

AFTER SCHOOL CARE ARRANGEMENTS AND STUDENT ACADEMIC
PERFORMANCE AND MISBEHAVIOR IN MIDDLE SCHOOL

by

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ABSTRACT

AFTER SCHOOL CARE ARRANGEMENTS AND STUDENT ACADEMIC PERFORMANCE AND MISBEHAVIOR IN MIDDLE SCHOOL

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The present study examined the types of settings in which students receive care after school and the activities in which students engage in these particular settings. Data were extracted from the National Household for Education Statistics 2005 data set using students enrolled only in 6th, 7th or 8th grade (N = 4,659). The variables of interest included student academic misbehavior and student academic performance, the type of care arrangement relative, non-relative, parent, center and self as well as the activities homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, and television/videos/music, in which students are engaged within each after school care arrangement. Chi-square analyses were conducted to assess any differences in the activities in which students were engaged while at after school care arrangements to determine to what extent these activities contribute to students' academic performance and misbehavior. An over-all pattern in the data regarding the care arrangements showed a positive relationship between the parent care arrangement and the occurrence of student

misbehavior. In regards to the activities in which students were engaged after school, a positive relationship was found between homework activities and student academic performance and misbehavior. These findings provide some information to assist parents in selecting the best possible environments for their children after school.

1. Introduction and Background

The purpose of this study was to examine the types of settings in which students receive care after school and the activities in which students engage in these particular settings. Additionally, this study also examined the impact that the type of setting and activity had on students' academic performance and on students' misbehavior in school.

Background of the Problem

Since the 1950's, the number of women entering the workforce has nearly tripled; women in 2006 represented 56.6% of the workforce in the United States (U. S. Department of Labor, 2007). Women from two-parent households represent slightly more of the employed workforce population at 59.2%, but women from single-parent households are only slightly below at 54% (U. S. Department of Labor, 2007). Additionally, the number of children born to single mothers has steadily increased since 2002; in 2006, 51 children out of every 1,000 born were born to unwed mothers, representing 38% of the births (Federal Interagency Forum on Child and Family Statistics, 2008). These changes in the workforce and family have left a window of time between the end of the school day and the end of the typical work day where working parents are unable to supervise their children. According to the National Institute on Out of School Time (2008), "The parents of more than 28 million school-age children work outside the home. As many as 14 million 'latchkey children' go to an empty house on

any given afternoon” (p. 2). The hours between the end of the school day and the time when most parents arrive home can be the riskiest of a child’s day, most especially if the child is not supervised by a responsible adult (Riggs & Greenberg, 2004). This window of time has led to an increased need for after school care for children. What constitutes the ideal after school care arrangement is a question many working parents now contemplate.

Statement of the Problem

The Rand Corporation’s research brief discussing of out of school time (OST) literature noted that very few of the current evaluations of OST time “have been rigorous – meaning at a minimum, using a control group against which to compare children who participated in a given OST program” (2005, p.2). Many of the studies included in this literature review have this short-coming. After school programs are considered the solution for avoiding the dangers students face between the end of school and the time a parent arrives home and the panacea for addressing students’ academic deficiencies. However, there is not a substantial amount of research to support the assumed benefits of after school care. Further research in this area is needed to definitively confirm the factors of after school care that contribute positively to adolescent development, academic performance, and overall reduction of misbehavior in school. Another concern with much of the prior literature is that many of the studies are focused on high school age adolescents, very few studies have been conducted to determine how middle school students are impacted by after school activity participation (Coley, Morris, & Hernandez, 2004; Fredericks & Eccles, 2008; Reisner, Lowe-Vandell, Pechman, Pierce, Brown &

Bolt, 2007; Zaff, Moore, Papillo, & Williams, 2003). For example, Mahoney and Stattin (2000) conducted one of the few studies to focus on the middle school age group; however, their study was conducted in Sweden. The study examined activity involvement, peer characteristics, parental monitoring and parental trust in relation to antisocial behavior in 703, 14 year olds during the fall of 1997. Mahoney and Stattin (2000) found that a higher number of participants involved in unstructured activities reported poor school performance, reported being apprehended by the police, and reported staying out on the town at night. Although many aspects of adolescence are universal, the need to conduct research in the United States on middle school students remains. Fredericks and Eccles' (2008) study of middle school adolescents in Maryland was based on data collected between 1991 and 1997 and Mahoney (2000) was based on data from 1981 and 1983. Although these studies may draw significant conclusions, Fredericks and Eccles (2006a) analyzed data that was eleven years old and, Mahoney analyzed data that was 27 years old (2000). Given the vast changes in adolescent life since the early eighties, it is important to examine more current data before drawing definitive conclusions.

Additionally, prior research has demonstrated that participants in extracurricular activities tend to be of higher socioeconomic status, white, and have higher academic adjustment than non-participants. As a result, it is difficult to determine the benefits of extracurricular activity participation from pre-existing conditions such as readiness to learn (Fredericks & Eccles 2006a). By examining extracurricular activity participation in the lower grades, it is hypothesized that pre-existing conditions may not have ample

opportunity to take hold in the adolescent as compared to high school (Fredericks & Eccles 2006a).

Purpose of the Study

This study sought to answer the following research questions:

1. Does the type of after school child care arrangement (relative, non-relative, center, parent or self) make a difference in student academic performance and misbehavior?
2. Does the type of activity students engage in (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) during after school child care arrangements make a difference in student academic performance and misbehavior?
3. Within the specific setting (relative, non-relative, center, parent or self), which of these activities (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) make a difference in student academic performance or misbehavior?

In the present study I hypothesized that there would be a difference between the type of after school arrangement that students attend and that student's academic performance and misbehavior in school. I further hypothesized that the after-care arrangement with the strongest relationship with student academic performance and misbehavior would be the self care group, followed in decreasing amounts by relative care, non-relative care, parent care and center care. Additionally, I hypothesized that the type of activity in which the student engages during their after school activity would

show a relationship with that student's academic performance and misbehavior in school; homework/school-related activities were hypothesized to have the strongest relationship with student academic performance and misbehavior.

Significance of the Study

It is expected that the evidence from the present study will make a meaningful contribution towards identifying the optimal environments for after school care that have the greatest impact on middle school students' academic performance and behavior in school. Much of the current research in after school care has drawn conclusions based on a narrow range of participants. The present study analyzed information collected from a national data set in order to determine commonalities that are present in a wide range of settings and socio-economic groups. This is an important element that has previously been absent from most research examining participation in after school care to determine the benefits of participation in extracurricular activities that have an impact on all students' academic performance and behavior in school. Examining the specific settings in which adolescents are placed after school as well as the specific activities in which adolescents engage is an important component of adolescents' social and emotional development. In school, children learn through direct instruction and by observing the behavior of others. When the observed behavior is rewarded, the child learns vicariously that this is a positive behavior. In turn, when the observed behavior is punished, the child learns that this is not a desired behavior (Miller, 2005). This observation of behavior continues outside of the

school day. How students spend their time during the middle-school years, both during and after school, the behavior-models students observe, and the behavior students select to replicate and emulate may have important implications for the opportunities and the choices students have later in adolescence.

The current study is unique in that it employs fairly recent data to examine the direct impact of after school care on middle school students. Most current research on after school care are longitudinal studies which examine the outcomes of participation in after school activities in high school and in early adulthood; these studies only include middle school participation as further evidence to support outcomes in high school and in early adulthood. The data employed by these longitudinal studies, as previously discussed, (Fredericks & Eccles 2006a; Mahoney 2000) were quite old and may be questionably representative of current conditions in middle school. Furthermore, most of the studies simply examined participation in after school activities as compared to non-participation; issues of relative care and non-relative care are excluded from these studies as the population is older and not required to have adult supervision after school. For these reasons, the present study will make a meaningful contribution to the current body of research on after school care for middle school adolescents.

Definitions

Relative care: care by a family member, (non-parent) for example: Aunt/Uncle, Grandparent, or Cousin.

Non-relative care: care by someone not related to the child.

Center care: care given a day-care center.

Self care– child is responsible for self; no adult is at home (latch-key child).

Parent care – mother or father is at home after school.

Television/videos/music – activities after school which include: watching television or videos, playing video games or listening to music.

After school: Refers to the time immediately following the end of the school day and lasting until most parents have returned home from work.

Out of school time: Refers to any time beyond the school day and may include time before school or time during the summer.

Academic Performance: The educational accomplishments of the participants as measured by grades in school as reported by the parents and by the presence or absence of contact by the school regarding academic concerns.

Academic Misbehavior: The actions and conduct of the participant while in school as reported by the parent. Appropriate conduct is determined by the school the students attends and is measured by the presence or absence of suspension, expulsion or parent contact by the school regarding behavior concerns.

2. Literature Review

The period of time after school, before parents return home is when the incidence of crimes committed by adolescents and other behaviors that negatively impact the community is highest, thus making the issue of after school care one that the community and legislators must contemplate as well (Halpern 2002). In his history of the origins of after school care programs, Halpern (2002) connected the inception of after school care programs in the early 1900's to society's desire to ensure the well-being of children living in unsafe neighborhoods and also in the 1940's when mothers were entering the workforce in larger numbers. According to Halpern (2002), the rise of mothers in the workforce lead to a greater number of "latchkey children" and "lead existing after school programs to assume a more explicit child-care function" (p. 187). As neighborhoods changed in the 1960's, child care settings were required to equip children to handle the gang influence in the neighborhoods (Halpern 2002). However, Halpern (2002) found that federal support for after care programs was directed at "homework help, tutoring and other forms of 'educational enrichment'" (p. 188). Halpern (2002) noted the use of after school time to address deficiencies in student achievement is a recent trend in after school care. Halpern (2002) also noted that most after school programs are directed at low-income and moderate-income school age children in an effort to prevent these students from falling behind academically.

During the school day, schools are charged with educating the child in academics, social skills and civic responsibilities (Halpern 2002). Unable to accomplish these goals during the school day, many schools and school districts have established after school programs to meet the educational needs of low performing students. Additionally, both the state and Federal government define schools' academic, social skills and civic responsibilities through in-school initiatives and reforms. Under the guidelines of the No Child Left Behind Act (2001), children in schools that fail to reach proficiency are eligible to receive supplemental educational services. These services must be offered outside of the regular school day and demonstrate that the services are effective in raising student achievement (No child left behind act of 2001, section 1116[e]) (Lauer, Akiba, Wilkerson, Apthorp, Snow, & Martin-Glen, 2006).

The hours between the end of school and when working parents arrive home provide a window of opportunity for adolescents to experience some independence; unfortunately, many adolescents choose to engage in risky behavior when not under adult supervision. Several researchers have examined the occurrence of misbehavior in unsupervised settings as compared to structured after school activities and supervised care (e. g., Coley et al., 2004; Mahoney, 2000; Mahoney & Stattin, 2000; Sarampote, Bassett, & Winsler, 2004). Additionally, the choices that adolescents make during this window of time can not only impact their academic performance in school (e. g., Birmingham, Pechman, Russell, & Mielke, 2005; Lauer et al. 2006; Mahoney, Cairns, & Farmer, 2003) and their adolescent emotional development (e. g., Bartko & Eccles 2003; Eccles, Simpkins, & Davis-Kean, 2005; Huang et al, 2007), but also can have far

reaching implications during the adolescent's later adult life (e. g.,Fredericks & Eccles, 2006a; Fredericks & Eccles, 2006b; Zaff et al.,2003).

After School Programs and Adolescent Misbehavior

A growing number of researchers have examined the link between children's and adolescents' care and supervision and their functioning in behavioral areas. One area of this research has examined the beneficial effects of structured after school activities and supervised care for both school age children and adolescents (e. g., Coley et al., 2004; Mahoney, 2000; Mahoney & Stattin, 2000; Sarampote et al., 2004). Mahoney and Stattin (2000) conducted a study of 703, 14 year-olds in Orebro, Sweden to better understand the conditions under which leisure activities are, or are not linked to antisocial behavior in adolescence. Through in-school surveys of adolescents and mail-in surveys of their parents in the fall of 1997, Mahoney and Stattin (2000) examined adolescent participation in structured, community-sponsored teams and organizations, youth recreation centers and non-participation in these after school activities. The study examined activity involvement, peer characteristics, parental monitoring and parental trust in relation to antisocial behavior through ANOVA. Mahoney and Stattin hypothesized that the issue of self-selection of activities may account for some of the associations between leisure activities and antisocial behaviors.

Mahoney and Stattin (2000) found that a higher number of participants involved in unstructured activities reported poor school performance, reported being apprehended by the police, and reported staying out on the town at night. Furthermore, boys who were not in a structured after school activity reported the fewest number of after school peers

and reported a higher incidence of poor school performance than their involved peers. Additionally, these researchers found that structured activity participation is linked to lower incidence of antisocial behavior as compared to non-participants, but added that “the issue is not what the individual is engaged in after school, but with whom” (p. 123). Although this conclusion is not supported by data from their study, Mahoney and Stattin conclude that the exposure to adolescents exhibiting antisocial behaviors, irrespective of the activity in which the adolescents are participating, is a greater influence on a developing adolescent and a larger predictor of antisocial behavior, than the activity itself. Mahoney and Stattin conducted this study in Sweden; although the experiences of adolescents are in many respects universal, there are many cultural differences between the United States and Sweden which would make the conclusions drawn difficult at best to extend to other populations. Coupled with the small number of participants (703) in the group, this study does not solidly support the findings drawn and requires replication before definitive conclusions may be determined.

Furthermore, Mahoney (2000) conducted a similar study of the relationship between child and adolescent participation in extracurricular activities and antisocial behavior to determine if there was a relationship between extracurricular activities and antisocial behavior over a long period of time. Using data from the Carolina Longitudinal Study, Mahoney tracked participants from the 4th to the 12 grade through annual interviews with the participant and surveys of the participant’s teachers. Participants were from five communities with a manufacturing-based economy in the Southeastern, United States. School yearbooks were used to determine participation in

after school activities. The data for this study were initially collected between 1981 and 1983, when the participants were in either 4th or 7th grade.

Given Mahoney and Stattin's (2000) conclusion that the influence of the peer group was an important factor in the occurrence of antisocial behavior, Mahoney (2000) gave special attention to peer social networks. A one-way ANOVA using Duncan's multiple range test showed statistically significant, lower rates of adjustment problems when the individual and his or her social network participated in after school activities as compared to no activity participation, participation of the social network without the individual, or participation of the individual without the social network. The results of the study showed that individuals who become involved in school extracurricular activities are less likely to drop out of school or engage in criminal behavior as young adults as compared to similar persons who were not involved in extracurricular, after school activities (Mahoney, 2000). However, Mahoney concluded that "participation in school extracurricular activities is a marker, not a cause, of positive adjustment for high risk youth. The findings from this study are correlational and as such provide weak evidence for causation" (p. 512). Additionally, this study relied upon the inclusion of students in an after school activity yearbook photo as a data source to determine participation in after school activities. This source of data seems suspect and unreliable as the inclusion or exclusion of individuals from yearbook photos are usually not monitored for accuracy. Furthermore, the data are derived from a limited geographical area and were collected between 1981 and 1983. At the time Mahoney conducted this

study the data were seventeen years old, making the findings questionably relevant to today's adolescents.

Building on the findings of Mahoney (2000), Coley et al. (2004) studied adolescents, ages 10-14 to determine if out of school care arrangements was a protective or detrimental force for early adolescents. Data for the study was obtained from the Welfare, Children, and Families: A Three-City Study (Boston, Chicago and San Antonio), a longitudinal study of low-income families in the wake of welfare reform, which starts in 1999, at ages 0-4 in wave 1 and again at ages 10-14 in wave 2. Data were collected through individual, 30 minute, in-home interviews and respondents were paid for their interviews. Coley et al. (2004) measured demographic variables, parental monitoring, adolescent functioning, neighborhood context, and five types of adolescent, out-of school care: with mother – home supervised, home unsupervised, formal program, out-of-home supervised, and out-of-home unsupervised. Using a lagged regression model, Coley et al. (2004) found that out of home, unsupervised care arrangements are related to heightened trajectories of problem behaviors, particularly alcohol and drug use and school misconduct. Adolescents who were already exhibiting high rates of behavior problems were found to be more susceptible to the negative influences of out-of home, unsupervised care, as compared to those receiving in-home care or care in a structured environment; this was especially significant in levels of drug and alcohol use. Additionally, adolescents from more disadvantaged families were more likely to experience a primary care arrangement that is both out of their own home and removed from adult supervision. Coley et al. (2004) concluded that out-of-school care

arrangements play an important role in predicting behavioral trajectories for early adolescents.

Although the data examined in the Coley et al. (2004) study were considerably more recent than the data examined by Mahoney (2000), most of the families included in the study had an average family income that placed them well-below the federal poverty line, making the conclusions drawn regarding adolescents from more disadvantaged families questionably universal to all adolescents. Additionally, participants were 42% African American and 49% Hispanic, and similar to Mahoney (2000), participants were from a limited geographic area. Although Coley et al.(2004) attempt to control for self-selection factors which might influence the outcomes of the study, it is difficult to conclude that minority adolescents, living below the poverty line, in three inner-city locations, in predominately single-mother households have a significant number of choices to make concerning selection of after school activities. Sarampote et al. (2004), in their review of after school care literature found that African-American children were more likely to receive after school care than any other group. Additionally, Sarampote et al. (2004) found that child care costs for families living below the federal poverty line comprise up to 23% of the family's monthly earnings. Furthermore, Coley et al (2004) noted that working mothers may be unable to afford sufficient child care for their children. Sarampote et al. (2004) found that low-income families use more relative care and less non-relative care and center programs than other families. Given these factors, there are some inherent flaws in the Coley et al. (2004) study that are not addressed and require further study.

Another recent study, Aizer (2004) examined the lack of adult supervision after school on school age children's behavior. Using data collected from the 1998 wave of the National Longitudinal Survey of Youth Child-Mother (NLSY-CM), begun in 1978, the study examined 3,726 participants, ages 14-21. Employing an estimation strategy to measure child quality and OLS regressions, Aizer (2004) measured risky/antisocial behaviors such as getting drunk, skipping school, stealing something, and hurting someone, along with the mother's education, and birth weight of the child. The study examined after school care in two categories: supervised and unsupervised; it did not examine specific after school activities or care arrangements. Aizer (2004) found that males are more likely to engage in antisocial behaviors than females and mothers with less than a high school degree are more likely to have children engage in antisocial behaviors. However, Aizer (2004) also found that the probability of a child engaging in antisocial behavior decreases significantly if the child is supervised by an adult. This conclusion is supported by Sarampote et al. (2004) who also concluded that close parental monitoring can lessen the potential for risk. Although the data used are more recent than previously discussed studies, Aizer (2004) did have some inherent flaws in the study, as a result of potential cohort effects of the NLSY-CM survey which according to Aizer (2004) "over-sampled Blacks, Hispanics and economically disadvantaged whites" and the fact that the participants were born to the youngest mothers in the study (p. 1840). Therefore these conclusions may be unrepresentative of this population of school-age children as the participants in the Aizer (2004) study "are at greater risk of engagement in these types of behaviors" (Aizer, 2004, p. 1840). In the present study, I

remedied these inherent flaws by employing a nationally representative data set and focusing on the participants in 6th, 7th and 8th grade from a wide range of demographic backgrounds.

Although Aizer (2004) only examined after school care in two categories: supervised and unsupervised, Fredericks and Eccles (2006a) went beyond these two basic categories to examine the associations between a variety of measures of extracurricular participation and indicators of youth development, the relationship between the duration of participation in school clubs and organized sports over a 3-year span, and indicators of both positive and negative youth development. The researchers hypothesized that the breadth of participation would predict higher levels of academic and psychological competencies and lower levels of risk behavior. The participants were 95% White, primarily middle class, adolescents in grades 7-12. Data were drawn from the Childhood and Beyond Study (CAB). The study began in 1987 and followed students through 1996. There were 864 participants in the first data collection (wave 1) and 508 participants in the 1996 (wave 6) data collection. The youth that dropped out of the study were from the lower socioeconomic status; more female participants remained in the study than male. Data at each wave of collection was coded into: no participation, 1 year of participation, 2 years of participation, or continuous participation. This coding was done separately for sports, school clubs, and organized activities. Multiple regression models were run to test the associations between the duration of participation in school clubs and organized sports and indicators of adolescent adjustment. Fredericks and Eccles (2006a) found the duration of participation in organized sports was a significant predictor of alcohol use in

the older cohorts. Participation in low and high numbers of activities was associated with higher levels of risky behavior. Females were three times more likely to participate in school clubs and organized sports than males. Additionally, the duration of participation in school clubs was a positive predictor of grades. These findings were consistent with previous findings by Mahoney et al. (2003).

Although Fredericks and Eccles (2006a) did include 7th and 8th grade in their study, the main focus of the study was on high school and the cumulative impact of participation in after school activities over time. The study does not draw direct conclusions about middle school and the immediate results of after school activity participation on the middle school population. Additionally, this study attempted to avoid the difficulty previous studies faced in making generalizations about low-income participants' involvement in after school activities and the potential exclusion of these participants due to the cost of participation. However, the low number of participants (508) and the 95% White, middle-class population makes the outcomes just as flawed as the previous studies involving predominately minority, low-income populations. Therefore generalizations from this population to the entire adolescent population are also questionable and likely not representative.

A more recent study, Reisner et al. (2007) attempted to examine the psychological, social, and academic outcomes for disadvantaged youth in elementary and middle school that participated in an after school program and compared these individuals with disadvantaged youth that did not participate in the after school program, but attended the same schools. The study was required to change this initial point of comparison as it was

determined that the participants in both of the sample groups did not spend time in any one after school activity or program; instead, participants were involved in a variety of after school activities or programs. The participants after school activities were categorized into four groups: identified high-quality after school programs, other school and community based programs, supervised settings at home with a parent or another adult present, or self care, with peers or with younger children, but no adult present. The study examined 35 programs in a high-poverty area that serviced at least 30 youth in elementary and/or middle school, four to five times per week. Following the participants during a two year period, the study collected data through surveys of parents, teachers and students as well as direct observation. Cluster analysis of the data was performed. The study concluded that program-based and other structured after school activities, along with adult supervision, improved participants conduct and work habits as compared with participants in the self care group. Additionally, improvements were noted in the participants after one year in the program-based group (data was not provided to support this assertion), but more benefits were noted at the two year mark.

The difficulty that Reisner et al. (2007) experienced in the initial design of the study focused on the assumption that adolescents spend their time after school engaged in the same activity or care arrangement every day. Given the expense of after school care for low income families discussed by Sarampote et al. (2004), and the high-poverty area in which this study was conducted, it is not surprising that participants might not be able to afford structured, after school care every day of the week.

In each of the studies reviewed, researchers were interested in investigating the link between after school activity participation and behavioral outcomes. Although each researcher found positive associations between the two, several large gaps in the literature remain. Most studies involved relatively small populations, limited geographic areas, narrow socio-economic ranges, aging data, or high school populations. Research linking behavioral outcomes for middle school students from a range of socio-economic backgrounds derived from a nationally representative data set is needed to draw solid conclusions concerning after school activity participation and behavioral outcomes for middle school students.

Participation in After School Activities and Outcomes in Adulthood

Researchers have also examined the relationship between participation in after school activities and behavior outcomes later in life. Much of this research has focused on the relationship between maternal employment status during the first three years of life and cognitive measures on standardized tests. However, longitudinal studies that control for earlier levels of participation have found that participation in some type of extra-curricular activities during high school is associated with higher educational attainment, self-concept and aspirations and lower rates of substance abuse, depression and risk-taking later in adult life (e. g., Fredericks & Eccles 2006a).

Zaff et al. (2003) examined extracurricular participation in 8th, 10th, and 12th grade to determine if participation in extracurricular activities predicted multiple positive outcomes such as attending college, voting in national and regional elections, and volunteering for community and religious organizations, two years after 12th grade.

Using logistical regression, bivariate, and multivariate analysis on data from the NELS:88 set, Zaff et al. (2003) found that adolescents that participated in extracurricular activities were 70% more likely to attend some college, 60% more likely to vote, and 80% more likely to volunteer as compared with those who only occasionally participate. Those who never participated were nearly 75% less likely to attend college than those who only occasionally participated. Additionally, adolescents that participated in extracurricular activities were 1.8 times more likely to vote and volunteer than their peers. Although Zaff et al. (2003) concluded that consistent participation in extracurricular activities was a strong predictor of positive outcomes; students who dropped out of high school were not included in the study as the researchers concluded they could not answer the questions related to extracurricular activities. This exclusion of participants is significant in a study of how adolescents' activities impact their early adult lives and choices and may have affected their findings. Although this study does include 8th grade and employs a nationally representative data set, it is not focused on middle school outcomes, but instead on outcomes later in adult life.

