s 2007 findings that there needs to be sufficient problem behaviors for observable and significant effects. This finding is encouraging, showing that significant reductions in problem behaviors are most effective when high-risk students are the target of intervention, thus, targeting the more delinquent subgroup of youth which have been shown empirically that approximately 6% of the population commits the preponderance (52%) of crime (Wolfgang et al., 1972).

These observations suggest that ASPs might have a different effect on different groups based on risk-level. Minorities are more likely to be at-risk in offending; therefore they are more likely to benefit from ASP participation.

Purpose of Study

This study reports on an enhanced ASP model that was administered in multiple Baltimore County middle schools. The enhanced ASP intervention included three research components: structured tutoring, All Stars curriculum, and attendance monitoring and reinforcement. The research components that were part of the enhanced program model had evidence of effectiveness in past ASP's or other contexts (Lauer et al., 2006). Structured tutoring was implemented to help students improve their reading and math skills. The All Stars curriculum was implemented to prevent alcohol, tobacco and drug use, reduce fighting and bullying and postpone premature sexual activity. Attendance monitoring and reinforcement was implemented to improve school and ASP participation.

Although the study population for the larger study was racially heterogeneous, the initial study report did not focus on race differences in the effectiveness of the APS. The present study aims to explore the extent to which the overall null findings from the study might mask racial differences in the effect of these after school programs. Academic outcomes in GPA, reading and math scores will be examined. Problem behaviors in delinquency and victimization will be examined between racial groups.

Understanding variations in the effectiveness across demographic groups is important for designing appropriate organized activities for a diverse group of youth so that schools may better direct ASPs to the students for whom they are likely to be most effective. Racial demographics may help to better identify and target at-risk children who benefit the most from properly implemented after-school intervention.

Chapter 3. Methods

Overview

The enhanced ASP was implemented in five low-performing middle schools in Baltimore County, Maryland. Students were randomly assigned to either the enhanced ASP or to a “treatment as usual” control group within each school. Each student had a 50% chance of being placed into the two groups. The ASP ran during the 2006 to 2007 school year by a partnership among four public agencies in Maryland. The Baltimore County Public Schools (BCPS), the Baltimore County Department of Recreation and Parks (BCRP), the University of Maryland (UMD), and Baltimore County Local Management Board (LMB) all worked together to make the enhanced ASP possible, providing supplies, space and personnel to implement the program.

The ASPs offered nine hours of programming per week for 30 weeks, which consisted of the All Stars curriculum, attendance monitoring, academic tutoring, and leisure activities. The schools selected were the first to express interest and agree to the research procedures. The participating schools had high populations of minority and low income youths. The principals expressed the need for ASPs in their schools for which no ASPs were available to their students. The sample is not a representative sample of the population as a nation or as a population of the state of Maryland. Furthermore, the schools do even generalize to Baltimore County schools and caution should be taken when making inferences beyond the setting in which the ASP was conducted.

The parents completed registration forms prior to program participation, which collected information on student demographics. The students filled out pre- and post-youth surveys which they self reported their problem behaviors. School records were collected to measure the grades and achievement test scores for all youths.

Sample used in this study

Participant recruitment began in the spring of 2006 by UM and BCRP. Staff from both agencies used several strategies to recruit participants. First, staff attended events like concerts and graduation at the schools to make parents aware of the program that would be available. Second, promotional fliers for the program were distributed to every eligible student in an orientation packet. Third, recruitment postcards were mailed out to the students' homes. Fourth, BCRP staff attended community events to promote the program. Fifth, the schools sent automated phone messages to the homes of eligible youth. Lastly, the school principals were encouraged to recruit at-risk students to register for the ASP by sending out letters.

The ASP appeared to attract large minority populations of student participants. However, ASP participants were representative of the populations of their schools in terms of gender. There seemed to be a clustering of minorities in two of the five schools. Three out of the five schools had populations that were almost evenly composed of minority and majority students. The other two schools had predominately minority populations (97.9% and 99.3%). The two schools with high minority populations are excluded in the analysis because there is no variability in race. See Table 1. for the racial

demographics of each school used in this study. To examine racial differences in program effects the analysis is limited to the schools that have some variation in race.

