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THE LONGITUDINAL EFFECTS OF PARTICIPATION IN STRUCTURED
EXTRACURRICULAR ACTIVITIES ON EDUCATIONAL ACHIEVEMENT,
FUTURE EARNINGS, AND SYMPTOMS OF DEPRESSION WITH SCHOOL
BELONGINGNESS AS A MEDIATING VARIABLE IN A LOW-INCOME SAMPLE

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the College of Education at the University of Kentucky

By

Christina Stacy

Lexington, Kentucky

Director: H. Thompson Prout, Professor of School Psychology

Lexington, Kentucky

2015

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ABSTRACT OF DISSERTATION

THE LONGITUDINAL EFFECTS OF PARTICIPATION IN STRUCTURED EXTRACURRICULAR ACTIVITIES ON EDUCATIONAL ACHIEVEMENT, FUTURE EARNINGS, AND SYMPTOMS OF DEPRESSION WITH SCHOOL BELONGINGNESS AS A MEDIATING VARIABLE IN A LOW-INCOME SAMPLE

The purpose of this study was to examine the potential outcomes of participating in structured extracurricular activities (SEA) as an adolescent. Research has previously demonstrated that beneficial outcomes commonly associated with SEA participation include academic achievement and educational/career ambitions, positive social outcomes, and psychological well-being. It is thought that the benefits of SEA participation may be mediated by adolescents' feelings of school belongingness and positive relationships. By extension, school belongingness is a key contributor to engagement, academic achievement, positive social relationships, and mental well-being. Although the research is typically positive, one must be careful in overgeneralizing that increasing student participation in SEAs will facilitate these positive outcomes. This study sought to address SEA participation and the outcomes of students who were from a low socioeconomic background. Additionally, the study sought to determine what the long-term outcomes were for these same students once they achieved young adulthood.

The National Longitudinal Study of Adolescent to Adult Health Wave I and Wave IV was utilized for this study (Harris, et al. 2009). Three regression models were tested in two stages. In the first model, SEA participation and adolescent psychological well-being were used to predict adult psychological well-being. In the second stage, school belongingness was added to the model. School belongingness was considered to be a significant mediating variable if: (1) SEA participation and adolescent psychological well-being significantly predicted adult psychological well-being; and (2) the effect of adolescent psychological well-being and SEA participation was significantly diminished when school belongingness was added to the model.

Models two and three were similar in nature. In the second and third models, SEA participation and GPA were used to predict adult income and educational attainment. In the second stage of each model, school belongingness was added to GPA and SEA participation to predict educational attainment and adult income. School belongingness was considered to be a significant mediating variable if: (1) SEA participation and GPA significantly predicted educational attainment and adult income in

the first model; and (2) the effect of GPA and SEA participation was significantly diminished when school belongingness was added to the model.

KEYWORDS: Extracurricular Activities, Low-income, School Belongingness, Adulthood

Christina Stacy
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November 17, 2015

For my son, Connor Leith

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Chapter 1: Introduction and Literature Review

Often the adolescent age is considered to be a period of storm and stress with transitions from elementary to secondary schools, physical changes, and pressures at school, among others. Adolescence is a pivotal time yet often overlooked. With increased pressure in schools due to accountability testing and an emphasis on academic achievement, students may begin to feel an increased level of stress, as well as further alienated from being intrinsically motivated by their academics. Many students appear to be successful in various areas (e.g., academically, socially, and psychologically); however, there are those students who fall behind and become disconnected from their school, peers, and academics. Lan and Lantheir (2003) noted that the transition to high school is a critical but often neglected period for adolescents and suggested that interventions should be provided.

This study examined the relationship between students' psychological and psychoeducational well-being and their future educational attainment, adult income, and symptoms of depression in adulthood. This study considered these areas as they relate to participation in structured extracurricular activities (SEA) and school belongingness. Promoting secure relationships and building students' sense of school belongingness was reviewed as a vehicle for increasing student psychological well-being and psychoeducational success, which in turn is predicted to result in adult success as well.