Using the same MADGIS data set as described in Fredericks and Eccles (2006a), Fredericks and Eccles (2006b) examined the relationship between participation in a range of high school extracurricular contexts and developmental outcomes in adolescence and young adulthood. Participants were in 7th, 8th, 11th, and 1 year post high school. Building on the area that Mahoney and Stattin (2000) hypothesized was a factor in need of research, Fredericks and Eccles (2006b) examined the issue of students' self-selection of activities to determine if it may account for some of the associations between leisure

activities and antisocial behaviors. Fredericks and Eccles (2006b) attempted to adjust for the self-selection factor that may explain why some individuals choose to participate in extracurricular activities and others may not; this was not addressed in their previous studies. Fredericks and Eccles (2006b) found that European American and African American girls had higher rates of participation in school clubs. This finding is consistent with other studies' findings. African American boys had lower rates in pro-social activities than expected. No gender differences among European American rates of participation in pro-social activities were found. Additionally, few significant links between pro-social activities and indicators of adolescent adjustment in were found in 11th grade. Boys in school clubs had lower reported use of alcohol and marijuana as compared to non-participants, but there was no difference for girls in reported use alcohol and marijuana. The rates of use of alcohol and marijuana decreased for boys in 11th grade as the number of after school activities participants were involved increased. Involvement in both high school clubs and pro-social activities predicted civic engagement two years later. Fredericks and Eccles (2006b) concluded that the breadth of activity participation was associated with positive indicators of adolescent and young adult adjustment.

Empirical evidence from these studies demonstrates the positive relationship between participation in after school activities and positive behavior outcomes later in life (e. g., Fredericks & Eccles, 2006b; Zaff et al., 2003). Although there is consensus on the overall value of organized activities on positive indicators of adolescent and young adult adjustment, questions remain regarding the extent to which participation in after school

activities benefits middle school students. Similar to Zaff et al. (2003), Fredericks and Eccles (2006b) focus on adult outcomes, not middle school outcomes and do not address the relationship between after school activity participation and middle school outcomes. The researchers assume that there are positive outcomes in middle school for adolescents engaged in after school activities because there are positive outcomes later in adult life, but cannot support this assertion with the data from their studies. The present study examines the relationship between after school activity participation and middle school outcomes through an analysis of a nationally representative data set, the National Household for Education Statistics 2005 survey.

After School Activity Participation and Adolescent Academic Performance in School

Numerous researchers have examined the relationship between after school activity participation and student learning as measured by standardized test scores and student's grades (e. g., Fredericks & Eccles 2006b; Zaff et al. 2003). A number of studies have examined the academic performance of students who attend after school programs at centers or schools (e. g., Howie, 1996; Shernoff & Vandell, 2007). The focus of these studies has been to determine the components of a successful after school program and to strengthen the individual program. The vast majority of these studies were conducted in high-poverty areas or with at-risk participants (e. g., Lauer et al. 2006; Posner & Lowe-Vandell 1999).

One such small-scale study, Birmingham et al. (2005) examined 262 students in ten, after school programs in New York City which were funded by The After School

Corporation (TASC) to identify characteristics of high-performing after school programs. Through an analysis of interviews with staff, reviews of school academic and attendance records, and observation, Birmingham et al. (2005) concluded that successful after school programs met regularly (3-4 times per week) and had a variety of activities for the participants to engage including homework assistance, project-based activities, arts and sports. Having established the successful components of high-performing after school programs, research focused on the educational outcomes of participation in after school activities.

For example, Fredericks and Eccles (2006b) found that participation in both high school sports and school clubs was a predictor of educational status. Results showed that participation in sports in 8th grade predicted higher grade point averages in 11th grade. Adolescents who participated in school clubs in 8th grade had higher grade point averages in 11th grade as compared to those who did not participate. Fredericks and Eccles (2006b) found that participation in both high school clubs and sports predicted academic adjustment at grade 11. This study demonstrates the benefits of after school activity participation on grades over time, similar to the studies on adult outcomes by Fredericks and Eccles (2006b) and Zaff et al. (2003), these studies do not demonstrate positive middle school outcomes and do not address the relationship between after school activity participation and middle school outcomes.

Another study in this area, Mahoney et al. (2003) examined the role of adolescent extracurricular activity participation in the process of long-term educational attainment. The researchers hypothesized that consistent participation in extracurricular activities

would promote interpersonal competence and personal initiative, which lay the groundwork for achieving educational success beyond high school. The participants were members of the 1994 Carolina Longitudinal Study n = 635 (364 girls, 331 boys) and were recruited in 1981-1983 while in either the 4th or 7th grade and tracked annually into 12th grade. Participants were interviewed at age 18 concerning their plans for the future and at age 20 concerning what level of education they had attained. These self-reports were independently confirmed. Each school year, participants' teachers rated them on an Interpersonal Competence Scale. Additionally, 15 middle school yearbooks and 29 high school yearbooks were used to assess extracurricular activity participation. Mahoney et al. (2003) found the consistency of extracurricular activity participation in both early and middle adolescence showed positive, significant links to interpersonal competence in middle school, educational aspirations in late adolescence, and educational status at age 20. Reciprocal associations between interpersonal competence and extracurricular activity participation from early to middle adolescence were significant. Participation in after school activities for a period of 3 or 4 years was significantly linked to high rates of college attendance. Additionally, consistent participation in extracurricular activities across adolescence was positively linked to educational status during young adulthood. Interpersonal competence during early and middle adolescence, and educational aspirations at late adolescence, each had significant, positive associations with educational status at age 20. Interpersonal competence during early and middle adolescence was significantly linked to educational aspirations in late adolescence. Few

gender differences were noted in these findings, which is unusual, as most studies in this literature review have found gender differences (e. g., Fredericks and Eccles, 2006a).

Although the relationship reported by Mahoney et al. (2003) between after school activity participation and educational aspirations appears positive, given that the results were not consistent with previous studies, this relationship warrants further investigation. Additionally, this study relied upon the inclusion of students in an after school activity yearbook photo as a data source to determine participation in after school activities. As was the case with this method of extraction of data by Mahoney and Stattin (2000), this source of data seems suspect and unreliable. Furthermore, the small number of participants from a limited geographical area and the use of data that were over twenty-years old at the time the study was published requires further investigation of the outcomes of this study.

As discussed in this literature review, several of the studies in the field of after school care have had apparent shortcomings which draw their findings into question. Lauer et al. (2006) conducted a meta-analysis of current studies of out-of-school programs involving at-risk students to determine what the commonalities among findings within the field of after school care research might reveal; this study included summer school in its definition of out-of-school programs, as opposed to after school programs. The meta-analysis selected 35 studies, published between 1986 and 2003 that measured student achievement in reading, mathematics or both and included a sufficient amount of quantitative information for calculation of effect sizes. This study concluded that out-of-school programs can have positive effects on the achievement of at-risk students in

reading and math. Additionally, Lauer et al. (2006) concluded that the programs do not need to focus exclusively on academic activities to have positive outcomes for students. Programs which include both academic and social activities were also found to have positive influences on students. Furthermore, Lauer et al. (2006) concluded that students in both elementary and secondary grades can benefit from out of school time programs for improved reading; some indication of improved math achievement primarily in secondary grades was found, but the researchers added that additional research is needed to clarify these results. The results of Lauer et al. 's meta-analysis conflicted with the final evaluation of the 21st Century Community Learning Centers (James-Burdumy et al. 2005) which found no statistical significance in the effects of after school programs on mathematical or reading achievement.

In conclusion, despite aging data and limited numbers of participants and questionable sources of data, there appears to be a positive relationship between after school activity participation and academic performance; however, additional research is needed to further investigate this relationship.

After School Activity Participation and Adolescent Emotional Development

Having established the benefits of structured after school care, the research on after school care has focused on the social and emotional development of children in structured after school care. Social Cognitive Theory involves the process of knowledge acquisition through the observation of models (Bandura, 1988). Children learn in school through direct instruction and by observing the behavior of others. When the observed behavior is rewarded, the child learns vicariously that this is a positive behavior. In turn,

when the observed behavior is punished, the child learns that this is not a desired behavior (Miller, 2005). How students spend their time during the middle-school years, the behavior-models students observe, and the behavior students select to replicate and emulate may have important implications for the opportunities and the choices students have later in adolescence.

Eccles et al. (2005) examined the associations between parental behavior and children's participation in out-of-school math, science, and computer activities for children in 2nd, 3rd and 5th grade. Using data from the Michigan Childhood and Beyond Study, 448 families with children in 12 public schools in 3 districts in the Midwest participated in the study. Ninety-six percent of mothers, 97% of fathers and 94% of children were European American. Data were collected through multiple waves of questionnaires. Eccles et al. (2005) employed Pearson's correlations to determine bivariate relations between parental behaviors and children's activity participation and ANCOVA to determine the relative predictive power of behaviors from one versus two parents. Additionally structural equation modeling, Analysis of Moment Structures (AMOS) was used to test relations between children's activity participation and parents' behavior. Eccles et al. (2005) concluded that parents' behaviors are powerful predictors of children's participation in out-of-school math, science, and computer activities. However, the study did acknowledge the potential existence of a bidirectional relationship, "children who demonstrate an interest in math, science, and computer activities may influence their parents' behaviors" (Eccles et al. 2005, p. 28).

Children in after school care are also learning what behaviors are considered appropriate by the care giver. The type of activities in which the child engages should predict their success in school. Students that are engaged in activities that promote and reinforce behavior viewed as important to success in school should have a higher level of academic achievement than those children engaged in activities that do not promote and reinforce behavior viewed as important to success in school. Additionally, students that are unsupervised after school or are supervised inadequately may have increased access to models of inappropriate behavior which will increase the potential for this inappropriate behavior to be replicated in the school or home environment and may negatively impact academic performance in school (e. g., Pettit et al. 1999). As was previously discussed, Mahoney and Stattin (2000) concluded that the exposure to adolescents exhibiting antisocial behaviors, irrespective of the activity in which the adolescents are participating, is a greater influence on a developing adolescent and a larger predictor of antisocial behavior, than the activity itself.

For example, Bartko and Eccles (2003) examined how different profiles of activity involvement across 11 different activity settings (Sports, Reading for pleasure, Homework, Chores, Time with friends, Watching television, School Clubs, Community clubs, Volunteering, Religion, Paid work), both constructive and passive, were linked to adolescents' well-being. The study measured academic performance, problem behavior, and psychological functioning. Participants were seniors in high school, drawn from the 1996 Maryland Adolescent Development in Context Study (MADIC); 95% of the participants were 16 or 17. MADIC data were collected through individual, in-home

interviews. Cluster analyses using Ward's methods with squared Euclidean distance were used. Demographic indicators were used as covariates in some of the analysis: gender, parent's educational attainment and occupation. ANCOVA analysis, used to indicate relationships between the activity groups and psychosocial measures, revealed a differential pattern of relations between activity groups and psychosocial measures. Bartko and Eccles (2003) found the school and high-involved adolescents reported the highest grade point averages; the uninvolved teens reported the lowest GPA. Additionally, the sports, uninvolved and work clusters showed the lowest mean problem behaviors although the school and high-involved groups showed the lowest mean problem behaviors. Bartko and Eccles (2003) concluded that choices adolescents made regarding their participation in structured and unstructured activities were connected in meaningful ways to their academic performance, psychological health and behavior problems. "In general, participation in structured, pro-social activities was associated with positive functioning for these youths while the poorest functioning was noted for adolescents who engaged in few constructive activities" (Bartko & Eccles, 2003, p. 238).

Bartko and Eccles' (2003) findings indicate a positive relationship between after school activity participation and academic performance, psychological health and behavior problems; however, the study focused on high school students, and drew participants from a limited geographical area; therefore the findings are not directly applicable to the middle school adolescent. The present study will address these limitations through the use of a nationally representative data set, the National Household

for Education Statistics 2005 survey and is limited to participants in the 6th, 7th, or 8th grade.

Based on the research literature on after school care, researchers have sought to determine the exact components of after school programs that have an impact on adolescents social, emotional and academic growth. The research conducted by Huang et al. (2007) examined the relationship between the perceptions of staff-student relationships and the educational values, future aspirations, and engagement of LA's BEST students. The researchers hypothesized, based on findings of previous researchers, that students in after-care programs have an opportunity to form strong relationships with staff at the after school care program and would have "increased motivation, higher academic competence, positive engagement, and increased school value" (p. 4). Huang et al. (2007) further hypothesized that the informal nature of the aftercare program has an increased capacity to foster these strong relationships as well as provide an "expanded network of adults and mentors in the community" (p. 4).

The 2,270 participants included in the Huang et al. (2007) study were in the 3rd, 4th and 5th grade, and participated in LA's BEST after school program at 53 sites in Los Angeles, California. Although no data are given as to the ethnicity of the participants in study, 24.7% of participants spoke only English in their home, 9.1 % spoke only Spanish in their home, and 66.3% spoke both English and Spanish in their home. There were also 395 staff members from LA's BEST after school program who participated in the study. Results were analyzed using descriptive analysis, hierarchical latent modeling (HLM), and latent path analysis using structural equation modeling (SEM). Huang et al. (2007)

found that the staff members at LA's BEST had high levels of self-efficacy, and believed that they could make a difference in the lives of the children in their care. Additionally, the staff maintained high standards for academic achievement and encouraged the students to succeed. Huang et al. (2007) also found students were able to seek support from staff, not only for academic concerns, but also for concerns in other areas in their lives. Huang et al. (2007) concluded that this was especially crucial for disadvantaged youth as it created a belief system in the students' own abilities that would serve as a "buffer against adverse contextual and social factors" in their home environment (p. 58). Given the large population of reportedly "economically disadvantaged" participants in the Huang et al. (2007) study, the conclusions drawn may contain some bias concerning the population's predetermined need (p. 58).

As was noted by Halpern (2002), most of the after school care programs focus on low income or at risk students. Little research has been conducted on other populations. Fredricks and Eccles (2006a) employed a sample of predominately White, middle-class, participants in grades, 7 through 12 to examine the relationship between the duration of involvement in school clubs and organized sports and youth development. Using data from the Childhood and Beyond Study, participants were 93% middle-class and 95% white, with a median family income of \$50,000 to \$59,000. The researchers selected this sample so that family income and neighborhood resources would not hinder children's activity involvement. As was previously discussed, this limitation to access was not addressed in previous studies. Fredericks and Eccles (2006a) found a link between the duration of participation in school clubs and favorable academic and psychological

outcomes. Fredricks and Eccles (2006a) concluded “High-quality extracurricular activities share several features that should promote positive development, including guidance by supportive adult mentors, opportunities for belonging, age appropriate structure and adult supervision, challenging and meaningful activities, opportunities to do things that matter to others, and affordances for skill-building” (p. 143). A curvilinear relationship was found between the larger number of extracurricular participation and risk behavior for the older participants. Although the 7th through 12th grade was included in this study, the main focus of the study was on high school students, not middle school.

As previously discussed, Fredericks and Eccles, (2006b) examined the associations between a variety of measures of extracurricular participation and indicators of youth development, the relationship between the duration of participation in school clubs and organized sports over a 3-year span, and indicators of both positive and negative youth development. Fredericks, and Eccles (2006b) found the duration of participation in school clubs predicted more favorable developmental outcomes and was associated with a higher sense of school belonging. Additionally, the total number of school activities adolescents participated in was predictive of a higher sense of school belonging, a higher resilience, and a lower distress for older adolescents. These findings were consistent with Mahoney et al. (2003), but again the primary focus of the study was on high school students, not middle school.

Additionally, Bartko and Eccles (2003a) examined different profiles of activity involvement across 11 different activity settings. The study found that uninvolved students had the highest level of internalizing problems, whereas involved students had

the lowest level of internalizing problems. Adolescents that participated in a number of constructive, organized activities, combined with little participation in passive, unstructured activities showed healthy psychological and behavioral functioning in addition to good academic performance. Uninvolved students reported higher levels of depressive symptoms than the sports, school, volunteer and high-involved subjects. On the measure of psychological resilience, the sports, school, and high-involved subjects had the highest scores.

Although some shortcomings were noted in the literature discussed in the present literature review, empirical evidence from these studies demonstrates a positive association between after school activity participation and emotional development for adolescents in high school. This positive outcome for middle school adolescents engaged in after school activities is not supported by the current body of research as the data from these studies excluded the middle school adolescent population. Therefore additional research is required to definitively affirm this positive relationship in middle school.

After School Activities: Examining the Advantages and Disadvantages of Participation

Investigations into the relationship between participation in after school activities and social outcomes, educational attainment, and academic achievement have revealed mostly positive associations; however, variations in outcomes for specific after school activities have been noted. In the following section, studies which examine specific after school activities such as internet use, television viewing, homework, academic centers

and cigarette smoking to determine their relationship with adolescent social outcomes, educational attainment, and academic achievement for adolescents are reviewed.

After School Activities that Promote Child Development

Although students have participated in after school activities for years, a shift in expectations for these activities to do more than occupy adolescents' time until the parent returns home has occurred as a result of an infusion of government funding for after school programs. This government funding is accompanied by an increased emphasis on expectations and accountability for these after school programs. "In a 2002 ballot initiative, Californians voted for a six-fold increase in funding after school programs. Now, the heat is on to demonstrate that after school programs are effective" (Granger & Kane, 2004, p.1). "After school grantees are required to submit annual scores from mandatory statewide tests that measure literacy and math skills with the expectation that after school participants will improve faster than those who do not participate. Many other programs using public and private funds have followed the state's lead in relying on test scores to gauge the effectiveness of after school programs." (Piha, 2006, p. 2).

To identify and validate the activities and practices that best support the positive development of adolescents, Posner and Lowe-Vandell (1999) conducted a longitudinal study of the after school activities of 194 African American and White children from low-income households between 1989 and 1992. The study followed the students' after school activities from 3rd to 5th grade to determine the contextual variables and children's adjustment over time. Posner and Lowe-Vandell (1999) hypothesized that children's activities during the hours immediately after school would contribute to the development

of competencies that are exhibited at school and at home. Care arrangements were categorized into four groups: mother care, informal sitters, formal programs and self care. Participants recorded their after school activities during the three-hour period directly following the school day in a diary and then reported those activities through phone interviews conducted every six weeks. Participant responses were confirmed by a parent during the phone interviews. Activities were categorized into twenty-three groups such as sleeping, shopping, playing with pets, doing homework or watching television. In addition, data was collected regarding demographic information, academic grades obtained from report card data, parent reports of child behavior, and teacher reports of child behavior. Researchers found that the most common activity across the three-year period was television watching, comprising 20% of participants' after school time in the afternoon. Other frequent activities were transit (15%) and academics (14%). Children on average spent almost 10% of their after school time in unstructured, outside activities. Children spent less time on activities such as extracurricular activities (4%), coached sports (4%) and chores (4%). Furthermore, girls spent more time doing academic and socializing activities whereas boys spent more time playing coached sports.

Differences in after school activities were tested using 2 (gender) by 2 (family structure: one versus two parent households) by 3 (grade: third, fourth and fifth grades) ANOVAs. Due to the school district's desegregation plan, African American children spend more time in transit after school ($M = 18\%$) than White children ($M = 12\%$) thus affecting the amount of time available for other activities. Arcsine transformations were performed in the time-use proportions to stabilize variances. In analyzing the cumulative

time spent in after school activities over the three-year study, Posner and Lowe-Vandell (1999) found African American children received higher academic grades during fifth grade when they spent less cumulative time after school playing coached sports, and more cumulative time socializing in the two years prior to fifth grade. White children who spent more time outside in unstructured activities between third and fifth grade received poorer academic grades, lower teacher ratings of emotional adjustment, and higher mother-reported behavior problems in fifth grade. Posner and Lowe-Vandell (1999) employed *t* tests to contrast the after school activities of children enrolled in after school programs and children in other care settings. The researchers found that children who attended after school programs spent more time on non-sport extracurricular activities as compared with children in other after school arrangements. Additionally, the children who attended after school programs also watched less television, spent less time in outside, unstructured activities, and spent less time on chores than children in other after school arrangements. Instead, these children spent more time on academic activities and inside structured activities such as board games. Overall, activities in which students were engaged were related to children's academic performance and emotional adjustment over time.

Posner and Lowe-Vandell's (1999) findings are based on data collected in the early 1990's. Since this time, innovations in computer technology alone have expanded the activities in which students may engage during after school hours. Furthermore, the limited sample size and mitigating factors associated with extended busing of African American participants may cause these conclusions to

be unrepresentative of this population of school-age children. Given these factors, there are some inherent shortcomings of the Posner and Lowe-Vandell (1999) study that are not addressed and require further study. However, given previous findings discussed in this review, Posner and Lowe-Vandell's (1999) findings are supported by later research (e.g. Fredericks & Eccles 2006b).

In another study, seeking to identify the potential benefits of after school activity participation, but without some of the shortcomings experienced by Posner and Lowe-Vandell's (1999) study, Eccles and Barber (1999) examined the potential benefits and risks associated with participation in five types of activities: pro-social (church and volunteer activities), team sports, school involvement, performing arts, and academic clubs. Using data from the Michigan Study of Adolescent Life Transitions (MSALT), a longitudinal study that began in 1983, with a cohort of sixth graders drawn from 10 school districts in southeastern Michigan, Eccles and Barber (1999) collected data through self-administered questionnaires completed at school during school hours, or in the case of young adults, mailed to their home. Participants were predominantly white and from working and middle class families living in small industrial cities around Detroit. MSALT followed approximately 1,800 of these youth through eight waves of data beginning in the sixth grade 1983-1984, and continuing into 1996-1997, when most were 25 to 26 years old.

Eccles and Barber (1999) collected detailed information on the adolescents' involvement in a wide variety of activities in and out of school. Adolescents reported which activities in which they participated from a list of 16 sports and 30 school and

community clubs and organizations. Eccles and Barber (1999) clustered the extracurricular activities into five categories: pro-social activities—attending church and/or participating in volunteer and community service-type activities; performance activities—participating in school band, drama, and/or dance; team sports—participating in one or more school teams; school involvement—participating in student government, pep club, and/or cheerleading; and academic clubs—participating in debate, foreign language, math or chess clubs, science fair, or tutoring in academic subjects. Eccles and Barber (1999) also collected information on the adolescents' involvement in risky/problematic activities in 10th and 12th grades, such as drinking, getting drunk, skipping school, and using drugs. Using a seven-point item questionnaire, Eccles and Barber (1999) collected data on the students' attachment to school. In addition, information on academic performance and assessment test scores, cumulative GPAs at the 11th and 12th grades, as well as verbal and numerical ability sub scores on an aptitude test administered in the ninth grade were obtained for every participant from their school files. Finally, in the 1992-1993 wave of the study, college attendance information was collected.

Eccles and Barber (1999) found that the adolescents in the study participated in between one and two activities and/or clubs. Females' participation rates were higher than males, and 31% of the sample did not participate in any activities or clubs. Females also participated in a wider range of activities than males. The strongest predictor was the 10th grade level of involvement in risky behavior, Eccles and Barber (1999) concluded that this suggested considerable stability in the individual differences in these

behaviors over the high school years. Additionally, the students who were involved in activities such as attending church and doing volunteer work showed less of an increase in risky behaviors over the high school years than their non-involved peers. Furthermore, involvement in pro-social activities at grade 10 was also positively related to both liking school at that level and a higher GPA at the 12th-grade level. In addition, involvement in pro-social activities in the 10th grade was positively related to attending college full-time at age 21. Sports participants were found to like school better at both the 10th and 12th grades. They were also more likely to be attending college full-time at age 21 than non-participants. Additionally, sports participation predicted an increase in liking school between the 10th and 12th grades, a higher than expected 12th grade GPA, and a greater than expected likelihood of being enrolled full-time in college at age 21. Eccles and Barber (1999) found that participation in all five types of extracurricular involvement predicted better than anticipated high school GPAs. Participation in sports, school-based leadership, school-spirit activities, and academic clubs predicted an increased likelihood of full-time enrollment in college at age 21. Involvement in sports also predicted increases in school attachment. Participation in pro-social activities was related to lower increases in alcohol and drug use, as well as to lower usage levels at both grades 10 and 12; participation in performing arts served this same function for males. Finally, each of these results was consistent when social class, gender, and academic aptitude were controlled.

The Eccles and Barber (1999) study examined participation in high school and early adult life and the present study examined these associations in middle school.

Although these are different populations, the researchers do offer evidence to support the positive association between participation in specific types of after school activities and adolescent development. By providing adolescents with positive feeling regarding school and a connection to the school, Eccles and Barber (1999) found that after school participation forges a connection to school, especially among the “at risk” population who experience the most feelings of disconnection to the school.

After School Participation, Homework, and Academic Growth

Many after school programs receive government funding to support the program. Along with these funds come expectations for quantifiable academic growth as measured by standardized tests. Therefore the students spend their time in these after school programs engaged in academic pursuits. Scott-Little et al. (2002) conducted a meta-analysis of evaluations of after school programs. The 43 studies included in the meta-analysis were published between 1996 and 2001. Scott-Little et al. (2002) found that participants in after school programs scored higher on standardized measures of academic achievement, on non-standardized measures of academic-related performance indicators and on measures of social-emotional functioning. However, the researchers found that the after school programs do not have the same outcomes for all participants; positive academic outcomes were associated with participation in after school programs for early elementary school children, but not for older children. According to Scott-Little et al. (2002) “The emerging pattern seems to suggest that fifth and sixth graders do not show the same gains as younger children enrolled in after school programs” (p. 410). Additionally, at-risk children, those who score the lowest on pre-test measures of

academic skills, limited English proficient children, and those who traditionally do not do well in school made the greatest gains as a result of participation in after school programs.

Jenner and Jenner (2007) examined the academic impact of 21st Century Community Learning Centers (21st CCLC) in Louisiana on at risk children. Jenner and Jenner (2007) did not describe the specific activities in which the students were engaged while at the 21st CCLC; however, the Louisiana Department of Education website states “21stCCLC projects provide homework assistance and targeted remediation, academics such as the arts and technology, and recreational activities.” Thomas Kane (2004), in his evaluation of four after school programs, describes the typical after school program as operating for two to three hours at the end of the regular school day. Participants are engaged in academic content the first hour with a varying degree of adult supervision and a mix between instruction, support and independent homework completion. The second hour was devoted to organized activities involving games, athletic activities, presentations or social skill training (Kane, 2004). For the purposes of the present study, this type of after school activity will be considered as focused on homework.