Table 1 Racial Demographic Characteristics of ASP Students

| School | # White | % White | #Black | % Black | Total |
|--------|---------|---------|--------|---------|-------|
| 1 | 26 | 37% | 45 | 63% | 71 |
| 2 | 49 | 49% | 52 | 51% | 101 |
| 3 | 38 | 53% | 34 | 47% | 72 |
| Total | 113 | 46% | 131 | 54% | 244 |

All students in each of the participating schools were eligible to register for the ASP. Students had a 50% chance of being randomly assigned to the treatment group or to the control group within each school. The students were randomized into treatment and control groups using a random number generator in SPSS. Students were randomized into groups within their schools which ensured equivalent size at each school. There were many rounds of randomization as new students were recruited into the program.

The recruitment goal was to sign up at least 100 students per school. The plan was to assign at least 50 students to the treatment group per school. The recruitment goal was met at one out of the three schools (see Table 2). By the end of recruitment there was a total enrollment of 244 students in the ASP, with a total of 121 students in the control group and 123 students in the treatment across the three schools. School 1 had a total enrollment of 839 students with 71 students registered in the ASP, school 2 had 484 students with 101 students registered, and school 3 had 683 total students with 72 students registered.

Table 2. Characteristics of Treatment and Control Status

| School | Control | Treatment | Total |
|--------|---------|-----------|-------|
|--------|---------|-----------|-------|

| | | | |
|-------|-----|-----|-----|
| 1 | 35 | 36 | 71 |
| 2 | 51 | 50 | 101 |
| 3 | 35 | 37 | 72 |
| Total | 121 | 123 | 244 |

Table 3 shows that there are 131 Black students and 113 White students in the sample. The control group had 58 White students and 63 Black students. The treatment group had 55 White students and 68 Blacks students.

| Treatment Status | White | Black | Total |
|------------------|-------|-------|-------|
| Control | 58 | 63 | 121 |
| Treatment | 55 | 68 | 123 |
| Total | 113 | 131 | 244 |

Description of Intervention

Program Structure

The enhanced ASP implemented a traditional structure with program enhancements. The program was offered three days per week (Tuesday, Wednesday, and Thursday) for three hours, at the end of the school day. The ASP was held on school grounds. There was a restriction of 50 students served per day on any given day, however the number of students served per day was far fewer than 50. Traditional activities (i.e., crafts, sports, and snacks) offered in ASPs consisted of two thirds of the program time. The remaining one third was allocated for the research component of the program (i.e. All Stars and tutoring). All Stars and tutoring were implemented for 1.5 hours on

Tuesdays and Wednesday which were designated research days. No more than 50 students were allowed per day, but typical programs served far fewer than the restricted number of students on any given day.

Participating in the ASP was expected to reduce problem behaviors and increase academic performance by decreasing unsupervised time, and increasing positive peer influence and school bonding. The All Stars curriculum was intended to increase school bonding, social competence, and prosocial attitudes, which in turn were expected to increase academic performance and decrease problem behavior. Tutoring and academic assistance components were expected to increase academic performance.

All Stars

The All Stars Curriculum was designed to prevent youth from engaging in risky behavior. All Stars programs seek to prevent or postpone other health-risk behaviors such as premature sexual activity and bullying and using violence. The curriculum used class debates, games, small group activities and individual meetings to share stories and discuss norms to establish group norms that support the non-use of substances, cooperation, and positive social relationships (www.allstarscurriculum.com).

The All Stars was offered on Tuesdays and Wednesdays in 45-minute sessions. The All Stars classes were divided into two groups to reduce class size and delivered in separate sessions. The aim was to teach one lesson per week, half of the lesson on Tuesday and the remaining half on Wednesday.

All Stars was monitored in two ways. First, All Stars instructors had to complete implementation fidelity checklists. The checklist asked which lesson and activities were taught, the impression of the lesson, if goals were achieved, and if student were engaged. Second, UM observers filled out similar checklists that assessed the engagement in the lessons.