Participants in the Jenner and Jenner (2007) study were sampled from a total population of 1,192 students in the 3rd and 5th grade from four districts in Louisiana, two districts were rural and two were urban. Participants were administered the Iowa Test of Basic Skills (ITBS) during the fall of 2003 and spring of 2004. Although the study included participants from four locations in Louisiana, participants compared in the study attended the same school in each of the four locations. Comparisons were then made

within and between the four locations using a quasi-experimental design. The independent variable was the after school program; not all the students in the schools in the study participated in the after school program. Jenner and Jenner (2007) found that even moderate participation in the 21stCCLC program had an impact on academic achievement. Participants experienced positive and statistically significant impacts in language, reading and social studies as measured by the ITBS; no impact was found in science or math. Although positive outcomes were consistent for both boys and girls who attended the program, girls who attended for at least 30 days were found to have a slightly better performance than boys. This finding is consistent with Posner and Lowe-Vandell (1999), Mahoney et al. (2003), and Fredericks and Eccles (2006a). Furthermore, minorities had the highest level of growth of the participants. Additionally, Jenner and Jenner (2007) found that intensity of attendance is positively related to academic growth; higher levels of attendance were associated with increasing levels of academic achievement, which is also consistent with Fredericks and Eccles (2006a).

Coupled with the increased expectations for student academic performance and achievement has been an increase in the amount of work students are assigned to complete at home. Beck (1999) conducted a qualitative study of an urban after school program that provided services for kindergarten through 12th grade. Beck (1999) stated that “Early school failure is not only associated with engagement in risky behavior, but school success is associated with the development of healthy individuals” (p. 108). Furthermore, Beck (1999) found that students who participated in the after school program reported a high sense of self-efficacy and more confidence in their academic

abilities and academic performance during the school day as compared with those students not involved in a structured after school program. Instructors at the after school program Beck (1999) interviewed speculated that teachers regarded more favorably the students who completed and turned in their homework each day, thus reinforcing the students' confidence in their academic abilities and academic performance. Based on this premise, it is essential that students experience success not only in school, but also while completing homework.

Another study which examined the outcomes associated with after school homework assistance programs, Cosdan, Morrison, Albanese, and Macias (2001), sought to examine the influence of after school homework assistance on elementary children with a broad range of abilities. The study was conducted at one after school homework assistance program in southern California. Participants were 146 students from three elementary schools; 72 were in the control (non-participant) group and 74 were in the homework (participation) group. Participants were tracked over three years from 4th to 7th grade. Data were collected on all students at the beginning and again at the end of each school year. Academic skills, school bonding, and social behavior were assessed from the perspective of the students, their parents, and their teachers. Structured survey instruments, grades and standardized test were examined in the study.

In direct comparison of students in the treatment and control groups, Cosdan et al. (2001) found no significant differences on any of the outcome measures, including homework completion as reported by the homeroom teacher. Additionally, to assess the influence of treatment dosage, the researchers divided participants into groups of high or

low attendees based on whether the percentage of sessions attended was relative to those available. A median split at 77% attendance was used, with students classified as high-dosage participants if they attended more than 77% of the sessions and low dosage if they attended fewer sessions. With attrition, and incomplete data, 18 children were classified as high attendees and 17 as low attendees. Some significant differences were obtained based on attendance patterns; these findings were consistent with Fredericks and Eccles' (2006a) and Jenner and Jenner's (2007) finding that the intensity of attendance is positively related to academic growth.

In the Cosdan et al. (2001) study, students who attended a greater proportion of sessions across the 3 years of the program had higher reading, math, and language, scaled scores on the Stanford Achievement Test-9 (SAT-9) at the end of sixth grade than did students who attended fewer sessions. Furthermore, students in the high-dosage group reported more self-efficacy, and higher future aspirations, at the end of sixth grade than did low-dosage students. Other outcomes, including reading, math, and language grades, and ratings of parent support and supervision, did not differ between high- and low-dosage groups. Additionally, participant students with Limited English Proficiency (LEP) and control students with Full English Proficiency (FEP) did not have higher ratings at the end of sixth grade than they did at the beginning of fourth grade. Rather, their ratings stay at similar levels throughout the 3 years of the project. Students in the control group with LEP and participant group with FEP, in contrast, demonstrate a decline in teacher ratings over time. Cosdan et al. (2001) state, "This after school homework program served as a protective factor for a subgroup of students. Parents of the children with LEP

in this study typically had limited education themselves as well as problems with English. The model of homework assistance used in this study did not require parents to be involved in their children's homework. This type of program may be particularly helpful to parents, who, for any reason, cannot help with their children's homework" (p. 218).

Although Cosdan et al. (2001)'s findings appear to indicate that there is some benefit to after school homework assistance programs, the researchers noted that participants in the control group of the study were found to be attending another after school homework assistance program and therefore may have impacted their study's findings. In their discussion, Cosdan et al. (2001) note that the content of the homework must be appropriate to the ability level of the students if it is to be of any benefit to the student. This suggests that if students are assigned and are able to successfully complete meaningful homework (as opposed to busy work) they will benefit academically from the exposure to the material. However, if a student is not experiencing success with homework, feelings of self doubt may arise and this may hinder the adolescent in making connections and seeking help or clarification from others on the assignment. Based on Fredericks and Eccles' (2006a) and Jenner and Jenner's (2007) findings, I hypothesize in the present study that students engaged in academic pursuits, irrespective of the after school care setting, will have the highest associations with academic performance and the lowest associations with academic misbehavior.

After School Activities: Are There Disadvantages of Non-Participation?

Self Care After School and Smoking

As previously discussed, the increasing number women from both single-parent and two-parent households entering the workforce, coupled with the expense of after school care and after school activities, have left many families without supervised care for their children in the hours between the end of the school day and the end of the parent(s)' workday. Although many state governments mandate the supervision of younger children, adolescents are usually above these age requirements. As a result, many adolescents are without supervision, or in some cases are responsible for the supervision of younger siblings. This period of unsupervised time is marked by increased incidences of crime perpetrated by adolescents, victimization of adolescents and adolescents engaging in risky behaviors (e. g., Riggs & Greenberg, 2004). One such risky behavior in which adolescents engage during these hours is smoking tobacco cigarettes. Mott, Crowe, Richardson and Flay (1999) examined the relationship between after school self care and cigarette smoking of ninth graders. Based on the findings of their preliminary literature review, Mott et al. (1999) concluded that the majority of adult cigarette smokers became addicted during high school and hypothesized that there would be a relationship between the setting and intensity of after school self care and cigarette smoking, the further the adolescent was removed from direct or indirect adult supervision, the higher the level of adolescent smoking.

Data for the study were collected in 1988 from 2,352 ninth graders in Los Angeles and San Diego counties through a questionnaire. Intensity of self care was measured by the number of days per week and the number of hours per day that the adolescent was responsible for themselves after school. Descriptive analysis revealed that 18.6% of the participants did not have any time in self care. However, 33.6% of the subjects spent between 1 and 4 hours, 24.0% of the subjects spent between 5 and 10 hours, and 23.8% of the subject spent more than 11 hours per week in self care. Participants also reported the setting where they spent time after school: home, friend's house, work, community center or "hanging out" at an undetermined location; the level to which their parents monitored them after school: parents don't know, usually know or always know their whereabouts after school; and the parental rules regarding smoking. Multiple logistic regression was used to examine the extent to which the setting of after school activity and the intensity of after school self care were significantly and independently associated with current smoking behavior above and beyond the effects of the covariates.

Mott et al. (1999) found that the risk level of the after school setting was significantly associated with cigarette smoking behavior above and beyond the effects of the covariates and the intensity of after school self care. Additionally, inclusion of the indicator of after school setting significantly improved the model's goodness-of-fit over and above the influences of all the other independent variables. When adolescents' self care took place in settings that

were more removed from direct or indirect adult contact, adolescent smoking increased substantially. Mott et al. (1999) speculated that this was due to “a decreased chance of being caught or increased exposure to peer attitudes and behaviors that support the use of cigarettes” (p. 50).

Furthermore, the number of hours per week spent in self care was an important correlate of cigarette smoking behavior among adolescents who did and did not go home after school. Although Coley et al. (2004) found that in levels of drug and alcohol use adolescents who were already exhibiting high rates of behavior problems were more susceptible to the negative influences of out-of-home, unsupervised care, as compared to those receiving in-home care or care in a structured environment, Mott et al. (1999) found that adolescents in self care were no more susceptible or resilient to pro-smoking influences than other children. Additionally, Mott et al. (1999) state in their discussion that the increased independence of adolescents in self care did not appear to incur deficiencies or advantages in their ability to counter negative peer pressure associated with smoking. These statements appear to contradict the findings of their study. However, as was also concluded by Sarampote et al. (2004), Aizer (2004) and Coley et al. (2004), Mott et al. (1999) found that these problems can be lessened by close parental monitoring.

Weiss et al. (2006) conducted a similar study which examined the relationship between after school self care, cigarette smoking and alcohol use of seventh and eleventh graders from seven cities in China. The 4,737 participants

completed a paper and pencil questionnaire which asked questions regarding after school care, smoking, drug and alcohol use, depressive symptoms, anxiety and peer influence. Logistical regression models were performed to calculate the odds ratio for lifetime smoking, past 30-day smoking, lifetime drinking, and past 30-day drinking according to unsupervised self care after school. Weiss et al. (2006) found that seventh grade students with 1-2 hours of unsupervised care after school were at an increased risk of lifetime smoking and 30-day smoking; however, when the hours of unsupervised care increased to 3-4 hours of unsupervised care after school, 7th grade girls were 5.5 times more likely to report lifetime smoking than girls who were supervised most of the time. Additionally, logistical regression models showed that unsupervised care after school was associated with an increased risk of lifetime drinking. As with smoking, the more hours of unsupervised care after school was associated with greater risk of lifetime drinking; this risk factor was greater for girls than for boys. Weiss et al. (2006) hypothesized that “girls who are distant from adult supervision, and particularly those who hang out with friends, may be at higher risk for interacting with more deviant peers and having more opportunities to experiment with alcohol and tobacco” (p. 459). This finding is supported by Mahoney and Stattin’s (2000) conclusion that “the issue is not what the individual is engaged in after school, but with whom” (p. 123).

Adolescent Computer and Internet Use and Academic Achievement

The internet, computers and related media have become central part of most adolescents' lives not only as a primary source of information and academic support, but also as medium of communication and social connection. Many researchers are examining the academic, developmental and social benefits or hazards of this new technology for adolescents. Hunley et al. (2005) investigated the relationship between adolescent computer use and academic achievement. Questionnaires and time logs were used to gather data from 101 tenth grade students from three high schools in southwestern Ohio. Participating teachers from the classrooms that surveyed participants were given monetary compensation for their participation in the study. Parents of the participants also completed a questionnaire regarding rules in the home for participants' use of the computer and internet. Descriptive data was collected regarding the amount of time that students spent in one week using the computer and the internet. The relationship between those patterns and academic achievement were analyzed. Of the 101 participants in the study, 95% reported having a computer at home and 85% reported having internet access. Participants estimated they spent an average of 4.26 hours per week, doing homework and 1.8 hours per week, doing homework on the computer, with or without the internet. Participants experienced some difficulty in reporting computer activities that were performed simultaneously, for example downloading music while chatting with friends and playing a game. Participants reported using the computer for non-school based activities an average of 3.77 hours per week; 15.84 hours, listening to the stereo, 12.03

hours, with friends, and 10.61 hours, watching television. Participants reported that doing homework was the least time-consuming activity.

Hunley et al. (2005) found gender differences with regard to the estimated time spent in after school activities as well as in use of the computer. Girls reported spending more time than boys using the phone and doing homework; they spent an average of 8.77 hours per week, speaking on the phone, whereas boys estimated spending an average of 2.48 hours. With regard to doing homework, girls estimated spending an average of 4.88 hours per week, whereas boys reported spending 3.27 hours. Although girls' and boys' estimates of computer use per week were about the same, boys reported using the computer without the internet more often than girls. However, girls, spent more hours using the computer, with or without the internet, for homework purposes. On average, they reported spending 2.63 hours per week, using the computer for homework purposes, whereas boys reported an average of 58 minutes per week.

Hunley et al. (2005) found significant positive relationship between GPA and hours spent outside of school in sports or clubs. Likewise, negative relationships with GPA were found for hours spent talking on the telephone, hours spent watching television, and hours spent listening to the stereo. An analysis of variance revealed no difference in the mean number of hours reported by participants from the three schools in the study. Computations of Pearson product-moment correlation coefficients revealed no significant relationships between the total amount of time spent using the computer, time spent with and time spent without the internet, and the participant's grade point average. Hours spent doing homework and hours spent going out with friends were not

significantly related to GPA. Hunley et al. (2005) conclude that “a complete understanding of the impact of such technology is unclear” (p. 318). Given the limited numbers of participants, the age of the participants and the limited geographical area from which the participants were drawn, additional research is needed to further investigate this relationship.

There has been some speculation that use of the internet by adolescents causes social isolation and depression. Gross, Juvonen, and Gable (2002) examined the relationship between well-being and the social aspects of the internet use. Participants in the study were 130 7th graders from middle to high socio-economic status public middle school in Southern California. Participants completed an initial questionnaire and then maintained a daily log for three days. Descriptive analysis of these journals revealed that 90% of participants use the internet “occasionally” or “regularly” at home; 84% of respondents reported going on-line during the course of a “typical day.” Consistent with these figures, 70% of participants (n = 110) reported at least one internet session during the three days of the study. The internet consumed less of the participants’ daily after school time than any of the other five activities measured in the study. Participants reported over one hour in organized activities (e.g., clubs, lessons); watching television, and more than two hours doing homework. The average daily time on-line most closely resembled participants’ time spent on the phone and with friends. The majority of participants’ daily time on-line was concentrated in three areas: IMing, visiting web sites and “surfing the web”, and e-mail. No significant gender differences in levels of overall or specific types of internet usage were revealed by t-tests. Time on-line, overall or in

specific areas (e.g., chat, games) was not correlated with psychological adjustment. In addition, analysis of variance comparisons among groups of Internet users of varying levels of tenure (e.g., 0–6 months vs. 2 years or more using the Internet) revealed no significant differences on any psychological measures. Gross et al. (2002) concluded that “when adolescents feel connected and comfortable with school-based peers, early adolescents use the Internet to seek out additional opportunities to interact with them. However, when chronic or even temporary feelings of social discomfort or detachment arise, adolescents may use the Internet to avoid being alone, and, in doing so, turn to people disconnected from their daily life” (p. 88).

Given the limited numbers of participants, the limited geographical area from which the participants were drawn, and the limited socio-economic and racial range of participants and the participants’ higher level of experience and engagement with the internet than the average American seventh grader, the results of this study are questionably representative of the American middle school population. Therefore, further research in this area is required.

After School Activity Participation and Television Viewing

Some studies have examined the specific activities of pre-school children in day care settings to determine what activities children are engaged in while in these day care settings. The researchers Christakis, Garrison and Zimmerman (2006) performed an analysis of television viewing by pre-school children in day care settings. Using data from the nationally representative Profile of Child Care Settings Study collected by the U. S. Department of Education between October 1989 and February 1990, Christakis et

al. (2006) sought to describe the frequency and amount of television viewing in a nationally representative group of licensed day care settings as well as determine the predictors of television viewing in these settings. According to Christakis et al. (2006), “On average, children spend more time watching television than any activity except sleep” (p.111). The study grouped day care settings into two categories: a center group and a home-based group. The researchers performed two sample t-tests and tests of proportions to compare findings between the center group and the home-based group. Christakis et al. (2006) found that 89% of home-based child care settings and 35% of center child care settings regularly watched television; preschool aged children watched four times as much television while at home-based programs than while at center based programs (mean of 1.39 vs. .36 hours, median of 1 vs. 0 hours). Furthermore, for children in home-based child care settings, approximately 30% of the programming was non-educational. The proportion of programs where preschool-aged children watched no television at all during the child care day was 65% in center programs as compared to 11% in home-based programs. The hours a child care setting was open was associated with increased television viewing in both settings, whereas the addition of older children in the child care setting and the location of the child care setting in an area with high family poverty rates were only significant factors in center programs. Although this study examined pre-school aged children’s television exposure, some correlations may be made between the habits of preschool children and middle school children. As previously discussed, children in after school care learn what behaviors are considered appropriate by the care-giver, and establish their own patterns of behavior. Patterns of behavior

established during the preschool years such as watching copious amounts of television may continue in middle school years. Additionally, given the preponderance of television viewing in preschool day care settings that Christakis et al. (2006) found, the frequency of this type of activity in after school care settings for middle school children is expected to be in similar, if not larger, proportion in the present study. Therefore, this study is of critical importance to the present study.

The majority of research on after school activity participation appears to indicate a positive relationship for adolescent academic growth, adolescent development and social skills. The occurrence of misbehavior in unsupervised settings as compared to structured after school activities and supervised care is consistently found to be lower in supervised settings than unsupervised settings (e. g., Coley et al. 2004; Mahoney, 2000; Mahoney & Stattin, 2000; Sarampote et al. 2004). Additionally, the choices that adolescents make during this window of time can not only impact their academic performance in school (e. g., Birmingham et al. 2005; Lauer et al. 2006; Mahoney et al. 2003) and their adolescent emotional development (e. g., Bartko & Eccles 2003; Eccles et al. 2005; Huang et al. 2007), but also can have far reaching implications during the adolescent's later adult life (e. g., Fredericks & Eccles, 2006a; Fredericks & Eccles, 2006b; Zaff et al. 2003). Overall, it appears that the relationship between after school programs may have positive effects on participants. However, as there are unexplained inconsistencies in the current research on after school care, as was noted by Scott-Little et al. (2002) in their meta-analysis of evaluations of after school programs; further research is needed to clarify program effects.

After School Activities and Setting: Does the Type of Care Make A Difference?

Having examined the activities in which students engage while at the various after school settings, researchers have also examined the potential influence of the setting in which the after school care takes place in order to determine if the setting has an impact on the child. Howie (1996) examined the effects of the type of after school care to compare center care with parent care at home. The study examined the after school care arrangements of 87 third and fourth grade children from three inner-city schools in Sydney, Australia in 1991. Through questionnaires, researchers identified three groups within the sample: parent care, non-working mother; parent care, working mother; and center care. The Piers-Harris Children's Self Concept scale was employed to assess self-esteem; participants completed self-report questionnaires. To assess sociometric status, the classmates of each participant rated all the children in the sample on a three-point scale – Would like to play with lots 3, sometimes 2, or never 1. Participants' teachers rated the participants overall academic achievement using a five-point scale which corresponded to the scale employed by the State Department of School Education on school report cards. Parents completed a life skills questionnaire which asked them to rate the child's ability and experience with various household tasks such as ironing, cooking a meal, hammering a nail, as well as to provide occupational details to determine socioeconomic status. A one-way analysis of variance was performed, with two planned comparisons: first between the two working mother groups (parent care vs. center care), and secondly between the two parent care groups (working mother vs. non-working

mother). Results from the Howie (1996) study revealed no significant differences between parent care/working mother and center care arrangements in anxiety, self-esteem, social status, life skill competence or academic achievement. Similarly, there were no significant differences between the working mother and the non-working mother groups in anxiety, self-esteem, social status, life skill competence or academic achievement. These results suggest that center care children are not disadvantaged relative to the children of working mothers or non-working mothers. Additionally, the absence of significant differences between the working mother and the non-working mother care groups also suggests that the effects of maternal employment are not as damaging as previously hypothesized. As positive as these results may appear, it is important to reflect on them in context. The small sample size employed in the study is from Australia. Additionally, Howie (1996) discusses the potential “differences in attitudes to and management of after school care centers” between the United States and Australia (p. 38). These differences in attitudes towards after school care may account for the results. Further study of this relationship with a larger population within the United States is necessary before definitive conclusions may be drawn.

In a similar study conducted by nurse practitioners, Cutler, Smith and Kilmon (1995) examined the relationship between fifth grader’s self-perception, substance use, school performance and attendance and after school care arrangements. The 719 participants in the study, drawn from two intermediate schools in Texas, completed questionnaires on self-perception and risk-taking behavior during the school day. Grades and attendance were obtained from school files. After school care arrangements were

categorized into three types of after school care: self care, sibling care, and adult care. Eighteen percent of the participants were in self care for an average of 8 hours per week. Thirteen percent were in sibling care for an average of 11 hours per week. The remaining 69% of the children were in adult care after school. Chi-square analyses revealed no significant relationship between care arrangement and self-perception, academic performance or attendance. After controlling for ethnicity and socioeconomic status, this finding remained consistent. Due to the small number of participants who reported engaging in risk-taking behaviors, Cutler et al. (1995) only reported descriptive analyses on this data, but did reveal that more children in self care reported either use of cocaine or marijuana in the past month whereas more children in adult and sibling care reported use of alcohol. Only children in adult care reported smoking cigarettes. As these findings are supported by the Howie (1996) study, the Cutler et al. (1995) findings appear to indicate the absence of a relationship between the type of after school care a child receives and self-perception, academic performance, or attendance.

The exploration of the relationship between the setting of child care and child development was expanded by later researchers. An examination of developmental changes in the personalities of children with contrasting child care experiences was performed by Wessels, Lamb, Hwang, and Broberg (1997). Wessels et al. (1997) conducted a longitudinal study beginning in 1982-1983 of 122 children in Goteborg, Sweden. The study followed participants from initial home assessment at 16 months until they were 8.5 years of age. Participants selected for the study were required to meet the following criteria: between 12 and 24 months of age; firstborn, or at least not living

with a sibling under 12 years of age; living with both parents, whether or not they were married; and not receiving regular non-parental care at the time of recruitment. After the initial home visit, some 54 participants began receiving day care at day care centers, 33 participants began receiving care at family-based day care providers outside the home of the participant; the remaining 59 participants remained in the exclusive care of their parents. Each of these care arrangements were visited by a member of the research staff who rated the quality of the care, observed the children interacting with their peers, and conducted a short interview with the caregivers. These visits occurred at specified intervals over the course of the study. Parental ratings of field independence, ego-resilience, and ego-control were obtained using the California Child Q-set when the children averaged 28, 40, 80, and 101 months of age. These assessments of personality were then examined in the context of contrasting child care experiences.

A MANOVA of the three personality measures when the children were 28 months of age revealed no significant group differences, although univariate tests indicated significant differences between the three groups on the field-independence and ego-resilience subscales. A multivariate analysis of scores on the Infant Behavior Questionnaire revealed no significant group differences. Univariate tests revealed significant effects on two dimensions, positive emotionality and persistence. In both cases, the children attending family day care throughout early childhood had significantly higher scores than those in the other groups. There was virtually no difference between the developmental trajectories of the children in home care and in center based day care. In contrast, ego-under control decreased less, whereas ego-resilience and field

independence increased less, in children who attended family day care than in the children in either centre care or exclusive parental care. The quality of home and out-of-home care, as well as socioeconomic status and family background, did not moderate or qualify these effects of the type of care experienced.

A significant difference was noted between the 28 month and 40 month measures of children's development between children in family day care settings and children in the other two care groups in the area of ego-resilience; children in family day care setting decreased in the area of ego-resilience. Additionally, "those children who were enrolled in family day care from 16 to 40 months of age became less field-independent and less ego-resilient , and their ego-under control decreased less over time than it did among children in the other two groups" (Wessels et al., 1997, p. 790). The significant quadratic trend parameter indicated that the decrease was strongest earlier in the study, whereas the significant cubic parameter indicated that the decreases became smaller later in the study. According to Wessels et al. (1997), these findings indicate that children in family day care settings develop differently than those in center care settings or parental care settings and suggest that "family day care may often fail to meet children's developmental needs" (p. 791).

Wessels et al. (1997) discuss the limitations and "inadequacies" of the measures employed in the study as better measures are currently available, but were not in existence at the time of this study thus potentially impacting the results (Wessels et al. 1997, p. 790). Additionally only 10 of the original 33 family day care participants were consistently in attendance at family day care centers. An additional factor which may

have compromised the study from its inception was the pool from which the participants were drawn; participants were recruited from the waiting lists of public day care centers. The participants who chose to stay home or enroll their children in family care settings only did so as a result of the unavailability of public day care. Given these problematic issues in the study, correlations to the middle school population and after school care are speculative at best.

Given that the Wessels et al. (1997) study, the Howie (1996) study and the Cutler et al. (1995) study were over ten years ago and employed small sample sizes from specific geographic areas, further study of this relationship with a larger, nationally representative population within the United States is necessary before definitive conclusions may be drawn.

Potential Bias in the Literature

The body of research on after school activity participation and adolescent emotional development appears to indicate a positive relationship; however, additional research is needed to further investigate this relationship as the bulk of the research is focused on high school-aged adolescents and excludes middle school students. Furthermore, as was discussed by Halpern (2002), there appears to be a hint of bias in the literature regarding adolescents from low socio-economic backgrounds. There is the suggestion that after school activities provide not only safe-haven from the ills of the environment in which the adolescents live and prevent them from going down the wrong path, but also that the after school activity provides emotional support and training that

these adolescents are otherwise deprived of in their poverty-stricken lives. This assumption can lead to bias in the literature and needs to be examined further.