Tutoring/ Academic Activities

The tutoring component was based of the recruitment of volunteer tutors from community members such as adult and high school students. The tutoring plan used an assessment tool that revealed areas in reading or math skills where each student was struggling and needed the most improvement. This way the tutoring could focus on the subject matter that target areas that needed the most intervention and that could target the highest priority for each student. Both tutors and students were administered the assessment software tool. Tutors were assessed for skills in reading and math so they could be matched with students of lower skill that needed more attention. A math education expert implemented a custom math curriculum that was adaptable and interactive for students in the tutoring program. Library books of varying difficulty and reading level were supplied to each school for the reading tutoring. The tutoring sessions were scheduled for 45 minutes each day on Tuesdays and Wednesdays.

The tutoring component goals were not met, and did not go according as planned. The implementation of the tutoring component encountered some serious difficulties of tutor recruitment and assessment software. There was a problem with the access of the

assessment software. BCPS requested that MD researchers use assessment software that was already in use in the schools. When the software was requested at the beginning of the fall semester in order to allow volunteer tutors to use and get acclimated to the assessment software, BCPS denied access due to an update of their version of the software, which meant that no one could access it. No progress was made on gaining access to the software and ultimately the tutoring component was abandoned and an alternative academic activity was substituted.

An alternative academic activity would take place in place of the tutoring component in the 45 minute time slot on Tuesdays and Wednesdays. The alternative activity consisted of supervised homework help that used academic workbook activities in reading and math that were provided to the students. Exercises from Reading Achievement: comprehension Activities to Promote Essential Reading Skills, Grades 4 to 8 and Daily Math Practice, Grades 4 to 6 were incorporated to support and supplement classroom curriculum and offered to student who did not have any homework on a given day. Age appropriate books were also supplied to students at this time as part of independent reading. Staff members were available to supervise the academic activities and answer any questions. No specialized training was provided for the staff, and these staff members were not always certified teachers. This was due to the last minute substitution of this academic activity component and was not a planned part of the program.

Also the recruitment of tutors encountered some difficulties. It was unclear how many volunteers were actually recruited. A BCRP tutor coordinator was hired for tutor recruitment but failed to meet desired recruitment goals. There were an insufficient

number of volunteers to attain a one-to-one student to tutor ratio. The obtained number of volunteers committed to provide tutoring was only a fraction of the recruitment goal.

Leisure Activities

The ASP consisted of nine hours of programming per week, three of which were allocated for All Stars and academic activities. The rest of the time was filled with leisure activities planned by BCRP. These activities included a range of activities such as board games, crafts, computer time, field trips, snacks, and sports. These activities were implemented mainly to motivate students to attend the ASP.

Control Group Activities

The control group was allowed to participate in the activities offered to one after-school activity per month. Sites usually planned a party for the days that control students were to attend. Of the control group days, eight such days occurred during the program year. These events were not attended by a majority of control group students. For all five schools in the larger study, fifty-two percent of the control students never attended such events, twenty-nine percent attended between one and three times, and seventeen percent attended between four and eight times (Gottfredson et. al., 2009). However there were five students who attended more frequently than the eight planned days, and one who attended almost everyday of the program.

Measures

Several data sources were used to collect information from ASP participants in the study. Five data source were used to collect information on students' backgrounds and experiences during ASP participation. Two additional sources were used to monitor program implementation.

Registration Form

Parents of the ASP participants had to complete a registration form in order to participate in the program. The registration form was used to obtain student demographics, family income, and tracking information for those students who withdrew from the program during the evaluation. The demographics on the form included age, race, gender, grade, family income and parental education.

Youth Surveys

Students completed both a pre- and post-test youth survey. The pre-test surveys were administered to both treatment and control group students immediately after registration forms were received. Pre-test surveys were administered to students in school during a short period. Students were given a \$5 gift card upon completion of the survey. Post-test surveys were administered to students near the end of the program in a similar way. The response rate for the post-test surveys was 96% for all five schools in the larger

study (Gottfredson et al. 2009). There were 167 items on the survey. These items collected information on student demographics, delinquent behavior, and victimization.

School Records

School records were collected to measure student's grades, attendance, achievement test scores, and discipline records. Records were drawn from the year prior to the program, 2005 to 2006, and when the program was implemented, 2006 to 2007. The GPA of 6th graders was unavailable from the 2005 to 2006, prior to the program. These students were in elementary school prior to the implementation of the ASP and this information was not available.

Outcome Measures

Problem Behaviors

Three measures of problem behavior were drawn from the youth survey. The problem behaviors that are the focus of this study are delinquency and victimization. Each of these areas of focus was measured by a subset of items constructed into a scale. To maximize useable cases, scale scores were computed even if some of the items were missing. The range and reliabilities are shown on the Table 4.

| Table 4. Problem Behavior Scales | | |
|---|----------|-----------|
| | Pre-Test | Post-Test |

| Variable | N | Mean | SD | Range | Reliability | N | Mean | SD | Range | Reliability |
|---------------|-----|------|------|-------|-------------|-----|------|------|-------|-------------|
| Delinquency | 236 | 0.36 | 0.94 | 0-7 | 0.72 | 229 | 0.78 | 1.36 | 0-7 | 0.79 |
| Victimization | 229 | 1.14 | 1.56 | 0-7 | 0.73 | 227 | 1.31 | 1.68 | 0-7 | 0.76 |

Delinquency

Delinquent behavior was measured from a subset of items in the *What About You* survey developed by G. D. Gottfredson and D. C. Gottfredson (1992). The delinquent behavior measure was derived from a 7-item scale that asked students whether they had engaged in a variety of delinquent acts such as destruction of property, gang involvement, assault, theft, or robbery. The survey question asked, “Since the beginning of this academic school year, how often have you” 1) Purposely damaged or destroyed property belonging to a school? 2) Purposely damaged or destroyed other property that did not belong to you? 3) Been involved in gang fights? 4) Used force or strong-arm methods to get money or things from a person? 5) Stolen or tried to steal things worth less than \$50? 6) Stolen or tried to steal something at school, such as someone’s coat from a classroom, locker, cafeteria, or a book from the library? 7) Belonged to a gang that has a name and engages in fighting, stealing, or selling drugs?” The responses to each item were dichotomized to either a yes or no.

Delinquent behavior was measured as a count variable with which students answered either a yes or no to each item on the scale. Student responses could range from 0 to 7, with the response of zero committing no delinquent acts, and the response of seven, committing all the delinquent acts that were asked. The scale was constructed by counting the number of items the students engaged in. The scale had an alpha of 0.72 at pre-test and 0.79 at post-test.

Victimization

Victimization was measured by a scale from the *Denver Youth Survey* (Huizinga & Esbensen, 1990). Victimization was measured on a 7-item scale that asked students whether they had been the subject of assault, destruction of property, theft, or threatened assault. The survey question asked, “Since the beginning of this academic school year, have any of the following things happened to you; 1) Had someone use a weapon, force, or strong-arm methods to get money or things from you? 2) Been hit by someone trying to hurt you? 3) Had your pocket picked or wallet snatched, or an attempt made to do so? 4) Had some of your things other than a wallet or purse, stolen from you? 5) Been attacked by someone with a weapon or someone trying to seriously hurt you? 6) Been threatened with a beating? 7) Had some of your things damaged on purpose, such as your bike or car tires slashed, or your books and clothing ripped?” The responses to these items were also dichotomized either a yes or a no.

Victimization was represented as a count variable. The scale was constructed by counting the number of items the students experienced. Student response ranged from 0 to 7, with 0 representing no victimization and 7 being a victim of all offenses asked in the scale. The scale had an alpha of 0.73 at pre-test and 0.76 at post-test.

Academic Outcomes

Three measures were used to assess academic outcomes. GPA, Maryland School Assessment (MSA) reading score, and MSA math score were obtained from school

records. Each measure was numeric and collected from official school data. GPA was based off a four point scale that ranged from 0 to 4. The scores on the standardized MSA reading and math tests ranged from 240 to 650.

| Table 5. Missing Values | | |
|--------------------------------|-----------------|------------------|
| | <i>Pre-Test</i> | <i>Post-Test</i> |
| <i>Academic Variables</i> | | |
| GPA | 43.03% | 4.92% |
| MSA Math Score | 7.79% | 2.87% |
| MSA Reading Score | 7.79% | 2.87% |
| <i>Delinquency Variables</i> | | |
| Victimization | 6.15% | 6.97% |
| Delinquency | 3.28% | 6.15% |

As Table 5 shows, the proportion of missing data is very low across most outcome measures in the analyses. Thus, the analyses will exclude the missing data for all outcomes and not be included in the analysis. A case is deleted if it is missing on any variables in the analysis. GPA information for the 2005-2006 school year was mostly unavailable for 6th graders. Regressions involving pre-test GPA were based on 7th and 8th graders only. The low sample size will reduce power in the pre-test analysis only. GPA for 6th graders is not lost in the post-test.