Some studies have reached conclusions that support the existence of this bias. Sarampote et al. (2004) conducted a literature review of the different types of after school care; this study did not include a methods section or any explanation of criteria employed to include or exclude studies from the review. Sarampote et al. (2004) grouped the types of after school care into four main categories: relative care, non-relative care, after school programs and self care. Although this review drew conclusions supported by other research, Sarampote et al. (2004) concluded that low income children in self-care were at greatest risk; however, as was concluded by Aizer (2004) and Coley et al. (2004) these problems can be lessened by close parental monitoring. Citing NHES: 95 data, Sarampote et al. (2004) found that African-American children were more likely to receive after school care than any other group.

In exploring another potential bias, Lopoo (2007) conducted a study to determine if a relationship exists between a mother's employment and the activities in which her adolescent children participate after school. Using data from the nationally representative, 1996 Survey of Income and Program Participation. This survey interviewed participants every four months between April 1996 and March 2000 regarding, children's well-being, parental employment and program participation. Lopoo (2007) extracted participants from the study ages 10 to 17. Logit and fixed-effects logit models were used to estimate the relationship between maternal employment and participation in after school activities. Lopoo (2007) found a positive and statistically

significant relationship between the number of maternal work hours and sports involvement; the coefficient estimate for maternal employment was much smaller and statistically insignificant for the logit model of participation in lessons and in participation in clubs. Lopoo (2007) concluded that high socio-economic status mothers may use after school activities, particularly lessons as a form of after school care, whereas low socio-economic mothers may use sports. Given the expense of lessons as compared to sports, it is not surprising that families place their children in after school care as permitted by the family's income. These findings are supported by Sarampote et al. (2004).

As demonstrated, research on after school activity participation has examined a wide variety of factors associated with participation in these activities. The findings regarding the positive effects of after school activity participation on adolescent behavior and young adult behavior and aspirations were consistent. However, these findings focus primarily on high school outcomes. Research in the area of middle school related outcomes is sparse and the findings in many areas are not nationally representative. Most studies involved relatively small populations from limited geographic areas, limited socio-economic ranges, aging data, or focused primarily on high school populations. Most studies that included middle school after school participation were longitudinal studies that examined the impact of participation over time. Further research is necessary to clarify the relationship between after school activity participation in middle school and academic performance and misbehavior of middle school students.

This study answers the following research questions:

1. Does the type of after school child care arrangement (relative, non-relative, center, parent or self) make a difference in student academic performance or misbehavior?
2. Does the type of activity students engage in (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) during after school child care arrangements make a difference in student academic performance or misbehavior?
3. Within the specific setting (relative, non-relative, center, parent or self), which of these activities (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) make a difference in student academic performance or misbehavior?

In the present study, I hypothesized that there will be a relationship between the type of after school arrangement that students attend and that student's academic performance and misbehavior in school. Additionally, I hypothesized that the type of activity in which the student engages during their after school activity will have a relationship with that student's academic performance and misbehavior in school; homework/school-related activities were hypothesized to have the strongest relationship with student academic performance and misbehavior.

3. Methodology

The data for this study were collected through the National Household Education's Before and After School Programs and Activities Survey of 2005 (ASPA-2005). The National Household Education Surveys Program (NHES) compiles descriptive data on the educational activities of the United States' population. The data presented in the report are based on a nationally representative sample of students in kindergarten through grade 8. According to the NHES, 40% of students in kindergarten through eighth grade in 2005 participated in after school care arrangements that occurred at least once each week. The data presented in the report are based on a sample of 11,684 students in kindergarten through grade 8, representing a weighted total of 36,185,760 students. The weighted unit response rate for the ASPA survey was 84%; the overall unit response rate for the survey was 56%. Additional details about the survey, response rates, and data reliability are provided in appendix A of the NHES report <<http://nces.ed.gov/pubs2006/earlychild/a1.asp>>. After school programs and activities addressed in the ASPA-2005 include information about student participation in care arrangements in private homes with relatives and with care providers not related to them, participation in school-based or center after school programs, participation in after school activities that were not part of a school-based or center program, and self care. The ASPA survey conducted in 2005 was the second time this topic was fielded as a separate

NHES survey. The previous ASPA collection was conducted in NHES: 2001. The data can be used to study after school programs and activities in 2005 and to study changes from 2001 to 2005.

Data Collection Procedures

The procedures used in the data collection phase of the National Household Education Surveys Program of 2005 are outlined in the Public-Use Data File User's Manual Volume I: Study Overview and Methodology. These procedures include the use of computer-assisted telephone interviewing (CATI), staff training, interviewer assignments and contact procedures, and quality control. The National Household Education Surveys Program of 2005 protects the identity of the respondents through the data collection process. Additional information on the data collection procedures can be found at http://nces.ed.gov/nhes/pdf/userman/NHES_2005_Vol_I.pdf.

Participants

This study analyzed data from parents through the National Household for Education Statistics 2005 survey. The data were extracted from this complete set using the limitations of students enrolled in 6th, 7th, or 8th grade. The 4,659 participants (N = 4,659) included in the study were enrolled in 6th, 7th, or 8th grade. There were 2,467 (53%) males and 2,192 females (47%). The minimum age of the participants was 10 and the maximum age was 15. The mean was 12.41 with a standard deviation of .999. The sample was diverse in terms of ethnic origin with 44.8% white, 15.4% Black, non-Hispanic, 21.9% Hispanic, 3.9% Asian, .5% Pacific Islander/Native Hawaiian, and 3.1% American

Indian/Native Alaskan. Participants received education in public (88.2%), and private (11%) settings, no participants were home-schooled. Of the 11% of the participants attending private school, 8.6% attended a church-affiliated or religious school and 3.3 % attended a non-church-affiliated or religious school. The sample was diverse in terms of family income, 22.4% of participants' annual family income was below \$25,000, with 2.5% below \$5,000 whereas 77.6% was above \$25,000, 53.2% above \$50,000, and 19.4% above \$100,000. Of the participants surveyed, 3.1% received government funds to pay for child care arrangements.

Measures

The dependant variables for this study were *student academic misbehavior* and *student academic performance*. The independent variables were the type of after school care arrangement (1. relative, 2. non-relative, 3. center 4. parent or 5. self and the activities 1. homework/school-related, 2. computers, 3. art, 4. chores/work, 5. outdoor play/sports, 6. indoor play/sports, and 7. television/videos/music) in which students are engaged within each after school care arrangement.

Student academic misbehavior assessment. The student behavior assessment consisted of four questions from the survey. 1. "Has any of (CHILD)'s teachers or (his/her) school contacted you . . . about any behavior problems (he/she) is having in school this year? This data became the variable *teacher call behavior*. 2. "During this school year, has (CHILD) had an out of school suspension?" This data became the

variable *out of school suspension*. 3. “During this school year, has (CHILD) had an in school suspension?” This data became the variable *in school suspension*. The responses to the questions were initially coded as: -8 = don’t know, -7 = refused, -1 = inapplicable, yes = 1, no = 2. These responses were re-coded into the following coding system 0 = no, 1 = yes.

Student academic performance assessment. The student academic performance assessment consisted of two groups. The first group consisted of five questions from the survey. 1. “Has any of (CHILD)’s teachers or (his/her) school contacted you . . . about any problems (he/she) is having with schoolwork this year?” 2. “Has (CHILD) repeated (any grades/kindergarten)?” This data became the variable *teacher call work*. 3. (If yes to question #2) “What grade or grades did (he/she) repeat?” (note, study was limited to students in 6th, 7th, and 8th grade so only failure in those grades was included in the data). The responses to the questions were initially coded as: -8 = don’t know, -7 = refused, -1 = inapplicable, yes = 1, no = 2. These responses were re-coded into the following coding system 0 = no, 1 = yes. This data became the variable *ever failed*.

The second group consisted of two questions from the survey. 1. “Now I would like to ask you about (CHILD)’s grades during this school year. Overall, across all subjects (he/she) takes at school, does he/she get mostly: A’s, B’s, C’s, D’s, or F’s?” The responses to this question were initially coded as: A’s = 1, B’s = 2, C’s = 3, D’s = 4, F’s = 5, Child’s school does not give these grades = 6. 2. Would you describe (his/her) work as Excellent, Above Average, Average, Below Average, or failing? The responses to this question were coded as Excellent = 1, Above Average = 2, Average = 3, Below

Average = 4, or failing = 5. The results from these two questions were re-coded to exclude the choice #6 in the first question. This data became the variable *parent report of grades*.

In the present study, I assessed the students' academic performance (as reported by their parent in the survey) with the type of after school care the student received 1. relative, 2. non-relative, 3. center, 4. parent, or 5. self. Parents identified the type of care students received after school as well as the type of activities in which students engaged during this after school care 1. homework/school-related, 2. computers, 3. art, 4. chores/work, 5. outdoor play/sports, 6. indoor play/sports, or 7. television/videos/music. SPSS was used to compute the frequencies and percents of each of the variables. An analysis of descriptive statistics was conducted for all variables to explore patterns in the data.

Data Analysis

1. Does the type of after school child care arrangement (1. relative, 2. non-relative, 3. center, 4. parent or 5. self) make a difference in student academic performance or misbehavior?

In order to determine whether differences exist between the type of after school care arrangement that students attend and students' academic performance, the five questions which comprise the first part of the student academic performance assessment and the two questions which comprise the second part of the student academic performance assessment were both recoded into "yes" or "no" responses. Additionally, the four questions which comprise the student

behavior assessment were also recoded into “yes” or “no” responses. As previously stated, I hypothesized that there would be differences between the type of after school arrangement that students attend and that student’s academic performance and misbehavior in school. To test this hypothesis, the four questions which comprise the student behavior assessment were recoded into “yes” or “no” responses.

Pearson’s chi-square test of association (χ^2) was employed to examine whether there was an association between the type of aftercare arrangement the participant attended (*1. relative, 2. non-relative, 3. center, 4. parent or 5. self*) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes participation). The formula used to calculate the chi-square (χ^2) test statistic is as follows:

$$\chi^2 = \sum^R \sum^C \frac{(O - E)^2}{E} \quad \text{where } O = \text{observed count in category};$$

E = expected count in the category under the null hypothesis; df = degrees of freedom; and c, r represent the number of columns and rows in the contingency Table. A significant result indicates that there is an association between the two categorical variables; the type of aftercare arrangements and either of the dependant variables *student academic misbehavior* or *student academic performance* ($p < .05$) (Dimitrov, 2008). Additionally, a *standardized residual* (SR) that exceeds 2.0 in the absolute value ($SR > |2|$) indicates that difference

between observed and expected frequencies in that category is a major contributor to the statistical significance of the χ^2 value $SR = \frac{O - E}{\sqrt{E}}$ (Dimitrov, 2008).

2. Does the type of activity students engage in (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) during after school child care arrangements make a difference in student academic performance or misbehavior?

In order to determine if differences exist between the type of activity students engage in during after school hours and students' academic performance and misbehavior, the five questions which comprise the first part of the student academic performance assessment and the two questions which comprise the second part of the student academic performance assessment were both recoded into "yes" or "no" responses. Additionally, the four questions which comprise the student behavior assessment were recoded into "yes" or "no" responses.

Pearson's chi-square test of association (χ^2) was employed to examine whether there was an association between the type of activity the participant engaged in while in after school care (*homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music*) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes participation). The formula used to calculate the chi-square (χ^2) test statistic is as follows:

$$\chi^2 = \sum^R \sum^C \frac{(O - E)^2}{E} \quad \text{where } O = \text{observed count in category};$$

E = expected count in the category under the null hypothesis; df = degrees of freedom; and c, r represent the number of columns and rows in the contingency Table. A significant result indicates that there is an association between the two categorical variables; the type of activity and either of the dependant variables *student academic misbehavior* or *student academic performance* ($p < .05$) (Dimitrov, 2008). Additionally, a *standardized residual* (SR) that exceeds 2.0 in the absolute value ($SR > |2|$) indicates that difference between observed and expected frequencies in that category is a major contributor to the statistical significance of the χ^2 value $SR = \frac{O - E}{\sqrt{E}}$ (Dimitrov, 2008).

3. Within the specific setting (relative, non-relative, center, parent or self), which of these activities (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music) make a difference in student academic performance or misbehavior?

Yates' correction for continuity (χ^2_{Yates}) was employed to examine whether there was an association between the type of activity the participant engaged in (*homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, or television/videos/music*) within the aftercare arrangement setting the participant attended (*1. relative, 2. non-relative, 3. center, 4. parent or 5. self*) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes

participation). The formula used to calculate the chi-square (χ^2_{Yates}) test statistic

is as follows:

$$\chi^2_{Yates} = \sum_{i=1}^N \frac{(|O_i - E_i| - 0.5)^2}{E_i} \quad \text{where } O_i = \text{an observed frequency;}$$

$E_i =$ expected (theoretical) frequency, asserted by the null hypothesis; $N =$

number of distinct events. A significant result indicates that there is an

association between the categorical variables (the type of aftercare arrangements

and the type of activity) and either of the dependant variables: *student academic*

misbehavior or *student academic performance* ($p < .05$) (Yates, 1934). Yates'

correction is used in order to prevent overestimation of statistical significance for

small data. Yates' correction was employed in this study as the expected count in

several of the categories was less than five. Additionally, I hypothesized that the

type of activity in which the student engages during their after school care

arrangement would have an impact on that student's academic performance and

misbehavior in school.

4. Results

The purpose of this study was to examine the types of settings in which students in 6th, 7th, and 8th grade receive care after school and the activities in which students engage in these particular settings to determine if these arrangements make a difference in student academic performance or misbehavior. This chapter presents the results of the analysis of the data from the ASPA-2005 and is divided into three sections. The first section presents the results of preliminary analyses. The second section provides descriptive information, including means and standard deviations for the variables described in chapter 3. The third section presents the results of the χ^2 analyses as they relate to each research question.

Preliminary Analysis

The data in this study were analyzed using SPSS Statistics GradPack 17.0. The dependent variables in the study were *student academic misbehavior* and *student academic performance*. The independent variables in the study were the type of after school care arrangement 1. relative, 2. non-relative, 3. center 4. parent or 5. self and the activities 1. homework/school-related, 2. computers, 3. art, 4. chores/work, 5. outdoor play/sports, 6. indoor play/sports, or 7. television/videos/music, in which students are

engaged within each after school care arrangement. Descriptive statistics were run for the variables used in this study. These data are provided in Table 1.

| Type of Activity Within Each Care Setting | <i>n</i> | % Yes Total | % Yes Setting* |
|---|----------|-------------|----------------|
| Relative | 623 | 14.1 | |
| 1. Homework/school-related | 509 | 11.5 | 82 |
| 2. Computers | 99 | 2.2 | 16 |
| 3. Art | 71 | 1.6 | 11 |
| 4. Chores/Work | 72 | 1.6 | 12 |
| 5. Outdoor play/sports | 198 | 4.5 | 32 |
| 6. Indoor Play/sports | 93 | 2.1 | 15 |
| 7. Television/videos/music | 348 | 7.8 | 56 |
| Parent | 2042 | 46.1 | |
| 1. Homework/school-related | 1736 | 39.2 | 85 |
| 2. Computers | 488 | 11.0 | 24 |
| 3. Art | 264 | 12.9 | 13 |
| 4. Chores/Work | 262 | 5.9 | 13 |
| 5. Outdoor play/sports | 852 | 19.2 | 42 |
| 6. Indoor Play/sports | 286 | 6.5 | 14 |
| 7. Television/videos/music | 1051 | 23.7 | 51 |

*setting refers to the after school care arrangement

Table 1 (continued)

Descriptive Statistics for Care Arrangements and Activities

| Type of Activity Within Each Care Setting | <i>n</i> | % Yes Total | % Yes Setting |
|---|----------|-------------|---------------|
| Center | 725 | 16.4 | |
| 1. Homework/school-related | 432 | 9.7 | 60 |
| 2. Computers | 83 | 1.9 | 11 |
| 3. Art | 178 | 4.0 | 25 |
| 4. Chores/Work | 14 | .3 | 52 |
| 5. Outdoor play/sports | 233 | 5.3 | 32 |
| 6. Indoor Play/sports | 145 | 3.3 | 20 |
| 7. Television/videos/music | 62 | 1.4 | 81 |
| Self | 1337 | 30.2 | |
| 1. Homework/school-related | 975 | 22 | 73 |
| 2. Computers | 306 | 6.9 | 23 |
| 3. Art | 134 | 3.0 | 10 |
| 4. Chores/Work | 224 | 5.1 | 18 |
| 5. Outdoor play/sports | 310 | 7.0 | 23 |
| 6. Indoor Play/sports | 123 | 2.8 | 9 |
| 7. Television/videos/music | 737 | 16.6 | 54 |
| Non-Relative | 147 | 3.3 | |
| 1. Homework/school-related | 121 | 2.7 | 82 |
| 2. Computers | 26 | .6 | 18 |
| 3. Art | 17 | .4 | 12 |
| 4. Chores/Work | 8 | .2 | 5 |
| 5. Outdoor play/sports | 51 | 1.2 | 35 |
| 6. Indoor Play/sports | 28 | .6 | 19 |

Table 1 (*continued*)

Descriptive Statistics for Care Arrangements and Activities

| | | | |
|----------------------------|----|-----|----|
| 7. Television/videos/music | 55 | 1.2 | 37 |
|----------------------------|----|-----|----|

Despite the difference in care arrangement settings, some similarity in the activity in which participants reported spending their time engaged was noted. In every care arrangement setting (1. relative, 2. non-relative, 3. center 4. parent or 5. self), the homework/school related activity had the highest number of participants reporting that they spent their time in this activity. Television/videos/music had the second highest number of participants reporting that they spent their time in this activity in every care arrangement category with the exception of the center care setting where outdoor play/sports was the second highest reported activity and television/videos/music was the sixth highest. Outdoor play/sports had the third highest number of participants reporting that they spent their time in this activity in every care arrangement except the center care arrangement where the art activity was third and, as previous reported, outdoor play/sports was the second highest reported activity. This pattern of similarity continued with some additional variation with the computers activity having the fourth highest number of participants in every care arrangement except center care and non-relative care where it was fifth in both care settings. The fourth highest activity in both center care and non-relative care was indoor play/sports. Indoor play/sports was the fifth highest in the relative and parent care settings; the computers activity was the fifth highest reported

activity in the center and non-relative care settings and chores/work was the fifth highest in the self care setting. Art was the sixth highest activity in the parent, self and non-relative settings whereas television/videos/music was the sixth highest in the center setting and chores/work was the sixth highest in the relative setting. The chores/work activity was the seventh activity highest activity, designating it as the activity with the lowest reported participation in parent, center, and non-relative care arrangements. Art was the seventh activity highest activity in relative and indoor play/sports was the seventh activity highest activity in the self care setting.

Descriptive Statistics

Descriptive statistics were run for each type of care setting and for each activity within each type of care setting. In Table 1, the total number of subjects as well as the percentage of participants as compared to the total number and the percentage of participants as compared to the number within the given care arrangement are reported. The racial composition of each type of care arrangement and activity is included in Table 3. There were a considerably larger number of white participants (n = 2,612, 58.9%) than Black (n = 547, 12.3%), Hispanic (n = 948, 21.4%) or Asian participants (n = 119, 2.7%). There was slightly larger percentage of male (52.5%) participants than female (47.5%) participants.

Table 2

Racial Composition of Care Settings and Activities

| | Hispanic | White | Black | American Indian | Asian |
|----------------------------|----------|-------|-------|-----------------|-------|
| Parent Care | | | | | |
| 1. Homework/school-related | 377 | 1,404 | 209 | 47 | 67 |
| 2. Computers | 62 | 411 | 49 | 10 | 24 |
| 3. Art | 36 | 219 | 31 | 12 | 11 |
| 4. Chores/Work | 74 | 205 | 36 | 8 | 4 |
| 5. Outdoor play/sports | 155 | 741 | 75 | 19 | 21 |
| 6. Indoor Play/sports | 652 | 240 | 28 | 5 | 9 |
| 7. Television/videos/music | 238 | 850 | 128 | 25 | 35 |
| Center Care | | | | | |
| 1. Homework/school-related | 129 | 274 | 105 | 15 | 20 |
| 2. Computers | 25 | 49 | 29 | 3 | 7 |
| 3. Art | 43 | 123 | 38 | 6 | 7 |
| 4. Chores/Work | 7 | 12 | 1 | 25 | 38 |
| 5. Outdoor play/sports | 70 | 162 | 50 | 7 | 15 |
| 6. Indoor Play/sports | 38 | 107 | 23 | 11 | 7 |
| 7. Television/videos/music | 16 | 40 | 11 | 3 | 5 |

Table 2 (continued)

Racial Composition of Care Settings and Activities

Relative Care

| | | | | | |
|----------------------------|-----|-----|----|----|----|
| 1. Homework/school-related | 130 | 375 | 95 | 13 | 22 |
| 2. Computers | 20 | 74 | 18 | 2 | 5 |
| 3. Art | 12 | 53 | 14 | 2 | 6 |
| 4. Chores/Work | 16 | 53 | 17 | 4 | 1 |
| 5. Outdoor play/sports | 48 | 159 | 25 | 6 | 9 |
| 6. Indoor Play/sports | 23 | 68 | 12 | 16 | 7 |
| 7. Television/videos/music | 150 | 251 | 68 | 11 | 13 |

Self Care

| | | | | | |
|----------------------------|-----|-----|-----|----|----|
| 1. Homework/school-related | 178 | 770 | 152 | 36 | 45 |
| 2. Computers | 46 | 244 | 43 | 4 | 19 |
| 3. Art | 21 | 99 | 26 | 4 | 10 |
| 4. Chores/Work | 51 | 166 | 43 | 15 | 3 |
| 5. Outdoor play/sports | 67 | 253 | 34 | 16 | 11 |
| 6. Indoor Play/sports | 67 | 253 | 34 | 16 | 11 |
| 7. Television/videos/music | 142 | 573 | 128 | 29 | 27 |

Non-Relative Care

| | | | | | |
|----------------------------|----|----|----|---|---|
| 1. Homework/school-related | 22 | 94 | 26 | 2 | 3 |
| 2. Computers | 2 | 21 | 4 | 2 | 1 |

Table 2 (continued)

Racial Composition of Care Settings and Activities

| | | | | | |
|----------------------------|----|----|----|---|---|
| 3. Art | 2 | 13 | 3 | 2 | 3 |
| 4. Chores/Work | 1 | 4 | 3 | 1 | 1 |
| 5. Outdoor play/sports | 12 | 44 | 7 | 1 | 2 |
| 6. Indoor Play/sports | 5 | 22 | 7 | 2 | 3 |
| 7. Television/videos/music | 14 | 45 | 11 | 1 | 3 |

The income levels of participants disaggregated by racial group are presented in Table 4. Although 68% of the participants were from families that reported an income of \$50,000 or more, 32% of the participants were from families that reported an income of \$50,000 or less. Within each racial group, the number of participants reporting an income of \$50,000 or more was higher in every category.

Table 3

Income Levels of Participants

| | Hispanic | White | Black | American Indian | Asian |
|-----------------|----------|-------|-------|-----------------|-------|
| Income | | | | | |
| \$50K or less | 265 | 816 | 177 | 35 | 28 |
| More than \$50K | 309 | 2,060 | 212 | 62 | 127 |

Results by Research Question

1. Does the type of after school child care arrangement (1. relative, 2. non-relative, 3. center, 4. parent or 5. self) make a difference in student academic performance or misbehavior?

Pearson's chi-square test of association (χ^2) was employed to examine whether there was an association between the type of aftercare arrangement the participant attended (1. relative, 2. non-relative, 3. center, 4. parent or 5. self) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes participation). The formula used to calculate the chi-square (χ^2) test statistic is as follows:

$$\chi^2 = \sum^R \sum^C \frac{(O - E)^2}{E}$$

where O = observed count in category; E = expected count in the category under the null hypothesis; df = degrees of freedom; and c , r represent the number of columns and rows in the contingency Table. A significant result indicates that there is an association between the two categorical variables; the type of aftercare arrangements and either of the dependant variables *student academic misbehavior* or *student academic performance* ($p < .05$) (Dimitrov, 2008). Additionally, a *standardized residual* (SR) that exceeds 2.0 in the absolute value ($SR > |2|$) indicates that difference between observed and expected frequencies in that category is a major contributor to the statistical significance of the χ^2

value $SR = \frac{O - E}{\sqrt{E}}$ (Dimitrov, 2008). The values of all observed and expected

frequencies are provided in Tables 7 and 8.

Student Academic Performance

The χ^2 test for association was conducted between the aftercare arrangements and the dependent variable *ever failed* which indicated that the participant had failed a grade at some point in his educational career between kindergarten and his present grade level of 6th, 7th, or 8th grade. The values of all observed and expected frequencies are provided in Table 4. The χ^2 test for association between the care arrangements and the variable *ever failed* was statistically significant $\chi^2 (5, N = 4366) = 30.09, p = .001$. Specifically, more than expected participants in multiple care arrangements had failed a grade (O = 68, E = 43.8, SR = 3.7). The results of the χ^2 test for association also revealed evidence of an association between the *ever failed* and the parent care activity (O = 176, E = 219.9, SR = -3.0). A positive SR indicates more observed than expected frequencies whereas a negative SR indicates fewer observed than expected frequencies. The center care arrangement did not indicate statistical evidence of an association with the variable *ever failed* (O = 53, E = 49.0, SR = .6). This was also the case with the self care arrangement (O = 124, E = 112.2, SR = 1.1), relative care (O = 54, E = 46.2 SR = 1.2), non-relative care (O = 5, E = 8.9, SR = -1.3).

The χ^2 test for association was conducted between the aftercare arrangements and the dependent variable *teacher call work* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's academic work at school. The results of the χ^2 test for association was statistically significant $\chi^2 (1, N = 4434) = 24.70, p = .001$. These results are provided in Table 4.

There was evidence of an association between the parent care arrangement and the variable *teacher call work* (O = 301, E = 361.9, SR = -3.2). There was also evidence of an association between the *teacher call work* and the multiple care arrangement (O = 98, E = 72, SR = 3.1).

The χ^2 test for association revealed the following trends in the data as it relates to the *Student Academic Performance* variable. The student academic performance variable was comprised of two dependant variables; *ever failed* and *teacher call work*. Overall in these two independent variables, participants in the multiple care arrangement failed a grade in school more times than expected (SR = 3.7). Additionally, participants in the multiple care arrangement reported more phone calls from teachers than expected (SR = 3.1). Participants in the parent care arrangement failed a grade in school fewer times than expected (SR = -3.0). Additionally, participants in the parent care arrangement also reported receiving fewer phone calls from teachers than expected (SR = -3.2). The relative care, non-relative care, center care and self care arrangements did not have any associations with the variables *ever failed* and *teacher call work*. The values of all observed and expected frequencies are provided in Table 4.

Table 4

| <i>Child Care Arrangements and Academic Performance</i> | | | | | |
|---|-------------------------------------|-------------|-------------------|-------------|--------|
| <i>df = 5</i> | <i>Student Academic Performance</i> | | | | |
| Care Arrangement | Ever Failed | | Teacher Call Work | | |
| Relative Care | Y | N | Y | N | |
| | O | 54 | 366 | 83 | 337 |
| | E | 46.2 | 373.8 | 76.0 | 344.0 |
| | SR | 1.2 | -.4 | .8 | -.4 |
| Non-Relative Care | O | 5 | 76 | 15 | 66 |
| | E | 8.9 | 72.1 | 14.7 | 66.3 |
| | SR | -1.3 | .5 | .1 | .0 |
| Center Care | O | 53 | 393 | 92 | 354 |
| | E | 49.9 | 397.0 | 80.7 | 365.3 |
| | SR | .6 | -.2 | 1.3 | -.6 |
| Self Care | O | 124 | 897 | 201 | 820 |
| | E | 112.2 | 908.8 | 184.7 | 836.3 |
| | SR | 1.1 | -.4 | 1.2 | -.6 |
| Parent Care | O | 176 | 1824 | 301 | 1699 |
| | E | 219.9 | 1780.1 | 361.9 | 1638.1 |
| | SR | -3.0 | 1.0 | -3.2 | 1.5 |
| Multiple Care | O | 68 | 330 | 98 | 300 |
| | E | 43.8 | 354.2 | 72.0 | 326.0 |
| | SR | 3.7 | -1.3 | 3.1 | -1.4 |

Student Academic Misbehavior

The χ^2 test for association was conducted between the aftercare arrangements and the dependent variable *in school suspension*. In-school suspension is defined as an in-house program to which a student may be assigned as a consequence for misbehavior for a short period of time in lieu of out-of-school suspension (Gushee, 1984). The results of the χ^2 test for association: $\chi^2(5, N = 4366) = 4.96, p = .42$ were not statistically significant indicating that there was not an association between the variable *in school suspension* and any of the aftercare arrangements. These results are provided in Table 5.

The χ^2 test for association was conducted between the aftercare arrangements and the dependent variable *out of school suspension* which indicated that the participant had been removed from the school setting for a set period of time as a consequence for behavior. The results of the χ^2 test for association was statistically significant $\chi^2(5, N = 4434) = 16.51, p = .01$. An association between the multiple care arrangement and the variable *out of school suspension* (O = 35, E = 22.2, SR = 2.7) was found as the standard residual indicated that more than expected participants in the multiple care arrangement reported receiving an out of school suspension. The results of the χ^2 test for association also revealed evidence of an association between the *out of school suspension* and the parent care arrangement as fewer than expected participants in parent care reported having received an out of school suspension (O = 88, E = 111.3, SR = -2.2). The values of all observed and expected frequencies are provided in Table 5.

The χ^2 test for association was conducted between the aftercare arrangements and the dependent variable *teacher call behavior* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's behavior at school. The χ^2 test for association was statistically significant $\chi^2 (5, N = 4366) = 25.60, p = .001$. Specifically, more participants than expected in the center care arrangement were found to have received a phone call from school regarding behavior ($O = 140, E = 107.3, SR = 3.2$). For parent care, the number of participants in parent care having received a phone call from school regarding behavior concerns was lower than expected ($O = 433, E = 481, SR = -2.2$). The multiple care arrangement did not have evidence of an association with the variable *teacher call behavior* as the *standardized residual* (SR) did not exceed 2.0 in the absolute value; however, it was close at 1.8 ($O = 113, E = 95.7, SR = 1.8$). These results are provided in Table 5.

The χ^2 test for association was conducted between the aftercare arrangements and the participant's parent's report of grades which was the parent's response to a question on the survey asking the participant's parent to characterize the participant's overall grades in school. These results are provided in Table 6.

The χ^2 test for association was statistically significant between the parent care arrangement and the parent report of mostly C's $\chi^2 (4, N = 4434) = 22.617, p = .001$. Fewer than expected participants in the parent care arrangement had their parent report their grades were mostly C's ($O = 299, E = 335.3, SR = -2.0$). However, more than expected

Table 5

*Child Care Arrangements and Academic Misbehavior**df = 5**Student Academic Misbehavior*

| Care Arrangement | | In School Suspension | | Out of School Suspension | | Teacher Call Behavior | |
|-------------------|----|----------------------|--------|--------------------------|--------|-----------------------|--------|
| | | Y | N | Y | N | Y | N |
| Relative Care | O | 24 | 396 | 25 | 395 | 111 | 309 |
| | E | 26.0 | 394 | 23.4 | 396.6 | 101.0 | 319 |
| | SR | -.4 | .1 | .3 | .0 | 1.0 | -.6 |
| Non-Relative Care | O | 4 | 77 | 2 | 79 | 19 | 62 |
| | E | 5.0 | 76 | 4.5 | 76.5 | 19.5 | 61.5 |
| | SR | -.5 | .1 | -1.2 | .3 | -.1 | .1 |
| Center Care | O | 33 | 413 | 30 | 416 | 140 | 306 |
| | E | 27.6 | 418.4 | 24.8 | 421.2 | 107.3 | 338.7 |
| | SR | 1.0 | -.3 | 1.0 | -.3 | 3.2 | -1.8 |
| Self Care | O | 69 | 952 | 63 | 958 | 234 | 787 |
| | E | 63.1 | 957.9 | 56.8 | 964.2 | 245.5 | 775.5 |
| | SR | .7 | -.2 | .8 | -.2 | -.7 | .4 |
| Parent Care | O | 110 | 1890 | 88 | 1912 | 433 | 1567 |
| | E | 123.7 | 1876.3 | 111.3 | 1888.7 | 481.0 | 1519.0 |
| | SR | -1.2 | .3 | -2.2 | .5 | -2.2 | 1.2 |
| Multiple Care | O | 30 | 368 | 35 | 363 | 113 | 285 |
| | E | 24.6 | 373.4 | 22.2 | 375.8 | 95.7 | 302.3 |
| | SR | 1.1 | -.3 | 2.7 | -.7 | 1.8 | -1.0 |

Table 6

Parent Report of Grades and Care Setting

| | | Parent | | Self | | Center | | Relative | | Non-relative | |
|---|----|-------------|-------------|-------|--------|-------------|--------|----------|--------|--------------|--------|
| | | yes | no | yes | No | yes | no | Yes | no | Yes | no |
| A | O | 19 | 26 | 15 | 30 | 10 | 35 | 5 | 40 | 2 | 43 |
| | E | 20.7 | 24.3 | 13.6 | 31.4 | 7.4 | 37.6 | 6.3 | 38.7 | 1.5 | 43.5 |
| | SR | -.4 | .3 | .4 | -.3 | 1 | -.4 | -.5 | .2 | .4 | .0 |
| B | O | 50 | 89 | 53 | 86 | 28 | 111 | 25 | 114 | 3 | 136 |
| | E | 64 | 75 | 41.9 | 97.1 | 22.7 | 116.3 | 19.5 | 119.5 | 4.6 | 134.4 |
| | SR | -1.8 | 1.6 | 1.7 | -1.1 | 1.1 | -.5 | 1.2 | -.5 | -.7 | .1 |
| C | O | 299 | 429 | 246 | 482 | 148 | 580 | 122 | 606 | 19 | 709 |
| | E | 335.3 | 392.7 | 219.5 | 508.5 | 119 | 609 | 102.3 | 625.7 | 24.1 | 703.9 |
| | SR | -2.0 | 1.8 | 1.8 | -1.2 | 2.7 | -1.2 | 1.9 | -.8 | -1.0 | .2 |
| D | O | 706 | 857 | 478 | 1085 | 259 | 1304 | 228 | 1335 | 57 | 1506 |
| | E | 719.8 | 843.2 | 471.3 | 1091.7 | 255.6 | 1307.4 | 219.6 | 1343.4 | 51.8 | 1511.2 |
| | SR | -.5 | .5 | .3 | -.2 | .2 | .0 | .6 | -.2 | .7 | -.1 |
| F | O | 968 | 991 | 545 | 1414 | 280 | 1679 | 243 | 1716 | 66 | 1893 |
| | E | 902.2 | 1056.8 | 590.7 | 1368.3 | 320.3 | 1638.7 | 275.2 | 1683.8 | 64.9 | 1894.1 |
| | SR | 2.2 | -2.0 | -1.9 | 1.2 | -2.3 | 1 | -1.9 | .8 | .1 | 0 |

participants in the parent care arrangement had their parent report their grades were mostly F's (O = 968, E = 902.2, SR = 2.2). The χ^2 test for association was statistically significant between the center care arrangement and the parent report of mostly C's $\chi^2(4, N = 4434) = 17.143, p = .001$. More than expected participants in the center care arrangement had their parent report their grades were mostly C's (O = 148, E = 119, SR = 2.7). However, fewer than expected participants in the center care arrangement had their parent report their grades were mostly F's (O = 280, E = 320.3, SR = -2.3). These results are provided in Table 6.

The χ^2 test for association revealed the following trends in the data as it relates to the *Student Academic Misbehavior* variable. The *Student Academic Misbehavior* variable was comprised of three dependent variables; *in school suspension out of school suspension*, and *teacher call behavior*. Overall in these three dependent variables parent care and multiple care arrangements had observed values different than those expected. The parent care arrangement had fewer participants reporting out of school suspensions (SR = -2.2) and fewer phone calls from the teacher regarding their behavior (SR = -2.2) than expected. The multiple care arrangement reported more out of school suspensions than expected (SR = 2.7) and more phone calls from the teacher regarding their behavior (SR = 1.8) than expected which was close to the criteria for contributing to significance (SR = 2.0). These results are provided in Table 5.

The center care arrangement had more than expected participants reporting teachers had called regarding behavior (SR = 3.2). In addition, the center care

arrangement had fewer than expected participants reporting that they had not received phone calls from their teachers regarding behavior (SR = -1.8) which nearly met the criteria for contributing to significance (SR = -2.0). These results are provided in Table 5.

The relative care, non relative care, and self care arrangements did not have any associations which reached the level of contributing to statistical significance, nor were any associations even close to reaching the criteria as the SR did not exceed 2.0 in the absolute value with any of the variables. In addition, the dependent variable *in school suspension* was the only variable which did not have associations which reached the level of statistical significance with the care arrangements, nor did any of the associations nearly meet the criteria (SR = 2.0). These results are provided in Table 5.

2. Does the type of activity students engage in (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music) during after school child care arrangements make a difference in students' academic performance and or misbehavior?

Pearson's chi-squared test of association (χ^2) was employed to examine whether there was an association between the type of aftercare arrangement the participant attended (1. *relative*, 2. *non-relative*, 3. *center*, 4. *parent* or 5. *self*) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes participation). The formula used to calculate the chi-square (χ^2) test statistic is as follows:

$$\chi^2 = \sum^R \sum^C \frac{(O-E)^2}{E} \quad \text{where } O = \text{observed count in category};$$

E = expected count in the category under the null hypothesis; df = degrees of freedom;

and c, r represent the number of columns and rows in the contingency Table. A

significant result indicates that there is an association between the two categorical

variables; the type of aftercare arrangements and either of the dependant variables *student*

academic misbehavior or *student academic performance* ($p < .05$) (Dimitrov, 2008).

Additionally, a *standardized residual* (SR) that exceeds 2.0 in the absolute value ($SR > |2|$)

indicates that difference between observed and expected frequencies in that category is a

major contributor to the statistical significance of the χ^2 value $SR = \frac{O-E}{\sqrt{E}}$ (Dimitrov,

2008). The values of all frequencies are provided in Table 7 and Table 11.

Table 7

Academic Performance and After School Activities

| <i>df = 1</i> | | <i>Student Academic Performance</i> | | | | |
|------------------|-----------|-------------------------------------|----------|--------------------------|-------------|--------|
| | | <i>Ever Failed</i> | | <i>Teacher Call Work</i> | | |
| <i>Activity</i> | <i>No</i> | <i>Y</i> | <i>N</i> | <i>Y</i> | <i>N</i> | |
| <i>Homework</i> | <i>O</i> | 113 | 768 | 219 | 662 | |
| | <i>E</i> | 96 | 785 | 159 | 722 | |
| | <i>SR</i> | 1.7 | -.6 | 4.8 | -2.2 | |
| <i>Yes</i> | <i>O</i> | 370 | 3183 | 581 | 2972 | |
| | <i>E</i> | 387 | 3166 | 641 | 2912 | |
| | <i>SR</i> | -.9 | .3 | -2.4 | 1.1 | |
| <i>Computers</i> | <i>No</i> | <i>O</i> | 404 | 3055 | 647 | 2812 |
| | | <i>E</i> | 376.8 | 3082.2 | 624.1 | 2834.9 |
| | | <i>SR</i> | 1.4 | -.5 | .9 | -.4 |
| <i>Yes</i> | <i>O</i> | 79 | 896 | 153 | 822 | |
| | <i>E</i> | 106.2 | 868.8 | 175.9 | 799.1 | |

| | | SR | -2.6 | .9 | -1.7 | .8 |
|---|----|------------|-------------|-------------|------------|----|
| Table 7 (continued) | | | | | | |
| <i>Academic Performance and After School Activities</i> | | | | | | |
| Art | | | | | | |
| No | O | 411 | 3382 | 713 | 3080 | |
| | E | 413.2 | 3379.8 | 684.3 | 3108.7 | |
| | SR | -.1 | .0 | 1.1 | -.5 | |
| Yes | O | 72 | 569 | 87 | 554 | |
| | E | 69.8 | 571.2 | 115.7 | 525.3 | |
| | SR | .3 | .0 | -2.7 | 1.3 | |
| Chores/Work | | | | | | |
| No | O | 406 | 3466 | 692 | 3180 | |
| | E | 421.8 | 3450.2 | 698.6 | 3173.4 | |
| | SR | -.8 | .3 | -.2 | .1 | |
| Yes | O | 77 | 485 | 108 | 454 | |
| | E | 61.2 | 500.8 | 101.4 | 460.6 | |
| | SR | 2.0 | -.7 | .7 | -.3 | |
| Outdoor Sports | | | | | | |
| No | O | 317 | 2524 | 495 | 2346 | |
| | E | 309.5 | 2531.5 | 512.6 | 2328.4 | |
| | SR | .4 | -.1 | -.8 | .4 | |
| Yes | O | 166 | 1427 | 305 | 1288 | |
| | E | 173.5 | 1419.5 | 287.4 | 1305.6 | |
| | SR | -.6 | .2 | 1.0 | -.5 | |
| Indoor Sports | | | | | | |
| No | O | 471 | 3357 | 649 | 3125 | |
| | E | 411.1 | 3362.9 | 680.9 | 3093.1 | |
| | SR | .3 | -.1 | -1.2 | .6 | |
| Yes | O | 66 | 594 | 151 | 509 | |
| | E | 71.9 | 588.1 | 119.1 | 540.9 | |
| | SR | -.7 | .2 | 2.9 | -1.4 | |
| T. V. * | | | | | | |
| No | O | 227 | 2031 | 341 | 1917 | |
| | E | 246.0 | 2012 | 407.4 | 1850.6 | |
| | SR | -1.2 | .4 | -3.3 | 1.5 | |
| Yes | O | 256 | 1920 | 1717 | 459 | |
| | E | 237 | 1939 | 1783.4 | 392.6 | |
| | SR | 1.2 | -.4 | -1.6 | 3.4 | |

* = television/videos/music

Student Academic Performance

The χ^2 test for association was conducted between the type of activity the participant engaged in after school and the dependent variable *ever failed* which indicated that the participant had failed a grade at some point in his educational career between kindergarten and his present grade level of 6th, 7th, or 8th grade. The χ^2 test for association between *ever failed* and the computers activity was statistically significant $\chi^2 (1, N = 4434) = 10.02, p = .001$. Specifically, between computers activity (O = 79, E = 106.2, SR = -2.6) and the variable *ever failed* as the SR exceeded 2.0 in the absolute value (SR > |2|). This indicates that fewer participants than expected responded that they did engage in the use of computers after school and had failed a grade at some point in their educational career. The χ^2 test for association between *ever failed* and the chores activity was also statistically significant $\chi^2 (1, N = 3466) = 5.23, p = .01$. This indicates that more participants than expected responded that they did perform chores or work after school and had failed a grade at some point in their educational career (O = 77, E = 61.2, SR = 2.0).

The χ^2 test for association was conducted between the type of activity the participant engaged in after school and the dependent variable *teacher call work* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's academic work at school. The χ^2 test for association between *teacher call work* and the homework activity was statistically significant $\chi^2 (1, N = 4434)$

= .60, $p = .01$. The results of the χ^2 test for association between the dependent variable *teacher call work* the homework activity indicated there was evidence of an association between the homework activity and the variable *teacher call work* in three of the four possible divisions of the homework activity: (O = 219, E = 159, SR = 4.8) indicating that more than expected participants who did not engage in homework activities after school had received a phone call from their teacher regarding their school work; (O = 662, E = 722, SR = -2.2) indicating that fewer than expected participants who did not engage in homework activities after school had not received a phone call from their teacher regarding their school work; (O = 581, E = 641, SR = -2.4) indicating that fewer than expected participants who did engage in homework activities after school had received a phone call from their teacher regarding their school work.

The results of the χ^2 test for association between the *teacher call work* and the art activity was statistically significant $\chi^2 (1, N = 4434) = 10.13, p = .001$. Fewer than expected participants who did engage in art activities after school reported having received a phone call from their teacher regarding concerns with their school work (O = 87, E = 115.7, SR = -2.7). In addition, the χ^2 test for association between *teacher call work* and the indoor sports activity was statistically significant $\chi^2 (1, N = 4434) = .64, p = .01$. Specifically, more than expected participants who engaged in indoor sports activities after school had received a phone call from their teacher regarding their school work (O = 151, E = 119.1, SR = 2.9).

The χ^2 test for association between *teacher call work* and the television/videos/music activity was statistically significant $\chi^2 (1, N = 4434) = 3634, p = .001$. There was evidence of an association between the *teacher call work* between two of the four possible areas the television/videos/music activity (O = 151, E = 407.4, SR = -3.3) indicating that fewer than expected participants who did not watch television/videos/music after school had received a phone call from their teacher regarding their school work and (O = 459, E = 392.6, SR = 3.4) indicating that that more than expected participants who did watch television/videos/music after school had not received a phone call from their teacher regarding their school work.

The χ^2 test for association was conducted between the activity in which the participant was engaged while in his aftercare arrangement and the participant's parent's report of grades. These results are provided in Table 8.

The χ^2 test for association between *parent report of grades* and the homework activity revealed one association was statistically significant $\chi^2 (1, N = 4434) = 66.53, p = .001$. Specifically, fewer participants than expected who reported engaging in homework activities after school also reported having earned C grades (O = 526, E = 583.4, SR = -2.4).

The χ^2 test for association between *parent report of grades* and the computer activity was statistically significant $\chi^2 (1, N = 4434) = 24.27, p = .001$. Specifically, more participants than expected who reported engaging in computer activities after school also reported earning A grades (O = 494, E = 430.8, SR = 3.0), while fewer

participants than expected reported earning C grades (O = 133, E = 160.1, SR = -2.1).

These results are reported in Table 8.

The art activity had the largest number of associations with the variable *parent report of grades* as compared to any other after school activity. The results of the χ^2 test for association also revealed evidence of an association between the variable *parent report of grades* and the art activity was statistically significant. $\chi^2 (1, N = 4434) = 29.57, p = .001$. More participants than expected who reported engaging in art activities after school also reported earning A grades (O = 341, E = 430.8283.2, SR = 3.4), while fewer participants than expected reported earning C grades (O = 77, E = 105.2, SR = -2.8) and D grades (O = 11, E = 20.1, SR = -2.0). These results are reported in Table 8.

The χ^2 test for association between *parent report of grades* and the chores/work activity was statistically significant $\chi^2 (1, N = 4434) = 17.11, p = .001$. Fewer participants than expected who reported engaging in chores/work activities after school also reported earning A grades (O = 210, E = 284.3, SR = -2.4), while more participants than expected reported earning C grades (O = 120, E = 92.3, SR = 2.9). These results are reported in Table 8.

The χ^2 test for association between *parent report of grades* and the outdoor play/sports activity was statistically significant $\chi^2 (1, N = 4434) = 17.76, p = .001$. Fewer participants than expected who reported engaging in outdoor play/sports activities after school also reported having earned A

Table 8

Chi Square test of Parent Report of Grades within each Activity

| | | Homework | | Computers | | Art | | Chores/Work | | Outdoor play/sports | | Indoor Play | | T.V.* | |
|---|----|-------------|-------------|-------------|-----------|-------------|-----------|-------------|-----------|------------------------|-----------|-------------|-----------|-------------|------------|
| | | <i>yes</i> | <i>No</i> | <i>yes</i> | <i>No</i> | <i>yes</i> | <i>No</i> | <i>yes</i> | <i>No</i> | <i>yes</i> | <i>no</i> | <i>yes</i> | <i>no</i> | <i>yes</i> | <i>no</i> |
| A | O | 1639 | 320 | 494 | 1465 | 341 | 1618 | 210 | 1749 | 651 | 1308 | 242 | 1717 | 899 | 1060 |
| | E | 1569.8 | 389.2 | 430.8 | 1528.2 | 283.2 | 1675.8 | 248.3 | 1710.7 | 703.8 | 1255.2 | 291.6 | 1667.4 | 961.4 | 997.6 |
| | SR | 1.7 | -3.5 | 3.0 | -1.6 | 3.4 | -1.4 | -2.4 | .9 | -2.0 | 1.5 | -2.9 | 1.2 | -2.0 | 2.0 |
| B | O | 1265 | 298 | 316 | 1247 | 206 | 1357 | 207 | 1356 | 599 | 964 | 266 | 1297 | 784 | 779 |
| | E | 1252.4 | 310.6 | 343.7 | 1219.3 | 226 | 1337 | 198.1 | 1364.9 | 561.5 | 1001.5 | 232.7 | 1330.3 | 767 | 796 |
| | SR | .4 | -.7 | -1.5 | .8 | -1.3 | .5 | .6 | -.2 | 1.6 | -1.2 | 2.2 | -.9 | .6 | -.6 |
| C | O | 526 | 202 | 133 | 595 | 77 | 651 | 120 | 608 | 287 | 441 | 127 | 601 | 390 | 338 |
| | E | 583.4 | 144.6 | 160.1 | 567.9 | 105.2 | 622.8 | 92.3 | 635.7 | 261.5 | 466.5 | 108.4 | 619.6 | 357.3 | 370.7 |
| | SR | -2.4 | 4.8 | -2.1 | 1.1 | -2.8 | 1.1 | 2.9 | -1.1 | 1.6 | -1.2 | 1.8 | -.7 | 1.7 | -1.7 |
| D | O | 96 | 43 | 27 | 112 | 11 | 128 | 18 | 121 | 39 | 100 | 20 | 119 | 74 | 65 |
| | E | 111.4 | 27.6 | 30.6 | 108.4 | 20.1 | 118.9 | 17.6 | 121.4 | 49.9 | 89.1 | 20.7 | 118.3 | 68.2 | 70.8 |
| | SR | -1.5 | 2.9 | -.6 | .3 | -2.0 | .8 | .1 | 0 | -1.5 | 1.2 | -.2 | .1 | .7 | -.7 |

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Table 8 (continued)

Chi Square test of Parent Report of Grades within each Activity

| | | | | | | | | | | | | | | | |
|---|----|------|------------|------|------|-----|------|-----|------|------|------|-----|------|------|------|
| F | O | 27 | 18 | 5 | 40 | 6 | 39 | 7 | 38 | 17 | 28 | 5 | 40 | 29 | 16 |
| | E | 36.1 | 8.9 | 9.9 | 35.1 | 6.5 | 38.5 | 5.7 | 39.3 | 16.2 | 28.8 | 6.7 | 38.3 | 22.1 | 22.9 |
| | SR | -1.5 | 3.0 | -1.6 | .8 | -2 | .1 | .5 | -2 | .2 | -.2 | -.7 | .3 | 1.5 | -1.4 |

* = television/videos/music

grades ($O = 651, E = 703.8, SR = -2.0$). This was also the case with the television/videos/music activity where the χ^2 test for association between *parent report of grades* and the television/videos/music activity was statistically significant $\chi^2 (1, N = 4434) = 19.79, p = .001$. Fewer participants than expected who reported engaging in television/videos/music activities after school also reported having earned A grades ($O = 899, E = 961.4, SR = -2.0$). These results are also reported in Table 8.