Control Variables

The study used a randomized controlled design. Randomization was successful in assigning two equivalent groups. The treatment and control groups did not differ in age, family income, gender, race, living with two parents, subsidized meals, and maternal

education (Gottfredson et al., 2009). Therefore, it is not necessary to use statistical controls for pre-existing differences between groups when examining outcomes related to ASP participation. However, the three schools in the study differed in program quality. Therefore school was controlled using a dummy variable for two schools so that the variance between the schools related to the different program qualities would be accounted for. The school variable is measured as a categorical variable.

Analysis

Prior to the analysis, outcome variables were examined to determine their distribution and violations of classical linear regression assumptions. Delinquent behavior and victimization were best represented as count variables with overdispersion of the means. Therefore a negative binomial regression model is used. Academic outcomes, (GPA, MSA reading, and MSA math) were normally distributed and so an OLS regression is used.

An analysis of each of the outcome variables measured at pre-test will be conducted, controlling for school. The purpose of analyzing each outcome variable at pre-test is to see if the expected race differences that formed the basis for my interaction hypotheses are observed in the data. I want to be able to examine the prior academic and offending behavior of Blacks to see whether Blacks are more at risk than Whites. These analyses will serve a descriptive function.

The study hypothesis is that Black students will benefit more from the ASP academically and behaviorally from ASP participation. The first stage of analysis will

include ASP and race variables in a model to examine the relationship to the outcome measures. The ASP dummy variable of the treatment (=1) and control (=0) groups is examined to see if participation in the ASP is related to each outcome. The race dummy is examined to see if there are any differences between Black (=1) and White (=0) students on the outcome measure being studied.

The interaction of treatment vs control and Black vs White is generated. This interaction variable is the key variable in the study. For the hypothesis to be supported the coefficient of the interaction variable should be positive and significant for academic outcome variables and negative and significant for the deviant outcome variables. If race effects are found then further analysis of risk level will be conducted using the pre-test variables to explore the reasons for the race differences.

Chapter 4. Results

Pre-Test Measures

Pre-test measures are examined first to look for differences between race and ASP groups on the outcome variables before ASP participation. There are five outcome variables in the study, three academic variables (GPA, MSA reading, MSA math) and two behavior variables (delinquency and victimization). Regressions were run for each of the pre-test variables with school as a control, shown in Table 6. These analyses confirmed that the ASP and control groups were initially equivalent on each of the five variables of interest.

| Table 6. Regression of Pre-test Variables by Race and ASP participation | | | | | | | | | | |
|--|------------------|---------|--------------------------|---------|-----------------------|---------|--------------------------|---------|----------------------------|---------|
| | GPA ^a | | MSA Reading ^a | | MSA Math ^a | | Delinquency ^b | | Victimization ^b | |
| | N=139 | | N=225 | | N=225 | | N=236 | | N=229 | |
| | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value |
| Black | -0.17 | 0.18 | -5.36 | 0.18 | -9.92 | 0.07 | 0.29 | 0.38 | -0.43 | 0.02 |
| Treatment | -0.01 | 0.89 | 2.72 | 0.49 | 1.20 | 0.82 | -0.11 | 0.72 | -0.02 | 0.92 |
| School 1 | 0.24 | 0.15 | 0.81 | 0.87 | -0.72 | 0.92 | -0.58 | 0.19 | 0.04 | 0.84 |
| School 2 | 0.11 | 0.47 | -8.83 | 0.06 | -15.84 | 0.01 | 0.07 | 0.84 | 0.11 | 0.63 |

Note: Regression for each outcome variable: a - OLS, b - Negative Binomial, Unstandardized coefficients.

The race variable was examined at pre-test to see if there was any pre-existing race difference before ASP intervention. According to the literature, minority students are behind white students in the subjects of reading, writing, math, and science (Fashola, 2003). This study examines MSA reading and math scores for Black and White students. Minorities also are disproportionately arrested for nearly all offenses (Hindelang, 1978).

The effects of race on delinquent behavior are examined using self-reported delinquency, and victimization.

Academic Variables

Race differences in GPA and MSA reading were not statistically significant at pretest. The MSA math scores was the only variable to reach near significance. Black students had a lower average (378) compared to the white students (388) that was marginally different for the two groups at an alpha of 0.10, with a p-value of 0.07.

Problem Behaviors

Problem behaviors were examined at pre-test to see if there were any race differences before ASP participation. The problem behaviors that were studied were delinquency, and victimization. Delinquency showed no statistically significant differences between black and white students.

The only significant difference was in victimization. Blacks are expected to have a log count of 0.43 or 1.53 fewer victimizations than Whites. The difference was statistically significant, controlling for school, in a negative binomial regression. The p-value was 0.02, which falls in the rejection region; therefore we reject the null in favor of the alternative that the two means between Blacks and Whites are different. Blacks were victimized less than Whites at pre-test.

My rationale for expecting a difference in ASP effectiveness was in the opposite direction with blacks being more at risk and being victimized more. These results imply that whites are more at risk in terms of victimization and therefore they should benefit more than blacks after ASP participation.

Post-Test Measures

The focus of this study is to explore whether there are racial differences in the program effectiveness of ASPs. Two models are used to test whether there are different effects for minority youths, one with race and treatment as independent variables (Table 7) and the second model with race, treatment, and the interaction of the two variables (Table 8). I am mainly concerned with the interaction term. Differential program effectiveness by race is present if the interaction term is statistically significant.

| Table 7. Regression of Post-test Variables by Race and ASP participation | | | | | | | | | | |
|---|------------------|---------|--------------------------|---------|-----------------------|---------|--------------------------|---------|----------------------------|---------|
| | GPA ^a | | MSA Reading ^a | | MSA Math ^a | | Delinquency ^b | | Victimization ^b | |
| | N=232 | | N=237 | | N=237 | | N=229 | | N=227 | |
| Variable | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value |
| Black | -0.05 | 0.55 | -7.45 | 0.04 | -7.55 | 0.03 | -0.09 | 0.70 | -0.28 | 0.12 |
| Treatment | -0.11 | 0.25 | 3.03 | 0.40 | 1.91 | 0.58 | 0.06 | 0.79 | -0.18 | 0.32 |
| School 1 | 0.24 | 0.04 | 6.05 | 0.20 | 4.13 | 0.36 | -0.11 | 0.73 | 0.00 | 0.99 |
| School 2 | 0.25 | 0.02 | -1.65 | 0.70 | -3.19 | 0.44 | 0.23 | 0.40 | 0.08 | 0.69 |

Note: Regression for each outcome variable: a - OLS, b - Negative Binomial, Unstandardized coefficients.

Treatment Status

Academic Variables

Students who participated in the ASP were no different at post-test than the students in the control group. There were no significant differences across all three academic variables: GPA, reading and math scores.

Problem Behaviors

There were no significant differences among the problem behaviors between the treatment group students and control group students.

Race

Academic Variables

MSA reading and MSA math had a statistically significant race effect. Black students score 7.26 points lower on their MSA reading test than white students, with a p-value at 0.04. MSA math scores were statistically significant with a p-value of 0.03. Blacks had MSA math scores on average of 7.68 points lower than White students. GPA was not statistically different between races.

Problem Behaviors

None of the problem behaviors were significantly different across race.

Delinquency and victimization failed to show any statistically significant race differences.

Interaction Term

| Table 8. Regression of Post-test Variables by Race, ASP, and Interaction Term | | | | | | | | | | |
|--|------------------|---------|--------------------------|---------|-----------------------|---------|--------------------------|---------|----------------------------|---------|
| | GPA ^a | | MSA Reading ^a | | MSA Math ^a | | Delinquency ^b | | Victimization ^b | |
| | N=232 | | N=237 | | N=237 | | N=229 | | N=227 | |
| Variable | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value | Beta | P-Value |
| Black | -0.01 | 0.94 | -2.71 | 0.60 | -1.27 | 0.79 | 0.00 | 0.99 | 0.04 | 0.85 |
| Treatment | -0.06 | 0.66 | 7.99 | 0.13 | 8.47 | 0.09 | 0.16 | 0.64 | 0.15 | 0.55 |
| Interaction | -0.09 | 0.64 | -9.34 | 0.20 | -12.36 | 0.07 | -0.18 | 0.70 | -0.66 | 0.07 |
| School 1 | 0.24 | 0.05 | 5.64 | 0.23 | 3.59 | 0.42 | -0.12 | 0.69 | -0.05 | 0.81 |
| School 2 | 0.25 | 0.02 | -1.70 | 0.69 | -3.26 | 0.43 | 0.23 | 0.42 | 0.09 | 0.66 |

Regression for each outcome variable: a - OLS, b - Negative Binomial, Unstandardized betas.