Finally, the χ^2 test for association between *parent report of grades* and the indoor play/sports activity was statistically significant $\chi^2 (1, N = 4434) = 19.83, p = .001$. Fewer participants than expected who reported engaging in indoor play/sports activities after school also reported earning A grades ($O = 242, E = 291.6, SR = -2.9$), while more participants than expected reported earning B grades ($O = 266, E = 232.7, SR = 2.2$). These results are reported in Table 8.

Student Academic Misbehavior

The χ^2 test for association was conducted between the type of activity the participant engaged in after school and the dependent variable *in school suspension*. The χ^2 test for association between *in school suspension* and the homework activity was statistically significant $\chi^2 (1, N = 4163) = 30.51, p = .001$. Specifically, there was evidence of an association between the homework activity and three of the four possible areas and the variable *in school suspension* ($O = 89, E = 53.8, SR = 4.8$) indicating that more than expected participants who did not engage in homework activities after school

had received an in school suspension as a consequence for misbehavior. In addition, fewer participants than expected who did engage in homework activities after school had received an in school suspension as a consequence for misbehavior ($O = 182$, $E = 217.2$, $SR = -2.4$). These results are reported in Table 9.

The χ^2 test for association between *in school suspension* and the art activity was statistically significant $\chi^2 (1, N = 4163) = 9.38, p = .001$. Specifically, fewer than expected participants who did engage in art activities after school had received an in school suspension as a consequence for misbehavior ($O = 22$, $E = 39.2$, $SR = -2.7$). The χ^2 test for association between *in school suspension* and the chores/work activity was statistically significant $\chi^2 (1, N = 4434) = 6.61, p = .01$. Specifically, more than expected participants that did perform work or chores after school received an in school suspension as a consequence for misbehavior ($O = 48$, $E = 34.3$, $SR = 2.3$).

The χ^2 test for association was conducted between the type of activity the participant engaged in after school and the dependent variable *out of school suspension* which indicated that the participant had been removed from the school setting for a set period of time as a consequence for behavior. The χ^2 test for association between *out of school suspension* and the homework activity was statistically significant $\chi^2 (1, N = 4189) = 28.35, p = .001$. The results of the χ^2 test for association revealed an association between the activity homework and the variable *out of school suspension* as the *standardized residual* (SR) in two of the four possible areas exceeded 2.0 in the absolute value. The following were the associations: ($O = 81$, $E = 48.7$, $SR = 4.6$) indicating that

more participants than expected that did not engage in homework activities after school reported receiving an out of school suspension as a consequence for misbehavior and ($O = 164, E = 196.3, SR = -2.3$) indicating that fewer participants than expected that did engage in homework activities after school reported receiving an out of school suspension as a consequence for misbehavior. These results are reported in Table 9.

The χ^2 test for association between *out of school suspension* and the art activity was statistically significant $\chi^2 (1, N = 4189) = 6.29, p = .001$. Specifically, fewer than expected participants who did engage in art activities after school had not received an out of school suspension as a consequence for misbehavior ($O = 22, E = 35.4, SR = -2.3$). These results are reported in Table 9.

The χ^2 test for association between *out of school suspension* and the television/videos/music activity also was statistically significant $\chi^2 (1, N = 4189) = 10.60, p = .001$. There was evidence of an association between the *out of school suspension* variable between two of the four possible areas of the television/videos/music activity ($O = 100, E = 142.8, SR = -2.2$) indicating that fewer than expected participants who did not watch television/videos/music after school had received an out of school suspension as a consequence for misbehavior and ($O = 145, E = 120.2, SR = 2.3$) indicating that that more than expected participants who did watch television/videos/music after school had also received an out of school suspension as a consequence for misbehavior. These results are reported in Table 9.

The χ^2 test for association was conducted between the type of activity the participant engaged in after school and the dependent variable *teacher call behavior* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's behavior at school. The χ^2 test for association between *teacher call behavior* and the homework activity was statistically significant $\chi^2 (1, N = 3367) = 7.94, p = .001$. Specifically, more participants than expected who did not engage in homework after school had received a phone call from a teacher with a concern regarding the participant's behavior at school (O = 244, E = 212, SR = 2.2). These results are reported in Table 9.

The χ^2 test for association between *teacher call behavior* and the computer activity was statistically significant $\chi^2 (1, N = 3367) = 10.73, p = .001$. Specifically, fewer participants than expected who engaged in the use of computers after school had received a phone call from a teacher with a concern regarding the participant's behavior at school (O = 196, E = 234.6, SR = -2.5). These results are reported in Table 9.

The χ^2 test for association between *teacher call behavior* and the art activity was statistically significant $\chi^2 (1, N = 3367) = 7.94, p = .001$. The results of the χ^2 test for association also revealed evidence of an association between the variable *teacher call behavior* and the art activity (O = 124, E = 154.3, SR = -2.4) indicating that fewer than expected participants who did engage in art activities after school had received a phone call from a teacher with a concern regarding the participant's behavior at school. These results are reported in Table 9.

The χ^2 test for association between *teacher call behavior* and the television/videos/music activity was statistically significant $\chi^2 (1, N = 3367) = 16.25, p = .001$. There was evidence of an association between the *teacher call behavior* variable between two of the four possible areas in the television/videos/music activity (O = 786, E = 543.4, SR = -2.5) indicating that fewer than expected participants who did not watch television/videos/music after school had received a phone call from a teacher with a concern regarding the participant's behavior at school and (O = 581, E = 523.6, SR = 2.5) indicating that that more than expected participants who did watch television/videos/music after school had not received a phone call from a teacher with a concern regarding the participant's behavior at school. These results are reported in Table 9.

Table 9

Academic Misbehavior and After School Activities

| Activity | <i>Student Academic Misbehavior</i> | | | | | |
|----------|-------------------------------------|-------|--------------------------|-------|-----------------------|------|
| | In School Suspension | | Out of School Suspension | | Teacher Call Behavior | |
| | Y | N | Y | N | Y | N |
| No | O 89 | 792 | 81 | 800 | 244 | 637 |
| | E 53.8 | 827.2 | 48.7 | 832.3 | 212 | 669 |
| | SR 4.8 | -1.2 | 4.6 | -1.1 | 2.2 | -1.2 |

Table 9 (continued)

Academic Misbehavior and After School Activities

| | | | | | | | |
|-------------|----|-------------|--------|-------------|-------------|-------------|--------|
| Yes | O | 182 | 3371 | 164 | 3389 | 823 | 2730 |
| | E | 217.2 | 3335.8 | 196.3 | 3356.7 | 855 | 2698 |
| | SR | -2.4 | .6 | -2.3 | .6 | -1.1 | .6 |
| Computers | | | | | | | |
| No | O | 222 | 3237 | 201 | 3258 | 871 | 2588 |
| | E | 211.4 | 3247.6 | 191.1 | 3267.9 | 832.4 | 2626.6 |
| | SR | .7 | -.2 | .7 | -.2 | 1.3 | -.8 |
| Yes | O | 49 | 926 | 44 | 931 | 196 | 779 |
| | E | 59.6 | 915.4 | 53.9 | 921.1 | 234.6 | 740.4 |
| | SR | -1.4 | .4 | -1.3 | .3 | -2.5 | 1.4 |
| Art | | | | | | | |
| No | O | 249 | 3544 | 223 | 3570 | 943 | 2850 |
| | E | 231.8 | 3561.2 | 209.6 | 3583.4 | 912.7 | 2880.3 |
| | SR | 1.1 | -.3 | .9 | -.2 | 1.0 | -.6 |
| Yes | O | 22 | 619 | 619 | 22 | 124 | 517 |
| | E | 39.2 | 601.8 | 605.6 | 35.4 | 154.3 | 486.7 |
| | SR | -2.7 | .7 | .5 | -2.3 | -2.4 | 1.4 |
| Chores/Work | | | | | | | |
| No | O | 223 | 3649 | 212 | 3660 | 937 | 2935 |
| | E | 236.7 | 3635.3 | 213.9 | 3658.1 | 931.8 | 2940.2 |
| | SR | -.9 | .2 | -.1 | .0 | .2 | .0 |
| Yes | O | 48 | 514 | 33 | 529 | 130 | 432 |
| | E | 34.3 | 527.7 | 31.1 | 530.9 | 135.2 | 426.8 |
| | SR | 2.3 | -.6 | .3 | 0 | -.5 | .3 |

Table 9 (continued)

Academic Misbehavior and After School Activities

Outdoor Sports

| | | | | | | | |
|-----|----|-------|--------|-----|--------|-------|--------|
| No | O | 169 | 2672 | 154 | 2687 | 669 | 2172 |
| | E | 173.6 | 2667.4 | 157 | 2684.0 | 683.7 | 2157.3 |
| | SR | -.4 | .1 | -.2 | .1 | -.6 | .3 |
| Yes | O | 102 | 1491 | 91 | 1502 | 398 | 1195 |
| | E | 97.4 | 1495.6 | 88 | 1505 | 383.3 | 1209.7 |
| | SR | .5 | -.1 | .3 | 0 | .7 | -.4 |

Indoor Sports

| | | | | | | | |
|-----|----|-------|--------|-------|--------|-------|--------|
| No | O | 232 | 3542 | 202 | 3572 | 893 | 2881 |
| | E | 230.7 | 3543.3 | 208.5 | 3565.5 | 908.2 | 2865.8 |
| | SR | .1 | .0 | -.5 | .1 | -.5 | .3 |
| Yes | O | 39 | 621 | 43 | 617 | 174 | 660 |
| | E | 40.3 | 619.7 | 36.5 | 623.5 | 158.8 | 660.0 |
| | SR | -.2 | .1 | 1.1 | -.3 | 1.2 | 0 |

T. V.

| | | | | | | | |
|-----|----|-------|--------|-------------|--------|-------------|------------|
| No | O | 147 | 2302 | 100 | 2158 | 786 | 1772 |
| | E | 149.7 | 2299.3 | 124.8 | 2133.2 | 543.4 | 1714.6 |
| | SR | -.2 | .1 | -2.2 | .5 | -2.5 | 1.4 |
| Yes | O | 124 | 1861 | 145 | 2031 | 1595 | 581 |
| | E | 121.3 | 1863.7 | 120.2 | 2055.8 | 1652.4 | 523.6 |
| | SR | .2 | .0 | 2.3 | -.5 | -1.4 | 2.5 |

* = television/videos/music

The χ^2 test for association revealed the following trends in the data as it relates to the *student academic misbehavior* variable. The activity homework had more

associations with a SR that exceeded 2.0 in the absolute value criteria than any other activity. More than expected participants who reported not engaging in homework activities after school were found to have received an in school suspension (O = 89, E = 53.8, SR = 4.8), an out of school suspension (O = 81, E = 48.7, SR = 4.6), or a phone call regarding behavior (O = 244, E = 212, SR = 2.2). Although fewer participants than expected who did report engaging in homework activities after school were found to have received an in school suspension (O = 182, E = 217.2, SR = -2.4) or an out of school suspension (O = 164, E = 196.3, SR = -2.3). The activity art was also found to have associations with the *student academic misbehavior* variable. Fewer than expected participants who reported being engaged in art activities after school received an in school suspension (O = 22, E = 39.2, SR = -2.7) or a phone call regarding behavior (O = 124, E = 154.3, SR = -2.4). Finally, more than expected participants engaging in chores/work after school reported having received an in school suspension (O = 48, E = 34.3, SR = 2.3).

The χ^2 test for association revealed the following trends in the data as it relates to the *student academic performance* variable. Similar to the associations revealed by the data pertaining to the *student academic misbehavior* variable, the activity homework had more associations with a SR that exceeds 2.0 in the absolute value criteria than any other activity. Of the participants who engaged in homework activities after school, fewer than expected reported having received a phone call from school regarding academic performance (O = 581, E = 641, SR = -2.4). Furthermore, although the homework activity's SR did not exceed 2.0 in the absolute value criteria in the association with the

parent report of grades variable in the A's grades in school category, it was close to meeting the criteria (O = 1639, E = 1569.8, SR = 1.7).

The activity art also was also found to have associations with the *student academic performance* variable. Fewer than expected participants who engaged in art activities after school reported having received a phone call regarding academic performance from school (O = 87, E = 115.7, SR = -2.7). In addition, more participants than expected who engaged in art activities after school also reported having earned A grades in school (O = 341, E = 430.8283.2, SR = 3.4), while fewer participants than expected reported earning C grades (O = 77, E = 105.2, SR = -2.8) and D grades in school (O = 11, E = 20.1, SR = -2.0).

Additionally, more than expected participants who participated in indoor sports activities after school reported having received a phone call from school regarding academic performance (O = 151, E = 119.1, SR = -2.9). Furthermore, fewer than expected received A's (O = 242, E = 291.6, SR = -2.9) while more than expected received B's (O = 266, E = 232.7, SR = 2.2) as reported by their parents. Finally, more than expected participants who did engage in television/videos/music activities after school reported not receiving a phone call from school regarding academic performance (O = 459, E = 392.6, SR = -3.4). However, fewer than expected participants who did engage in television/videos/music activities earned A grades in school as reported by their parents (O = 899, E = 961.4, SR = -2.0).

3. Within the specific setting (relative, non-relative, center, parent or self care), which of these activities (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music) make a difference in student academic performance or misbehavior?

Yates' chi-square test (χ^2_{Yates}) was employed to examine whether there was an association between the type of activity the participant engaged in (*homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music*) within the aftercare arrangement setting the participant attended (*1. relative, 2. non-relative, 3. center, 4. parent or 5. self care*) and either of the dependant variables *student academic misbehavior* and *student academic performance* (0 = no participation; 1 = yes participation). The formula used to calculate the chi-square (χ^2_{Yates}) test statistic is as follows:

$$\chi^2_{Yates} = \sum_{i=1}^N \frac{(|O_i - E_i| - 0.5)^2}{E_i} \quad \text{where } O_i = \text{an observed frequency;}$$

$E_i =$ expected (theoretical) frequency, asserted by the null hypothesis; $N =$ number of distinct events. A significant result indicates that there is an association within a specific care setting between the categorical variables (the type of aftercare arrangements and the type of activity) and either of the dependant variables: *student academic misbehavior* or *student academic performance* ($p < .05$) (Yates, 1934). Yates' correction is used in order to prevent overestimation of statistical significance for small data. Yates' correction was employed in this study as the expected count in several of the categories was less than five.

Relative Care

The χ^2_{Yates} test for association was conducted within the relative care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call behavior* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's behavior at school. The χ^2_{Yates} test for association between *teacher call behavior* and the television/videos/music/videos activity in the relative care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 5.4, p = .001$. More than expected of the participants in the relative care arrangement who reported watching television/videos/music also reported having received a phone call from their teacher regarding behavior concerns at school ($O = 102, E = 83.7, SR = 2.0$). These findings are listed in Table 10.

. The χ^2_{Yates} test for association between *teacher call behavior* and the outdoor sports activity in the relative care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = .407, p = .01$. The number of participants in the relative care arrangement who reported participating in outdoor sports activities and also reported having received a phone call from their teacher regarding behavior concerns at school was more than expected ($O = 60, E = 47.6, SR = 1.8$). Although this does not meet the required criteria of $SR > 2.0$, it is very close. These findings are reported in Table 10.

The χ^2_{Yates} test for association was conducted between the activity the participant engaged in after school and the dependent variable *in school suspension* within relative

care arrangements. In-school suspension is defined as an in-house program to which a student may be assigned as a consequence for misbehavior for a short period of time in lieu of an out-of-school suspension (Gushee, 1984). The χ^2_{Yates} test for association between *in school suspension* and the chores/work activity within the relative care arrangement was statistically significant $\chi^2(1, N = 4434) = 12.4, p = .001$. More than expected participants in the relative care arrangement who reported doing chores/work also reported having received an in school suspension (O = 12, E = 4.4, SR = 3.6). These findings are reported in Table 10.

The χ^2_{Yates} test for association was conducted between relative care arrangements, the activity the participant engaged in after school and the dependent variable *out of school suspension* which indicated that the participant had been removed from the school setting for a set period of time as a consequence for behavior. The χ^2_{Yates} test for association between *out of school suspension* and the television/videos/music activity within the relative care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = .24, p = .05$. The following results (O = 29, E = 19.2, SR = 2.2), indicating that more than expected participants in the relative care arrangement who reported watching television/videos/music also reported having received an out of school suspension, are found in Table 10.

The χ^2_{Yates} test for association was conducted within the relative care arrangement between the type of activity the participant engaged in after school and the dependent variable *everfailed* which indicated that the participant had failed a grade at

school. The results of the χ^2_{Yates} test for association revealed evidence of a statistically significant association between the homework activity and the variable *everfailed* $\chi^2_{Yates} (1, N = 4434) = 5.18, p = .01$. Specifically, more than expected participants in the relative care arrangement who reported doing homework also reported having failed a grade in school (O = 71, E = 55.4, SR = 2.1). These results are found in Table 11.

The χ^2_{Yates} test for association between *everfailed*, the art activity in the relative care arrangement was statistically significant $\chi^2_{Yates} (1, N = 4434) = 4.9, p = .01$.

More than expected participants in the relative care

Table 10

Association between After School Activity and Academic Misbehavior within Relative Care Setting

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V. |
|---------------|----|----------|-----------|------|-------------|----------------|---------------|------------|
| Teacher | O | 129 | 27 | 15 | 20 | 60 | 24 | 102 |
| Call | E | 122.5 | 23.8 | 17.1 | 17.3 | 47.6 | 22.4 | 83.7 |
| Behavior | SR | .6 | .7 | -.5 | .6 | 1.8 | .3 | 2.0 |
| In-school | O | 33 | 4 | 0 | 12 | 18 | 6 | 25 |
| Suspension | E | 31.1 | 6.1 | 1.7 | 4.4 | 12.1 | 5.7 | 21.3 |
| | SR | .3 | -.8 | -1.3 | 3.6 | 1.7 | .1 | .8 |
| Out of school | O | 31 | 4 | 3 | 4 | 15 | 9 | 29 |
| Suspension | E | 28.1 | 5.5 | 3.9 | 4.0 | 10.9 | 5.1 | 19.2 |
| | SR | .5 | -.6 | -.5 | .0 | 1.2 | 1.7 | 2.2 |

* = television/videos/music

arrangement who reported participating in art activities also reported having failed a grade at school ($O = 14$, $E = 7.7$, $SR = 2.3$). These results are found in Table 11.

The χ^2_{Yates} test for association between *everfailed* and the television/videos/music activity within the relative care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 5.94, p = .01$. Specifically, more participants than expected in the relative care arrangement who reported watching television/videos/music also reported having failed a grade in school ($O = 52$, $E = 37.9$, $SR = 2.3$). These results are reported in Table 11.

The χ^2_{Yates} test for association between *everfailed* and the chores/work activity in the relative care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 3.15, p = .05$. Specifically, more participants than expected in the relative care arrangement who reported performing chores or work after school also reported having failed a grade in school ($O = 13$, $E = 7.8$, $SR = 1.8$). Although these results do not meet the $SR > 2$ criteria, they are close. These results are reported in Table 11.

The χ^2_{Yates} test for association was conducted within the relative care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call work* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's academic progress at

Table 11

Association between After School Activity and Academic Performance within Relative Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.* |
|-------------------------|----|------------|-----------|------------|-------------|----------------|---------------|------------|
| Everfailed | O | 71 | 11 | 14 | 13 | 28 | 9 | 52 |
| | E | 55.4 | 10.8 | 7.7 | 7.8 | 21.6 | 10.1 | 37.9 |
| | SR | 2.1 | .1 | 2.3 | 1.8 | 1.4 | -.4 | 2.3 |
| Teacher Call Work | O | 102 | 19 | 11 | 19 | 46 | 21 | 85 |
| | E | 91.8 | 17.9 | 12.8 | 13 | 35.7 | 16.8 | 62.8 |
| | SR | 1.1 | .3 | -.5 | 1.7 | 1.7 | 1.0 | 2.8 |

* = television/videos/music

school. The χ^2_{Yates} test for association between *teacher call work* and the television/videos/music activity in the relative care arrangement was statistically significant $\chi^2_{Yates} (1, N = 4434) = 9.94, p = .01$. The standard residuals (i.e., O = 85, E = 62.8, SR = 2.8) indicate that more than expected participants in the relative care arrangement who reported watching television/videos/music also reported having received a call from a teacher. These findings are reported in Table 11.

Non-Relative Care

The χ^2_{Yates} test for association was conducted within the non-relative care arrangement between the type of activity the participant engaged in after school and the behavior dependent variables *teacher call behavior*, *In-school suspension*, and *Out of school suspension*. The results of the χ^2_{Yates} tests for association revealed that there was no evidence of an association between the behavior variables and the seven after school activity categories within the non-relative setting as none of the standard residuals achieved the required criteria of $SR > 2$. These results are reported in Table 12.

The χ^2_{Yates} test for association was conducted within the non-relative care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call work*. The χ^2_{Yates} test for association between *teacher call work* and the television/videos/music activity in the non-relative care

Table 12

Association between After School Activity and Academic Misbehavior within Non-Relative Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V. * |
|---------------|----|----------|-----------|------|-------------|----------------|---------------|---------|
| Teacher | O | 28 | 3 | 1 | 3 | 9 | 10 | 14 |
| Call | E | 29.1 | 6.3 | 4.1 | 1.9 | 12.3 | 6.7 | 13.2 |
| Behavior | SR | -.2 | -1.3 | -1.5 | .8 | -.9 | 1.3 | .2 |
| In-school | O | 3 | 1 | 0 | 0 | 3 | 1 | 4 |
| Suspension | E | 7.4 | 1.6 | 1.0 | .5 | 3.1 | 1.7 | 3.4 |
| | SR | -1.6 | -.5 | -1.0 | -.7 | .0 | -.5 | .3 |
| Out of school | O | 8 | 0 | 1 | 1 | 4 | 3 | 4 |
| Suspension | E | 6.7 | 1.4 | .9 | .4 | 2.8 | 1.5 | 3.0 |
| | SR | .5 | -1.2 | .1 | .8 | .7 | 1.2 | .6 |

* = television/videos/music

arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 3.9, p = .05$. More participants than expected in non-relative care who watched television/videos/music reported having received a phone call from school regarding a concern over academic performance (O = 16, E = 9.9, SR = 1.9). Although this does not meet the required criteria of SR>2, it is close. These results are reported in Table 13.

Center Care

The χ^2_{Yates} test for association was conducted within the center care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call behavior* which indicated that a teacher from the participant's school had contacted home with a concern regarding the participant's behavior at school. An association was found between the homework activity and the variable *teacher call behavior* within the center care arrangement. The χ^2_{Yates} test for association between *teacher call behavior* and the homework activity in the center care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 31.73, p = .001$. More than expected of the participants in the center care arrangement who reported doing homework also reported having received a phone call from their teacher regarding behavior concerns at school(O = 152, E = 104, SR = 4.7). These results are reported in Table 14.

The χ^2_{Yates} test for association was conducted between the center care arrangement, the activity the participant engaged in after school, and the dependent variable *in school suspension*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association the center care arrangement, the computers

Table 13

Association between After School Activity and Academic Performance within Non-Relative Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T.V.* |
|------------|----|----------|-----------|------|-------------|----------------|---------------|-------|
| Everfailed | O | 12 | 1 | 0 | 0 | 4 | 4 | 7 |
| | E | 13.2 | 2.8 | 1.9 | .9 | 5.6 | 3.1 | 6 |
| | SR | -.3 | -1.1 | -1.4 | -.9 | -.7 | .5 | .4 |
| Teacher | O | 26 | 4 | 3 | 1 | 10 | 8 | 16 |
| Call | E | 21.8 | 4.7 | 3.1 | 1.4 | 9.2 | 5.1 | 9.9 |
| Work | SR | .9 | -.3 | 0 | -.4 | .3 | 1.3 | 1.9 |

* = television/videos/music

activity, and the dependent variable *in school suspension*. The χ^2_{Yates} test for association between *in school suspension* and the computers activity in the center care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 6.30, p = .01$. More than expected participants in the center care arrangement who reported engaging in computer use after school also reported having received an in school suspension (O = 11, E = 5.1, SR = 2.6). These results are reported in Table 14.