The interaction term was created to examine whether there were any racial differences in the effectiveness of ASP. The interaction term failed to reach significance for any of the outcome variables. The only outcome variables for which the interaction term was near significance were MSA math and victimization (p<.10). In both cases, the interaction term suggests that blacks who attended the ASP scored lower than others.

| Table 9. Regression of Victimization on Treatment by Race | | | | | | |
|--|-------|---------|------------|-------|---------|------------|
| | Black | | | White | | |
| Variable | Beta | P-Value | N of cases | Beta | P-Value | N of cases |
| MSA Math ^a | -3.35 | 0.48 | 126 | 9.06 | 0.07 | 111 |
| Victimization ^b | -0.51 | 0.02 | 122 | 0.15 | 0.65 | 105 |

Note: School is controlled. Regression for each outcome variable: a - OLS b - Negative Binomial. Unstandardized betas.

Table 9 shows the marginally significant race interactions in more detail.

Participation in the ASP had a positive effect for White students and a negative effect for Black students in MSA math scores. The treatment increased White students scores by 9.06 points compared to White control students; however the difference was not significant.

For victimization, treatment had a stronger effect on black students (-.51) compared to white students (.15), the coefficients were in opposite directions.

Participation in the ASP effect was statistically significant for Black students. Black students who participated in the ASP experienced 1.66 fewer victimizations compared to Black students in the control group.

Recall, however that blacks had significantly lower levels of victimization at pre-test and lower average Math MSA scores compared to the white students. The regression was repeated with controls for these pre-test differences. In these regressions (Table 10), both interaction terms became non-significant. Prior victimization and MSA Math scores are the only significant variable in the model. Once controlled, no other variables explained additional variance in the outcomes.

| Table 10. Regression of MSA Math and Victimization with Risk Levels | | | | | |
|---|-----------------------|---------|-------------------|----------------------------|---------|
| | MSA Math ^a | | | Victimization ^b | |
| | N=219 | | | N=214 | |
| Variable | Beta | P-Value | Variable | Beta | P-Value |
| Black | -1.37 | 0.70 | Black | 0.01 | 0.94 |
| Treatment | 2.52 | 0.50 | Treatment | 0.07 | 0.77 |
| Interaction | -3.33 | 0.51 | Interaction | -0.43 | 0.24 |
| School 1 | 4.66 | 0.15 | School 1 | -0.15 | 0.51 |
| School 2 | 4.34 | 0.16 | School 2 | 0.06 | 0.76 |
| Pre-MSA Math | 0.47 | 0.00 | Pre-Victimization | 0.22 | 0.00 |

Note: School and Pre-test variable is controlled. Regression for each outcome variable: a - OLS b - Negative Binomial. Unstandardized betas.

Chapter 5. Discussion and Conclusion

The purpose of this study was to explore racial differences in the effects of after school programs. This study looked for racial differences in the program effectiveness of a randomized trial of enhanced after school programs in low-performing middle schools in Baltimore County, Maryland. Academic outcomes in GPA, reading and math scores as well as problem behaviors in delinquency and victimization were examined.

The literature shows that ASPs intervention in general can improve academic outcomes and reduce problem behaviors of participants (Durlak et al., 2007; Vandell et al., 2007). Youth who participated in ASPs improved significantly in school grades and achievement scores. They also benefited from reduced problem behaviors of aggression, non-compliance, and conduct problems (Durlak et al. 2007). Vandell et al. (2007) found that participation in high-quality ASPs showed significant gains in standardized math test scores as well as reductions in behavior problems for elementary and middle school students.