The χ^2_{Yates} test for association was conducted between the center care arrangement, the activity the participant engaged in after school, and the dependent variable *out of school suspension*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between three of the seven possible after school activities within the center care arrangement and the dependent variable *out of school suspension*. The χ^2_{Yates} test for association between *out of school suspension* and the homework activity in the center care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 6.65, p = .01$. More than expected participants in the center care arrangement who reported doing homework also reported having received an out of school suspension (O = 36, E = 23.9, SR = 2.5). Another association was found between the computers activity and the dependant variable *out of school suspension* within the center care arrangement that was statistically significant $\chi^2_{Yates}(1, N = 4434) = 11.24, p = .001$. More than expected participants in the center care arrangement who reported engaging in computer use after school also reported having received an out of school suspension as a result of misbehavior at school (O = 12, E = 4.6, SR = 3.5). A

third association was found between the outdoor sports activity and the dependant variable *out of school suspension* within the center care arrangement which was statistically significant $\chi^2_{Yates}(1, N = 4434) = 3.81, p = .05$. More than expected participants in the center care arrangement who reported playing outdoor sports after school also reported having received an out of school suspension (O = 20, E = 12.9, SR = 2.0). These results are reported in Table 14.

The χ^2_{Yates} test for association was conducted within the center care arrangement between the type of activity the participant engaged in after school and the dependent variable *everfailed* which indicated that the participant had failed a grade at school. The χ^2_{Yates} test for association between *everfailed* and the homework activity in the center care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 8.04, p = .001$. More participants than expected in center care who engaged in homework reported having failed a grade in school (O = 65, E = 47.1, SR = 2.6). These results are reported in Table 15.

The χ^2_{Yates} test for association was conducted within the center care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call work*.

Table 14

Association between After School Activity and Academic Misbehavior within Center Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T.V.* |
|---------------|----|------------|------------|------|-------------|----------------|---------------|-------|
| Teacher | O | 152 | 24 | 48 | 3 | 69 | 38 | 18 |
| Call | E | 104 | 20 | 42.8 | 3.4 | 56.1 | 34.9 | 14.9 |
| Behavior | SR | 4.7 | .9 | .8 | -.2 | 1.7 | .5 | .8 |
| In-school | O | 35 | 11 | 9 | 1 | 15 | 11 | 4 |
| Suspension | E | 26.4 | 5.1 | 10.9 | .9 | 14.2 | 8.9 | 3.8 |
| | SR | 1.7 | 2.6 | -.6 | .2 | .2 | .7 | .1 |
| Out of school | O | 36 | 12 | 9 | 1 | 20 | 11 | 4 |
| Suspension | E | 23.9 | 4.6 | 9.8 | .8 | 12.9 | 8 | 3.4 |
| | SR | 2.5 | 3.5 | -.3 | .3 | 2.0 | 1.1 | .3 |

* = television/videos/music

The χ^2_{Yates} test for association between *teacher call work* and the homework activity in the center care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 8.83, p = .001$. More participants than expected in center care who engaged in homework activities after school also reported having received a phone call from school regarding a concern over academic performance (O = 101, E = 77.9, SR = 2.6). In addition, another association was revealed between *teacher call work* and the computer activity within the center care arrangement which was statistically significant $\chi^2_{Yates}(1, N = 4434) = 6.03, p = .001$.

More participants than expected that reported engaging in computer activities after school also reported having failed a grade at school (O = 24, E = 15, SR = 2.3). This statistically significant association was also found with the indoor sports activity and the *teacher call work* within the center care arrangement $\chi^2_{Yates}(1, N = 4434) = 11.34, p = .001$. More participants than expected that reported playing indoor sports activities after school also reported having failed a grade at school (O = 42, E = 26.2, SR = 3.1). These results are reported in Table 15.

Self Care

The χ^2_{Yates} test for association was conducted within the self care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call behavior*. The results of the χ^2_{Yates} test for association revealed no evidence of an association between all of the seven possible after school activities within.

Table 15

Association between After School Activity and Academic Performance within Center Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V. * |
|-------------------------|----|------------|------------|------|-------------|----------------|---------------|------------|
| Everfailed | O | 65 | 7 | 26 | 2 | 29 | 11 | 10 |
| | E | 47.1 | 9 | 19.4 | 1.5 | 25.4 | 15.8 | 6.8 |
| | SR | 2.6 | -7 | 1.5 | .4 | .7 | -1.2 | 1.2 |
| Teacher Call Work | O | 101 | 24 | 35 | 1 | 55 | 42 | 18 |
| | E | 77.9 | 15 | 32.1 | 2.5 | 42 | 26.2 | 11.2 |
| | SR | 2.6 | 2.3 | .5 | -1.0 | 2.0 | 3.1 | 2.0 |

* = television/videos/music

the self care arrangement and the dependent variable *teacher call behavior*. These results are reported in Table 16

The χ^2_{Yates} test for association was conducted between self care arrangement, the activity the participant engaged in after school, and the dependent variable *in school suspension*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between the after school activity television/videos/music and the dependent variable *in school suspension* within the self care arrangement. The χ^2_{Yates} test for association between *in school suspension* and the television/videos/music activity in the self care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 13.06, p = .001$. More than expected participants in the self care arrangement who reported watching television/videos/music also reported having received an in school suspension (O = 67, E = 45, SR = 3.3). This pattern of association was also found with the outdoor sports activity and the dependant variable *in school suspension* within the self care arrangement as more than expected participants reported having received an in school suspension as a result of misbehavior at school in the outdoor sports. The association between the outdoor sports activity and the dependant variable *in school suspension* within the self care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 3.45, p = .05$. Although this association did not meet the SR>2 criteria, it was close (O = 27, E = 18.9, SR = 1.9). These results are reported in Table 16.

Table 16

Association between After School Activity and Academic Misbehavior within Self Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.* |
|---------------|---------|--------------|--------------|-------------|-------------|----------------|---------------|------------------|
| Teacher | O | 230 | 60 | 28 | 51 | 92 | 39 | 204 |
| Call Behavior | E SR | 234.6 -.3 | 73.6 -1.6 | 32.2 -.7 | 53.9 -.4 | 74.6 2 | 29.6 1.7 | 177.4 2 |
| In-school | O | 56 | 14 | 6 | 20 | 27 | 7 | 67 |
| Suspension | E SR | 59.6 -.5 | 18.7 -1.1 | 8.2 -.8 | 13.7 1.7 | 18.9 1.9 | 7.5 -.2 | 45 3.3 |
| Out of school | O | 53 | 15 | 7 | 17 | 22 | 10 | 53 |
| Suspension | E SR | 53.9 -.1 | 16.9 -.5 | 7.4 -.1 | 12.4 1.3 | 17.1 1.2 | 6.8 1.2 | 40.7 1.9 |

* = television/videos/music

evidence of an association between self care, the after school activity television/videos/music, and the dependent variable *out of school suspension* and was statistically significant $\chi^2_{Yates}(1, N = 245) = 4.32, p = .01$. More than expected participants in the self care arrangement who reported watching television/videos/music also reported having received an out of school suspension (O = 53, E = 40.7, SR = 1.9). Although this association did not meet the SR>2 criteria, it was close. These results are reported in Table 16.

The χ^2_{Yates} test for association was conducted within the self care arrangement between the type of activity the participant engaged in after school and the dependent variable *everfailed*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between three of the seven possible after school activities within the self care arrangement and the dependent variable *everfailed*. The χ^2_{Yates} test for association between *everfailed* and the chores/work activity in the self care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 7.10, p = .001$. More participants than expected in self care who engaged in chores/work after school also reported having failed a grade in school (O = 37, E = 34.4, SR = 2.6). In addition, the χ^2_{Yates} test for association between *everfailed* and the television/videos/music activity in the self care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 9.04, p = .001$. More than expected participants in the self care arrangement who reported watching television/videos/music also reported having failed a grade in school (O = 104, E = 80.3, SR = 2.6). This pattern of association was also found with the outdoor sports

activity and the dependant variable *everfailed* within the self care arrangement, $\chi^2_{Yates}(1, N = 4434) = 4.92, p = .01$. More than expected participants in the outdoor sports activity also reported having failed a grade in school (O = 46, E = 33.8, SR = 2.1). These results are reported in Table 17.

The χ^2_{Yates} test for association was conducted within the self care arrangement between the type of activity the participant engaged in after school and the dependent variable *teacher call work*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between three of the seven possible after school activities within the self care arrangement and the dependent variable *teacher call work*. The χ^2_{Yates} test for association between *teacher call work* and the outdoor sports activity in the self care arrangement was statistically significant $\chi^2(1, N = 4434) = 20.51, p = .001$. More participants than expected in self care arrangement who played outdoor sports reported having received a phone call from school regarding a concern over academic performance (O = 86, E = 55.9, SR = 4.0). In addition, the χ^2_{Yates} test for association between *teacher call work* and the indoor sports activity in the self care arrangement was statistically significant $\chi^2(1, N = 4434) = 7.23, p = .001$. More participants than expected in self care arrangement who played indoor sports reported having received a phone call from school regarding a concern over academic performance (O = 34, E = 22.2, SR = 2.5). Furthermore, the χ^2_{Yates} test for association between *teacher call work* and the television/videos/music activity in the self care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 14.68 p = .001$.

Table 17

Association between After School Activity and Academic Performance within Self Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V. * |
|-------------------------|----|----------|-----------|------|-------------|----------------|---------------|------------|
| Everfailed | O | 114 | 27 | 13 | 37 | 46 | 20 | 104 |
| | E | 106.2 | 33.3 | 14.6 | 34.4 | 33.8 | 13.4 | 80.3 |
| | SR | .8 | -1.1 | -.4 | 2.6 | 2.1 | 1.8 | 2.6 |
| Teacher Call Work | O | 174 | 55 | 22 | 45 | 86 | 34 | 170 |
| | E | 175.9 | 55.2 | 24.2 | 40.4 | 55.9 | 22.2 | 133 |
| | SR | -.1 | .0 | -.4 | .7 | 4.0 | 2.5 | 3.2 |

* = television/videos/music

More than expected participants in the self care arrangement that reported watching television/videos/music after school, also reported having received a phone call from school regarding a concern over academic performance (O = 170, E = 133, SR = 3.2). These results are reported in Table 17.

Parent Care

The χ^2_{Yates} test for association was conducted between the type of activity the participant engaged in after school when in parent care and the dependent variable *teacher call behavior*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between three of the seven possible after school activities within the parent care arrangement and the dependent variable *teacher call behavior*.

The χ^2_{Yates} test for association between *teacher call behavior* and the homework activity in the parent care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = .08, p = .05$. Fewer than expected of the participants in the parent care arrangement who reported doing homework also reported having received a phone call from their teacher regarding behavior concerns at school (O = 347, E = 417.8, SR = -3.5). This pattern of association was also found in the computers activity and the dependant variable *teacher call behavior* within the parent care arrangement and was statistically significant $\chi^2_{Yates}(1, N = 4434) = 12.06, p = .001$. The number of participants engaging in computer activities in the parent care arrangement having received phone call from school regarding behavior was less than expected (O = 86, E = 117.4, SR = -2.9).

Furthermore, the χ^2_{Yates} test for association between *teacher call behavior* and the art

activity in the parent care arrangement was statistically significant $\chi^2_{Yates} (1, N = 2042) = .841, p = .001$. The number of participants in the parent care setting, engaged in art activities after school, who also received a phone call from a teacher regarding behavior concerns at school was fewer than expected ($O = 39, E = 57.7, SR = -2.5$). These results are reported in Table 18.

The χ^2_{Yates} test for association was conducted between the activity the participant engaged in after school when in parent care and the dependent variable *in school suspension*. The χ^2_{Yates} test for association between *in school suspension* and the homework activity in the parent care arrangement was statistically significant $\chi^2_{Yates} (1, N = 4434) = 15.45, p = .05$. Fewer than expected participants in the parent care arrangement who reported doing homework also reported having received an in school suspension ($O = 75, E = 106.1, SR = -3.0$). The χ^2_{Yates} test for association between *in school suspension* and the computers activity in the parent care arrangement was statistically significant $\chi^2_{Yates} (1, N = 245) = 4.32, p = .01$. Fewer than expected participants engaged in computer activities in parent care, reported having received an in school suspension as a result of misbehavior at school ($O = 19, E = 29.8, SR = -2.0$). In addition, the association between the parent care setting, art activities after school and *in school suspension* was statistically significant $\chi^2_{Yates} (1, N = 2042) = 3.86, p = .05$. Fewer than expected participants in the self care arrangement who reported engaging in art activities after school also reported having received an in school suspension ($O =$

53, $E = 40.7$, $SR = -1.9$). Although this association did not meet the $SR > 2$ criteria, it was close. These results are reported in Table 18.

The χ^2_{Yates} test for association was conducted within parent care between the activity the participant engaged in after school and the dependent variable *out of school suspension*. The χ^2_{Yates} test for association between *out of school suspension* and the homework activity in the parent care arrangement was statistically significant $\chi^2_{Yates} (1, N = 4434) = 28.18, p = .001$. Fewer than expected participants in the parent care arrangement who reported engaging in homework activities after school also reported having received an out of school suspension ($O = 56, E = 95.9, SR = -4.1$). This pattern of association was also found between the computers activity and the dependant variable *out of school suspension* within the parent care arrangement, $\chi^2_{Yates} (1, N = 4434) = 8.0, p = .001$. Fewer than expected participants engaged in computer activities after school reported having received an out of school suspension as a result of misbehavior at school ($O = 13, E = 27, SR = -2.7$). In addition, the association between the parent care setting, art activities after

Table 18

Association between After School Activity and Academic Misbehavior within Parent Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.* |
|---------------|----|-------------|-------------|-------------|-------------|----------------|---------------|--------|
| Teacher | O | 347 | 86 | 39 | 57 | 184 | 67 | 264 |
| Call | E | 417.8 | 117.4 | 57.7 | 63 | 205 | 68.8 | 252.9 |
| Behavior | SR | -3.5 | -2.9 | -2.5 | -.8 | -1.5 | -.2 | .7 |
| In-school | O | 75 | 19 | 7 | 19 | 47 | 15 | 74 |
| Suspension | E | 106.1 | 29.8 | 14.2 | 16 | 52.1 | 17.5 | 64.2 |
| | SR | -3.0 | -2.0 | -1.9 | .7 | -.7 | -.6 | 1.2 |
| Out of school | O | 56 | 13 | 5 | 11 | 36 | 11 | 62 |
| Suspension | E | 95.9 | 27 | 11.5 | 14.5 | 47.1 | 15.8 | 58.1 |
| | SR | -4.1 | -2.7 | -1.9 | -.9 | -1.6 | -1.2 | .5 |

* = television/videos/music

school and out of school suspension was statistically significant $\chi^2_{Yates} (1, N = 2042) = 3.77, p = .05$. Fewer than expected participants in the self care arrangement who reported engaging in art activities after school also reported having received an out of school suspension (O = 53, E = 40.7, SR = -1.9). Although this association did not meet the SR>2 criteria, it was close. These results are reported in Table 18.

The χ^2_{Yates} test for association was conducted within parent care between the activity the participant engaged in after school and the dependent variable *everfailed*. The results of the χ^2_{Yates} test for association revealed that there was evidence of a statistically significant association between the homework activity and the variable *everfailed* within the parent care arrangement, $\chi^2_{Yates} (1, N = 4434) = 19.40, p = .001$. Fewer than expected participants in the parent care arrangement who reported doing homework also reported having failed a grade in school (O = 144, E = 189.1, SR = -3.3). This pattern of association was also found between the computer activity and the dependant variable *everfailed* within the parent care arrangement, $\chi^2_{Yates} (1, N = 4434) = 8.26, p = .001$. Fewer than expected participants engaged in computer activities after school reported having failed a grade (O = 34, E = 53.2, SR = -2.6). These results are reported in Table 19. This pattern of association was also found with the outdoor sports activity and the dependant variable *everfailed* within the parent care arrangement, $\chi^2_{Yates} (1, N = 4434) = 9.6, p = .001$. Fewer than expected parent care participants engaged in outdoor sports after school reported having failed a grade in school (O = 67, E = 92.8, SR = -2.7). These results are reported in Table 19.

The χ^2_{Yates} test for association was conducted within parent care between the activity the participant engaged in after school and the dependent variable *teacher call work*. The results of the χ^2_{Yates} test for association revealed that there was evidence of an association between the homework activity and the variable *teacher call work* within the parent care arrangement. The χ^2_{Yates} test for association between *teacher call work* and the homework activity in the parent care arrangement was statistically significant $\chi^2_{Yates}(1, N = 4434) = 48.14, p = .001$. Fewer than expected participants in the parent care arrangement who reported doing homework also reported having received a phone call from a teacher regarding academic concerns ($O = 226, E = 313.2, SR = -4.9$). This pattern of association was also found between the computer activity and the dependant variable *teacher call work* within the parent care arrangement, $\chi^2_{Yates}(1, N = 4434) = 15.56, p = .001$. Fewer than expected participants engaged in computer activities after school reported having received a phone call from a teacher ($O = 56, E = 88, SR = -3.4$). In addition, the association between the parent care setting, art activities after school and receiving a phone call from a teacher regarding academic concerns was statistically significant $\chi^2_{Yates}(1, N = 2042) = .11.01, p = .001$. Fewer than expected participants in the self care arrangement who reported engaging in art activities after school also reported having failed a grade in school ($O = 21, E = 39.4, SR = -2.9$). These results are reported in Table 19.

Table 19

Association between After School Activity and Academic Performance within Parent Care Settings

| | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.* |
|-------------------------|----|-------------|-------------|-------------|-------------|----------------|---------------|--------|
| Everfailed | O | 144 | 34 | 25 | 29 | 67 | 25 | 96 |
| | E | 189.1 | 53.2 | 23.1 | 28.5 | 92.8 | 31.2 | 114.5 |
| | SR | -3.3 | -2.6 | .4 | .1 | -2.7 | -1.1 | -1.7 |
| Teacher Call Work | O | 226 | 56 | 21 | 46 | 126 | 48 | 194 |
| | E | 313.2 | 88 | 39.4 | 47.3 | 153.7 | 51.6 | 189.6 |
| | SR | -4.9 | -3.4 | -2.9 | -.2 | -2.2 | -.5 | .3 |

* = television/videos/music

This pattern of association was also found with the outdoor sports activity and the dependant variable *teacher call work* within the parent care arrangement, $\chi^2_{Yates} (1, N = 4434) = 7.28, p = .01$. Fewer than expected parent care participants engaged in outdoor sports after school reported having received a phone call regarding academic concerns ($O = 126, E = 153.7, SR = -2.2$). These results are reported in Table 19.

Parent Report of Grades

Pearson's chi-squared test of association (χ^2) was employed to examine whether there was an association between the type of activity the participant engaged in (*homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music*) within the aftercare arrangement setting the participant attended (*1. relative, 2. non-relative, 3. center, 4. parent or 5. self*) and the dependant variable *parent report of grades* ($1 =$ mostly F's, $2 =$ mostly D's, $3 =$ mostly C's, $4 =$ mostly B's and $5 =$ mostly A's). The formula used to calculate the chi-square (χ^2) test statistic is as follows:

$$\chi^2 = \sum^R \sum^C \frac{(O - E)^2}{E} \quad \text{where } O = \text{observed count in category};$$

$E =$ expected count in the category under the null hypothesis; $df =$ degrees of freedom; and c, r represent the number of columns and rows in the contingency Table. A significant result indicates that there is an association between the categorical variables (the type of aftercare arrangements and the type of activity) and the dependant variable *parent report of grades* ($p < .05$) (Dimitrov, 2008).

The results of the χ^2 test for association revealed evidence of a statistically significant association between the variable *parent report of grades* and the chores/work

activity within the self care arrangement $\chi^2 (1, N = 4434) = 14.19, p = .001$.

Specifically, fewer participants than expected in the self care arrangement engaged in chores/work after school received A's (O = 79, E = 99, SR = -2.0). The following associations were also statistically significant: outdoor sports $\chi^2 (1, N = 4434) = .06, p = .001$ and indoor sports $\chi^2 (1, N = 4434) = 9.3, p = .05$., additionally, more than expected participants received C's in outdoor sports (O = 70, E = 50.9, SR = 2.7) and chores/work (O = 53, E = 36.8, SR = 2.7) activities. These results are reported in Table 20.

The results of the χ^2 test for association revealed evidence of a statistically significant association between the variable *parent report of grades* and the television/videos/music activity within the relative care arrangement $\chi^2 (1, N = 4434) = 21.85, p = .001$. Fewer than expected participants in the relative care arrangement engaged in watching television/videos/music after school received A's (O = 126, E = 153.8, SR = -2.2). However, more than expected participants in the relative care arrangement engaged in watching television/videos/music after school received D's (O = 23, E = 10.9, SR = 3.7). A statistically significant association was found for the indoor sports activity and grades $\chi^2 (1, N = 4434) = 11.19, p = .01$ as fewer than expected participants engaged in indoor sports received A's (O = 28, E = 41.1, SR = -2.0); however, more than expected received B's (O = 46, E = 32.8, SR = 2.3). These results are reported in Table 22.

Table 20

Association between between After School Activities and Parent Report of Grades within Self Care

| Parent Report of Grades | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.* |
|-------------------------|----|----------|-----------|------|-------------|----------------|---------------|--------|
| A | O | 441 | 137 | 63 | 79 | 105 | 39 | 297 |
| | E | 430.8 | 135.2 | 59.2 | 99 | 137 | 54.3 | 325.6 |
| | SR | .5 | .2 | .5 | -2.0 | -2.7 | -2.1 | -1.6 |
| B | O | 343 | 115 | 44 | 79 | 118 | 53 | 267 |
| | E | 343.7 | 107.9 | 47.2 | 79 | 109.3 | 43.4 | 259.8 |
| | SR | .0 | .7 | -.5 | 0 | .8 | 1.5 | .4 |
| C | O | 154 | 42 | 20 | 53 | 70 | 27 | 133 |
| | E | 160.1 | 50.2 | 22 | 36.8 | 50.9 | 20.2 | 121 |
| | SR | -.5 | -1.2 | -.4 | 2.7 | 2.7 | 1.5 | 1.1 |
| D | O | 31 | 11 | 5 | 11 | 13 | 3 | 31 |
| | E | 30.6 | 9.6 | 4.2 | 7.0 | 9.7 | 3.9 | 23.1 |
| | SR | .1 | .5 | .4 | 1.5 | 1.1 | -.4 | 1.6 |
| F | O | 6 | 1 | 2 | 2 | 4 | 1 | 9 |
| | E | 9.9 | 3.1 | 1.4 | 2.3 | 3.1 | 1.2 | 7.5 |
| | SR | -1.2 | -1.2 | .5 | -.2 | .5 | -.2 | .6 |

* = television/videos/music

Table 21

Chi Square Test of Parent Report of Grades by Care Setting

| | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V.**** |
|--------------|----------|-----------|----------|-------------|----------------|---------------|-----------|
| Self | 2.58* | 3.74** | 1.14* | 14.19*** | .06*** | 9.3* | 8.29* |
| Center | 31.45*** | 2.73* | 6.96** | 12.08** | 12.67** | 6.66** | 4.21* |
| Parent | 72.59*** | 37.35*** | 32.38*** | 4.48* | 8.76* | 4.02* | 6.71* |
| Relative | 4.70** | 2.5* | 2.04* | 6.15** | 15.59*** | 11.19** | 21.85*** |
| Non-Relative | 6.06* | 8.10* | 3.23* | .99* | .79* | 3.73* | 4.29* |

0 = N/A

* = $p = .05$

** = $p = .01$

*** = $p = .001$

**** = television/videos/music

Table 22

The Association between After School Activities and Parent Report of Grades within Relative Care

| Parent Report of Grades | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V* |
|-------------------------|----------|-----------|------|-------------|----------------|---------------|-------------|
| A O | 206 | 45 | 33 | 28 | 76 | 28 | 126 |
| E | 224.9 | 43.7 | 31.4 | 31.8 | 87.5 | 41.1 | 153.8 |
| SR | -1.3 | .2 | .3 | -.7 | -1.2 | -2.0 | -2.2 |
| B O | 191 | 29 | 23 | 25 | 61 | 46 | 131 |
| E | 179.4 | 34.9 | 25 | 25.4 | 69.8 | 32.8 | 122.7 |
| SR | .9 | -1.0 | -.4 | .0 | -1.1 | 2.3 | .8 |
| C O | 91 | 21 | 10 | 18 | 51 | 17 | 65 |
| E | 83.6 | 16.3 | 11.7 | 11.8 | 32.5 | 15.3 | 57.1 |
| SR | .8 | 1.2 | -.5 | 1.8 | 3.2 | .4 | 1.0 |
| D O | 18 | 3 | 4 | 0 | 9 | 1 | 23 |
| E | 16 | 3.1 | 2.2 | 2.3 | 6.2 | 2.9 | 10.9 |
| SR | .5 | .0 | 1.2 | -1.5 | 1.1 | -1.1 | 3.7 |
| F O | 3 | 1 | 1 | 1 | 1 | 1 | 3 |
| E | 5.2 | 1.0 | .7 | .7 | 2.0 | .9 | 3.5 |
| SR | -1.0 | .0 | .3 | .3 | -.7 | .1 | -.3 |

* = television/videos/music

The results of the χ^2 test for association also revealed evidence of an association between the variable *parent report of grades* and the homework activity within the center care arrangement which was statistically significant $\chi^2 (1, N = 4434) = 31.45, p = .001$. Fewer than expected participants in the center care arrangement engaged in homework after school received A's (O = 149, E = 190.9, SR = -3.0) and more than expected received C's (O = 103, E = 70.9, SR = 3.8) and D's (O = 21, E = 13.5, SR = 2.0). This was also the case with outdoor sports $\chi^2 (1, N = 4434) = 12.67, p = .01$ where fewer than expected participants received A's (O = 82, E = 102.9, SR = -2.1) or B's (O = 82, E = 36.8102.9, SR = -2.1). These results are reported in Table 23.