The literature also shows that Blacks perform lower on standardized reading and math scores compared to Whites (Perie, et al., 2005). In 2005, in both the 4th and 8th grade, white students scored higher on standardized reading tests than Black and Hispanic students. Eighty-six percent of Black and 89% of Hispanic middle and high school students read below their grade level. (Perie, et al., 2005). By the 4th grade, Black and Latino are almost three academic years behind compared to Whites.

I hypothesized that ASPs will have different effects for minority youths compared to white youths and that minorities will show greater increases in academic

outcomes and greater reductions in deviant behavior relative to white students when they participate in ASPs. This hypothesis was grounded by the literature that ASP intervention can improve grades and test scores and reduce problem behaviors (Durlak, 2007, Vandell, 2007, Scott-Little et al., 2003), and that they are more effective for higher-risk youths.

Minority youth have different offending behavior than majority youth (Snyder & Sickmund, 2006). Minority offenders report higher levels of delinquent behavior such as violence, weapon carrying, and gang fighting relative to majority offenders (Snyder & Sickmund, 2006). Furthermore, minority youth are more likely than majority youth to be victims of violence and to witness traumatic events such as injury and death (Snyder & Sickmund, 2006).

I hypothesized that there would be different effects of the intervention based on race because minorities are more at-risk, with lower school grades and test scores and higher levels of delinquency and victimization. McComb and Scott-Little's study (2003) found that low achieving students benefited more from ASP participation than students with higher achievement. The effects were greater for children with limited proficiency in English and for children who were in the lowest group of achievers at the beginning of the program (McComb & Scott-Little, 2003). Black students would have more to gain from ASP participation and should therefore experience a greater impact compared to their white peers. However this was not the case.

ASP intervention had no differential effects for black and white students. The interaction term was not significant for any of the outcome variables. The only marginally significant interactions were for MSA math and victimization. However the

marginal significance was explained by pre-test math scores and pre-test victimization. That is, one initial risk level was taken into consideration; the program had no effect for any subjects, regardless of race.

I had expected much more variance between black and white students as describe in the literature. Blacks and whites had similar GPA, and MSA reading test scores. The only academic variable that showed difference at pre-test was in math scores. Blacks and whites had similar rates of delinquency. Victimization was the only problem behavior that was different at pre-test. At pre-test MSA math and victimization was near significant. Blacks scored lower than Whites (10.05) in math scores and had 1.56 less victimization than Whites. There were slight race differences of the post-test measures in MSA reading and MSA math scores. Blacks on average scored lower on both reading (-6.65) and math (-6.88) tests.

I speculate that there were no significant race differences in program effectiveness because of the low variability across races observed in the sample. This might be the case because of the schools that were chosen to participate. It is possible that because the schools were in highly disadvantaged neighborhoods, both White and Black students were similarly at risk. Therefore instead of a race effect, a neighborhood effect would have to be analyzed. Looking at pre-test measures, there was not much variability in academics or problem behaviors by race.

Limitations

The results of this study are not generalizable to other populations. The results are specific to the schools that were studied and we would not be able to generalize the results to the rest of the Baltimore County schools. Also, we cannot generalize the results to other prevention programs.

The data from the problem behaviors come from self-reported surveys. Self-reported surveys have some limitations to the validity. Students may lie on the survey in fear of getting in trouble. They may forget when and how many times they engaged in the problem behaviors.

For Practitioners

There were no findings of race differences in the program effects of ASPs. Race did not play a major role on ASP effectiveness. Race did not moderate ASP effectiveness in this study. Race should not be a factor when developing ASPs. ASPs do not have to limit their samples to integrate in terms of race. ASPs have the same effect on both white and black students.

For Researchers

In the future, researchers may wish to examine samples that have more variability than the sample in this study. At pre-test, there were no significant differences by race in the outcome variables tested. These results in this study do not generalize to other populations. It would be informative to study other areas with different samples. The

dichotomy of black and white was studied. It would also have been informative to study other races and ethnicities.

It would have been more meaningful to examine interactions by risk level instead of race. Risk-level was a stronger predictor on the outcome measures. This was evident in the post-test race interaction on victimization. Pre-test victimization was such a strong predictor on post-test victimization that it rendered race and the interaction term non-significant.

Race was the main focus of this study and whether or not race had any effect on program effectiveness. Race however could have been further broken down and more complex interaction terms could have been used such as a gender/race/treatment interaction, or SES/race/treatment interaction.

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