The results of the χ^2 test for association revealed little evidence of an association between the variable *parent report of grades* and the after school activities within the non-relative care arrangement as only one association reached the criteria of SR>2.0. The computers activity had no observed participants. These results are reported in Table 24.

The results of the χ^2 test for association revealed evidence of an association between the variable *parent report of grades* and the homework activity within the parent care arrangement which was statistically significant $\chi^2 (1, N = 4434) = 72.59, p = .001$. More than expected participants in the parent care arrangement who engaged in homework after school received A's (O = 875, E = 767, SR = 3.9) and fewer than expected received C's (O = 208, E = 285, SR = -4.6) or D's (O = 37, E = 54.4, SR = -2.4). A similar statistically significant association was found for computers

Table 23

The Association between After School Activities and Parent Report of Grades within Center Care

| Parent Report of Grades | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T. V. * |
|-------------------------|----|-------------|-----------|-------------|-------------|----------------|---------------|---------|
| A | O | 149 | 33 | 78 | 4 | 82 | 54 | 23 |
| | E | 190.9 | 36.7 | 78.6 | 6.2 | 102.9 | 64.1 | 27.4 |
| | SR | -3.0 | -.6 | 0 | -.9 | -2.1 | -1.3 | -.8 |
| B | O | 153 | 29 | 67 | 9 | 82 | 56 | 25 |
| | E | 152.3 | 29.3 | 62.7 | 4.9 | 102.9 | 51.1 | 21.9 |
| | SR | .1 | 0 | .5 | 1.8 | -2.1 | .7 | .7 |
| C | O | 103 | 18 | 30 | 0 | 41 | 32 | 10 |
| | E | 70.9 | 13.6 | 29.2 | 2.3 | 38.3 | 23.8 | 10.2 |
| | SR | 3.8 | 1.2 | .1 | -1.5 | .4 | 1.7 | 0 |
| D | O | 21 | 3 | 0 | 0 | 5 | 2 | 2 |
| | E | 13.5 | 2.6 | 5.6 | .4 | 7.3 | 4.5 | 1.9 |
| | SR | 2.0 | .2 | -2.4 | -.7 | -.9 | -1.2 | 0 |
| F | O | 6 | 0 | 3 | 1 | 5 | 1 | 2 |
| | E | 4.4 | .8 | 1.8 | .1 | 2.4 | 1.5 | .6 |
| | SR | .8 | -.9 | .9 | 2.3 | 1.7 | -.4 | 1.7 |

* = television/videos/music

Table 24

The Association between After School Activities and Parent Report of Grades within Non-Relative Care

| Parent Report of Grades | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T.V.* |
|-------------------------|----|----------|-------------|-----|-------------|----------------|---------------|-------|
| A | O | 51 | 14 | 11 | 4 | 24 | 9 | 22 |
| | E | 53.5 | 11.5 | 7.5 | 3.5 | 22.5 | 12.4 | 24.3 |
| | SR | -.3 | .7 | 1.3 | .2 | .3 | -1.0 | -.5 |
| B | O | 52 | 11 | 4 | 2 | 17 | 13 | 21 |
| | E | 42.7 | 9.2 | 6.0 | 2.8 | 18 | 9.9 | 19.4 |
| | SR | 1.4 | .6 | -.8 | -.5 | -.2 | 1.0 | .4 |
| C | O | 15 | 0 | 2 | 2 | 8 | 4 | 8 |
| | E | 19.9 | 4.3 | 2.8 | 1.3 | 8.4 | 4.6 | 9.0 |
| | SR | -1.1 | -2.1 | -.5 | .6 | -.1 | -.3 | -.3 |
| D | O | 1 | 0 | 0 | 0 | 2 | 2 | 2 |
| | E | 3.8 | .8 | .5 | .3 | 1.6 | .9 | 1.7 |
| | SR | 1.4 | -.9 | -.7 | -.5 | .3 | 1.2 | .2 |
| F | O | 2 | 1 | 0 | 0 | 0 | 0 | 2 |
| | E | 1.2 | .3 | .2 | .1 | .5 | .3 | .6 |
| | SR | .7 | 1.4 | -.4 | -.3 | -.7 | -.5 | 1.9 |

* = television/videos/music

activity, $\chi^2 (1, N = 4434) = .37.35, p = .001$ where more than expected participants received A's (O = 277, E = 215.6, SR = 4.2) and fewer than expected received B's (O = 143, E = 172, SR = -2.2) or C's (O = 56, E = 80.1, SR = -2.7). Additional statistically significant associations were found with the art activity $\chi^2 (1, N = 4434) = .32.38, p = .001$ where more than expected participants received A's (O = 165, E = 125.1, SR = 3.6) and fewer than expected participants received C's (O = 20, E = 38.7, SR = -3.0). These results are reported in Table 25.

Data Trends

The χ^2_{Yates} test for association revealed the following trends in the data as it relates to the *student academic performance* variable: In every care arrangement, in nearly every activity category examined, the number of participants experiencing academic difficulty as determined by two components of the dependent variable *student academic performance* was more than expected with the exception of parent care. The χ^2 test for association revealed similar trends in the data as it relates to the parent report of grades component of the *student academic performance* variable engaged, participants in center care arrangements after school had more participants than expected experiencing academic difficulty. On the whole, the care arrangement that appeared to be positively associated with student academic performance was parent care. In nearly every activity within the parent care arrangement, fewer than expected participants experienced academic difficulties. In contrast to the positive relationships associated with the parent care arrangement, the center care arrangement had more than expected participants experiencing academic difficulty. Irrespective of the activity in which

Table 25

The Association between After School Activities and Parent Report of Grades within Parent Care

| Parent Report of Grades | | Homework | Computers | Art | Chores/work | Outdoor Sports | Indoor Sports | T.V.* |
|-------------------------|----|-------------|-------------|-------------|-------------|----------------|---------------|-------|
| A | O | 875 | 277 | 165 | 101 | 380 | 113 | 455 |
| | E | 767 | 215.6 | 125.1 | 115.8 | 376.4 | 126.4 | 464.3 |
| | SR | 3.9 | 4.2 | 3.6 | -1.4 | .2 | -1.2 | -.4 |
| B | O | 605 | 143 | 76 | 100 | 319 | 106 | 368 |
| | E | 611.9 | 172 | 91.3 | 92.4 | 300.3 | 100.8 | 370.5 |
| | SR | -.3 | -2.2 | -1.6 | .8 | 1.1 | .5 | -.1 |
| C | O | 208 | 56 | 20 | 51 | 130 | 53 | 191 |
| | E | 285 | 80.1 | 38.7 | 43 | 139.9 | 47.0 | 172.6 |
| | SR | -4.6 | -2.7 | -3.0 | 1.2 | -.8 | .9 | 1.4 |
| D | O | 37 | 10 | 2 | 7 | 15 | 12 | 24 |
| | E | 54.4 | 15.3 | 6.5 | 8.2 | 26.7 | 9.0 | 32.9 |
| | SR | -2.4 | -1.4 | -1.8 | -.4 | -2.3 | 1.0 | -1.6 |
| F | O | 11 | 2 | 1 | 3 | 8 | 2 | 13 |
| | E | 17.6 | 5.0 | 2.5 | 2.7 | 8.6 | 2.9 | 10.7 |
| | SR | -1.6 | -1.3 | -.9 | .2 | -.2 | -.5 | .7 |

* = television/videos/music

participants were engaged, participants in center care arrangements had more participants than expected experiencing academic difficulty.

The χ^2 test for association revealed similar trends in the data as it relates to the parent report of grades component of the *student academic performance* variable. As was the case with the findings from the χ^2_{Yates} tests for association, the parent care arrangement revealed fewer than expected participants experiencing academic difficulties than the other care arrangements.

The χ^2_{Yates} test for association revealed the following trends in the data as it relates to the *student academic misbehavior* variable: As was the trend in the relationships between the variables and the *student academic performance* variable, the parent care arrangement, in nearly every activity category examined, the number of participants exhibiting academic misbehavior difficulties as determined by the three components of the dependent variable *student academic misbehavior* was less than expected. Thus indicating that parent care after school does have a relationship with the occurrence of student academic misbehavior.

5. Discussion

Research has revealed, “As many as 14 million ‘latchkey children’ go to an empty house on any given afternoon” (NIOST, 2008). The hours between the end of the school day and the time when most parents arrive home can be the riskiest of a child’s day, most especially if the child is not supervised by a responsible adult (Riggs & Greenberg, 2004). This window of time has led to an increased need for after school care for children. During the 2008 Presidential Campaign, then candidate, Barrack Obama’s position on education reforms included addressing the needs of students after school, “Expanding access to high-quality after school programs will help children learn and strengthen a broad range of skills and provide relief to working parents who have to juggle child care and work responsibilities.” (Obama, 2007). Reviews of current research have revealed some areas of agreement as well as some areas of disagreement regarding the best use of children’s after school time (Coley et al. 2004; Fredericks & Eccles, 2008; Reisner et al. 2007; Zaff et al. 2003).

The purpose of the present study was to examine the types of settings in which students receive care after school and the activities in which students engage in these particular settings. Additionally, the present study also examined the type of setting and activity in which students engaged within that particular setting to determine if these variables made a difference in students’ academic performance and on students’

misbehavior in school. This chapter presents a discussion of the results of the analysis of the data from the ASPA-2005 and is divided into three sections. The first section presents a discussion the results of the χ^2 analyses as they relate to each research question and previous research discussed in the literature review. The second section provides a discussion of the implications of these findings for current educational policy. The third section presents a discussion of the limitations of the current study and recommendations for future research.

Overview of the significant findings of the study organized by research question:

In regard to the question: *does the type of after school child care arrangement (1. relative, 2. non-relative, 3. center, 4. parent or 5. self) make a difference in student academic performance and misbehavior?*, relationships were detected between the after school arrangement that students attended and that student's academic performance and misbehavior in school. The results of the present study revealed the parent care arrangement had a relationship with both *Student Academic Performance* variables: *everfailed* and *teacher call work*. Results from these analysis indicated that a fewer number of participants in the parent care setting than expected had either failed a grade in school or received a phone call from a teacher regarding their academic performance. None of the other after school care arrangements revealed evidence of an association between both *student academic performance* variables: *everfailed* and *teacher call work*. Although the absence of failure and phone calls from teachers regarding academic performance suggests a positive association with parent care after school that is not present in the other after school care settings, results from the third *Student Academic*

Performance variable parent report of grades did not affirm the parent care relationship. More middle school students than expected, in parent care after school, were reported by their parents as having failed a grade. Additionally, an analysis of students having either A or B grades did not reveal evidence of an association with parent care.

As discussed in the literature review, many researchers have examined the beneficial effects of structured after school activities and supervised care for both school age children and adolescents (e. g., Coley et al., 2004; Mahoney, 2000; Mahoney & Stattin, 2000; Sarampote et al., 2004). Based on the findings of these researchers, it may be expected that structured after school care in centers where program-based, structured, after school activities are offered would make a large difference in students' academic performance and behavior. For example, Birmingham et al. (2005) concluded that successful after school programs met regularly (3-4 times per week) and had a variety of activities for the participants to engage including homework assistance, project-based activities, arts and sports. However, those differences in academic performance or behavior that were not found in the present study is consistent with the first-year evaluation of the 21st Century Community Learning Centers (James-Burdumy et al. 2005) which found no statistical significance in the effects of after school programs on mathematical or reading achievement.

In the present study, the parent care arrangement had statistical evidence of an association between two of the three *Student Academic Misbehavior* variables: *in school suspension*, *out of school suspension* and *teacher call behavior*. Results from these analysis indicated that a lower number of participants in the parent care setting than

expected received an out of school suspension or received a phone call from a teacher regarding their behavior in school. Mahoney and Stattin (2000) found that a higher number of participants involved in unstructured activities reported poor school performance, reported being apprehended by the police, and reported staying out on the town at night. The results of another study showed that individuals who become involved in school extracurricular activities are less likely to drop out of school or engage in criminal behavior as young adults as compared to similar persons who were not involved in extracurricular, after school activities (Mahoney, 2000). Although the results of the present study of parent care and *in school suspension* data analysis did not reach the level of statistical significance, it did suggest that fewer participants than expected in the parent care arrangement received in school suspensions. Coley et al.(2004) found that out of home, unsupervised care arrangements are related to heightened trajectories of problem behaviors, particularly alcohol and drug use and school misconduct. Adolescents who were already exhibiting high rates of behavior problems were found to be more susceptible to the negative influences of out-of home, unsupervised care, as compared to those receiving in-home care or care in a structured environment; this was especially significant in levels of drug and alcohol use. Additionally, adolescents from more disadvantaged families were more likely to experience a primary care arrangement that is both out of their own home and removed from adult supervision. Coley et al. (2004) concluded that out-of-school care arrangements play an important role in predicting behavioral trajectories for early adolescents.

In the present study, analysis of the data for participants in multiple care arrangements after school also revealed a pattern of statistical evidence of an association between both *Student Academic Performance* variables: *everfailed* and *teacher call work*. More participants than expected were reported to have either failed a grade in school or received a phone call from a teacher regarding their academic performance. The multiple care arrangement also had statistical evidence of an association between one of the three *Student Academic Misbehavior* variables: *in school suspension*, *out of school suspension* and *teacher call behavior*. Results from these analysis indicated that a larger number of participants in the multiple care setting than expected had received an out of school suspension. Although the results of the association between multiple care arrangement, *in school suspension*, and the *teacher call behavior* data analysis did not reach the level of statistical significance, it did suggest that more participants than expected in the multiple care arrangement received in school suspensions or phone calls home regarding misbehavior. Aizer (2004) found that the probability of a child engaging in antisocial behavior decreases significantly if the child is supervised by an adult. This conclusion is supported by Sarampote et al. (2004) who concluded that close parental monitoring can lessen the potential for risk. Jenner and Jenner (2007) found that even moderate participation in the 21st CCLC program had an impact on academic achievement. Participants experienced positive and statistically significant impacts in language, reading and social studies as measured by the ITBS. This finding is consistent with Posner and Lowe-Vandell (1999), Fredericks and Eccles (2006a) and Mahoney et al. (2003). Based on the findings of this previous research, I hypothesized that students in the present study

in multiple care arrangements do not have the benefit of consistent structure and close monitoring that a daily routine by the same individual would offer. Therefore, in regards to research question one, although the students in multiple care arrangements are engaged, there is increased opportunity in the multiple care arrangement for the adolescent to circumvent adult monitoring.

Coley et al.(2004) found that out of home, unsupervised care arrangements are related to heightened trajectories of problem behaviors, particularly alcohol and drug use and school misconduct. In the present study, I hypothesized that the after-care arrangement with the highest amount of difference on student academic performance and misbehavior would be the self care group, followed in decreasing amount of difference by relative care, non-relative care, parent care and center care. As previously discussed, analysis of the data revealed the parent care arrangement to have the most positive relationship with student academic performance and misbehavior. Evidence supporting the ranking of the other care arrangements was not conclusive and therefore not determined by the present study. An overview of current research regarding student participation in after school activities and academic performance appears to suggest a positive relationship between after school activity participation and academic performance.

In regards to the second research question: *Does the type of activity students engage in (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music) during after school child care arrangements make a difference in student academic performance and misbehavior?*, relationships were

detected between the activities that students engaged in after school and that student's academic performance and misbehavior in school.

In the present study, I hypothesized that the type of activity in which the student engaged during their after school activity would show a difference on that student's academic performance and misbehavior in school; I hypothesized that homework/school-related activities would have the largest amount of difference on student academic performance and misbehavior. These hypotheses were confirmed by the present study.

The homework activity had statistical evidence of an association between one of the two *Student Academic Performance* variables: *teacher call work*. Results from the current study's analysis indicated that a fewer number of participants than expected engaged in homework activities had received a phone call from a teacher regarding their academic performance. This finding is consistent with Cosdan et al. (2001) who found an association between after school homework assistance programs and student academic performance. In the present study, this pattern of association was also present for the homework activity between two of the three *Student Academic Misbehavior* variables: *in school suspension*, *out of school suspension* and *teacher call behavior*. Results from this analysis indicated that a fewer number of participants than expected engaged in homework activities after school had received an in school suspension or an out of school suspension. Although the results of the homework activity and *teacher call behavior* data analysis did not reach the level of statistical significance, it did suggest that fewer participants than expected engaged in homework after school received phone calls from school regarding misbehavior. Cosdan et al. (2001) noted that the content of the

homework must be appropriate to the ability level of the students if it is to be of any benefit to the student. This suggests that if students are assigned and are able to successfully complete meaningful homework (as opposed to busy work) they will benefit academically from the exposure to the material. However, if a student is not experiencing success with homework, feelings of self doubt may arise and this may hinder the adolescent in making connections and seeking help or clarification from others on the assignment.

In the present study, a similar pattern of association was also found with the art activity. The art activity had statistical evidence of an association between two of the *Student Academic Performance* variables: *teacher call work* and *parent report of grades*. Results from these analysis indicated that a fewer number of participants than expected engaged in art activities received a phone call from a teacher regarding their academic performance. In addition, students engaged in art activities after school were reported to have earned more A's and fewer C's and D's than expected

This pattern of association was also present for the art activity between two of the three *Student Academic Misbehavior* variables: *in school suspension*, *out of school suspension* and *teacher call behavior*. Results from these analysis indicated that a fewer number of participants than expected that engaged in art activities after school had received an in school suspension or a phone call from school regarding misbehavior.

A less ideal association was found between the chores/work activity and *Student Academic Performance* variable *everfailed*. More participants than expected who reported engaging in chores/work activities after school also reported having failed a

grade in school. Participants engaged in chores/work also reported having earned fewer A's than expected and more C's than expected. Additionally, more participants than expected who reported engaging in chores/work activities had received an in school suspension.

With regards to the third research question, *within the specific setting (relative, non-relative, center, parent or self), which of these activities (homework/school-related, computers, art, chores/work, outdoor play/sports, indoor play/sports, television/videos/music) make a difference in student academic performance?*, significant differences were detected between some of the variables. The parent care arrangement, which had shown some positive associations in the previous analysis of research questions one and two, also revealed positive associations in this analysis. The parent care arrangement had fewer participants experiencing academic or behavioral difficulties as compared to the other care arrangements. In stark contrast to the parent care arrangement's positive associations with academic performance and misbehavior, the center care arrangement had a greater number of participants than expected experiencing both academic and behavioral difficulties. These findings are supported by Scott-Little et al. (2002) who found that participants in after school programs scored higher on standardized measures of academic achievement, on non-standardized measures of academic-related performance indicators and on measures of social-emotional functioning. However, the researchers found that after school programs do not have the same outcomes for all participants; positive academic outcomes were associated with participation in after school programs for early elementary school children, but not for

older children. According to Scott-Little et al., “The emerging pattern seems to suggest that fifth and sixth graders do not show the same gains as younger children enrolled in after school programs” (2002, p. 410). As the present study’s participants were sixth, seventh and eighth graders, the findings of the Scott-Little et al. (2002) study suggest that middle school students do not benefit from center care. Although reasons for this decline in benefit to the center care participants in middle school are not clear, middle school lack of enthusiasm for a program that they perceive as intended for younger children may be a factor. Additionally, the academic problems that middle school students experience may exceed the skill level of most center care staff members.

An over-all pattern in the present study’s data appears to suggest that the parent care arrangement does have a relationship with lower incidents of student misbehavior. A relationship between parent care and higher levels of academic performance is also suggested by the data in the present study. Furthermore, the homework and art activities were associated with the adolescent’s academic performance and misbehavior .

Policy Implications

Education policy, conceived with the noble intentions of improving education, boosting students’ achievement and making education meet the needs of all students, attempts to ensure that every student is afforded the opportunity to achieve the American dream of receiving an education. At present, the federal government funds a variety of after school child care programs such as The Child Care and Development Fund and The 21st Century Community Learning Centers. These after school care programs are usually in centers or school-based settings outside the home and do not include or involve the

parents. On the basis of the findings of the current study which implies that after school care supervised by the parent has a positive relationship with academic performance and misbehavior at school, the federal government's policy implications for after school care should be expanded to include parental involvement. The inclusion of direct parental involvement in after school care could be achieved through a wide range of federal government policies.

Government policy which supports the flexibility of working hours for parents would be a first step in facilitating parents being home during the critical after school hours. Currently, most parents' working hours do not permit their being home during after school hours. Options such as flexible working hours, working from home or a compressed work week are currently available in a limited number of businesses; however, in most cases these types of work options are believed to hinder job advancement and most employees are therefore reluctant to pursue these job options. This reluctance is especially significant to the single, employed mothers who represent 54% of the workforce population, as the sole source of income for the family; these women would be even more reluctant to jeopardize their employment (U. S. Department of Labor, 2007). Government policy which promotes these job options through tax incentives for both businesses and working parents could open the door for parents to spend more time with their children after school. Presently, the Family Medical Leave Act (FMLA) provides certain employees with up to 12 weeks of unpaid, job-protected leave per year. It also requires that their group health benefits be maintained during the leave. FMLA applies to all public agencies, all public and private elementary and

secondary schools, and companies with 50 or more employees. Leave may be taken for the following reasons, birth or adoption of a child, care of an immediate family member with a serious health condition, or if the employees is unable to work due to a serious medical condition (U.S. Department of Labor, Wage and Hour Division, 1993). Further modifications to the current FMLA could further facilitate parents' options for taking leave from work for after school child care without jeopardizing their job security.

Although one government policy may not work for every household with working parents and children needing care after school, a wide range of options and opportunities for parents to care for their children after school would be recommended by the results of the present study. Therefore, in addition to policy, grants for research which further investigate the optimal after school care arrangement and flexible work options for parents would be needed to ensure that children were being afforded the optimal environment to achieve the American dream of receiving an education.

Limitations of the study

One major limitation of this study is that the data are limited to the questions posed in the ASPA-2005 of 2005. Although additional questions arose during the course of this study, these questions were not able to be explored. For example, further investigation of students in multiple care arrangements was not possible given the arrangement of the data in this study and left many questions regarding these participants unanswered. Future studies which investigate middle school students in multiple care arrangements would be worthwhile. In addition, the data required an extensive amount of recoding to put it in a

form where analysis was possible. This recoding was labor intensive and cumbersome to speedy data analysis.

Students after school are engaged in a wide range of activities; students in the data set examined are always engaged in some manner during their after school time. Therefore, it is difficult to identify specific activities and pursuits which have an impact on student academic performance and misbehavior as identifying a control group is virtually impossible. Bartko and Eccles (2003) examined the activity involvement of adolescents, however included in the data were adolescents who were not involved and after school activities. This study did not examine uninvolved middle school students and this omission of a control population is a limitation of the study.

Another limitation noted during the course of this study was the reliability of the data; the data are based on the reports of the participant's parent and are not independently verified. Given that the telephone interviews required parents to reveal their children's academic and behavior difficulties, many parents may be embarrassed and choose not to admit that their child has experienced academic or behavioral difficulties. Other parents may have unintentionally forgotten to report an incident of importance to the researchers. Several of the studies examined for the current study's literature review examined the school records of participants to determine academic performance as determined by grades and standardized tests as well as incidents of academic misbehavior. Additionally, Mahoney and Stattin (2000) examined yearbook photos to determine participation in after school activities, although this form of data verification may seem unreliable in isolation, coupled with parental reports, it offers

another source to verify the information provided. Other sources of information, besides data collected through surveys would be recommended data sources for future research.

Recommendations for Future Research

The body of research on after school activity participation and adolescent development appears to indicate a positive relationship; however, additional research is needed to further investigate this relationship as the bulk of the research is focused on high school-aged adolescents and excludes middle school students. Furthermore, there appears to be a hint of bias in the literature regarding adolescents from low socio-economic backgrounds. There is the suggestion that after school activities provide not only academic support, but also that the after school activity provides emotional support and training which the adolescents' home is unable to provide. This assumption can lead to bias in the literature and needs to be examined further.

Intermingled with the selection of activities available for middle school students to participate in after school is the variable of choice. An crucial avenue for future studies to explore is the factor of participant choice in the selection of after school activities. Although some of the participants' choices may be limited by socio-economic status or geographical location, the element of adolescent choice is a variable that warrants further investigation through a qualitative or mixed methods study. Adolescents with a wider selection of activities to choose from may experience different outcomes as these adolescents are more likely to be fully engaged in the activity they selected. Adolescents with access to only one or two activities may be less engaged as opposed to those adolescents who were able to select an activity which matched their interests or

abilities. A mixed methods study which included a determination of the student's interests in relation to their after school activities would be advisable to answer this question.

As previously discussed in the limitations section, the present study relied upon parental reports of participant behavior without the benefit of independent verification of that information. Future studies would be advised to include independent verification of information provided by parents so that parents' intentional or unintentional inaccurate information can be corrected.

In addition, further analysis of students in multiple care arrangements to identify the positive and negative aspects of the multiple care arrangements is warranted. The present study categorized these individuals into one large group; however, further disaggregation of this data may reveal further trends in the data. Much of the current research regarding after school care is either narrow in scope, looking at one particular program or geographic area, or is rather broad, with broad criteria for care distinctions. Future research which encompasses a wide range of care arrangements and activity options in a large and diverse population is needed to fully and succinctly determine the optimal after school care arrangement for middle school students. Ideally, research in the area of after school care for middle school students will continue to provide meaningful information which will assist parents in selecting the best possible environments for their children after school.

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CURRICULUM VITAE

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