Early School Leaving

Adolescents who elect to drop out of high school are at a distinct disadvantage when compared to peers who complete high school successfully. Often high school dropouts are ill-equipped to participate in today's workplace, as they lack basic skills and

credentials to attain jobs, which leads to a higher percentage being unemployed (National Center for Education Statistics, 2006). Even when the high school dropout population is successful at attaining jobs, they typically earn less than a high school graduate (McNeal, 1995). Furthermore, high school dropouts create an increased burden on society, as they are more likely to rely on social welfare programs for health care, housing, and employment (Finn, 1989). More recent information regarding outcomes for students who dropped out of high school revealed that although 63% of the students who dropped out earned their GED or high school diploma within eight years of the planned year of graduation, they continued to lack the minimum skills necessary to achieve success. Additionally, they were more likely to require government assistance, live in poverty, and be involved in criminal activities (Child Trends Databank, 2003).

Differences exist among students who dropout with regard to gender, racial background, and socioeconomic status (Laird, Cataldi, KewalRamani, & Chapman, 2008). Students who dropped out of school were more likely to be male (56%), from a low socioeconomic background (9%), and overage for their grade (59%). Dropping out of high school is associated with other student characteristics as well: many unexcused absences, little structured extracurricular involvement, and having negative social interactions with peers (Kemp, 2006). Suh and Suh (2007) report poor academic achievement appears to be a significant predictor of dropout, but also noted the influence of low socioeconomic status and demonstrating behavioral problems. Furthermore, they found a positive relationship between the likelihood of dropout and the number of risk factors a student accumulates over the years. In a qualitative study (Lee & Breen, 2007), students shared school experiences that led to high school dropout. Two types of

exclusion from the school encouraged dropout: explicit (e.g., being told it would be best to get a job because passing coursework was unlikely) and implicit (e.g., bullying and gossip). Students also reported being disconnected from the school environment due to the largeness of classes, lack of activities within lessons, and not being one of the teachers' favorite students. Finally, Lan and Lantheir (2003) reported that students who failed to complete high school reported poor relationships with teachers, poor perceptions of school, and a lack of participation in school activities.

While the preceding characteristics are associated with students who drop out of high school, Finn (1989) posited that disengagement, and ultimately dropping out of high school, is a progressive process, which begins when students first enter the formal education arena. Some students begin the educational experience without the encouragement at home and are not easily engaged by early classroom activities. These students may then display negative behaviors in the classroom (e.g., being inattentive, noncompliant, or restless) and remain withdrawn. As this cycle continues, the student's behavior may become more negative over time (e.g., skipping) which often leads to continued failure and a feeling of being rejected by the school. As the process of withdrawing from school is often begun in the very beginning of the student's education, the actual act of dropping out is a small step. Although once students enter high school it is impossible to change past school experiences, it does not negate the importance of intervening to encourage greater engagement at the school level—both in the classroom but also in assisting in the formation of positive relationships with peers and teachers.

Engagement and Motivation

Engagement is viewed as an important component of the school experience because it has been shown to be positively related to students' academic performance (Fredericks et al., 2004), school attendance, and the inhibition of risky behaviors (Board on Children, Youth, and Families [BOCYF], 2003). In the past, researchers investigated pieces of overall engagement (behavioral, affective, and cognitive) but failed to recognize the interplay among the various dimensions. Regarding the behavioral aspect of engagement, behaviors consistent with engagement include being involved with school-related tasks, participation in extracurricular activities, and positive behaviors. Some have noted that these behaviors are on a spectrum and include behaviors such as arriving on time to class versus being tardy or completing assignments or not. (Archambault et al., 2009). The affective dimension includes a student's perceptions of school. More specifically the affective dimension considers whether a student feels a sense of belongingness to his/her school, values the school's benefits, and perceives the utility of the school. Finally, the cognitive aspect refers to the student's use of strategies to self-regulate, as well as the investment in learning (Fredericks, Blumenfeld, and Paris, 2004). Fredericks, et al. advanced a definition of engagement, which considers all three aspects simultaneously and is the generally accepted definition in recent literature (Archambault, Janosz, Fallu, & Pagani, 2009; Yonezawa et al. 2009).

Although motivation to be actively engaged is essential to learning, research has demonstrated a decline in the levels of engagement of adolescents (BOCYF, 2003). Intrinsic motivation, or the motivation to complete a task simply because it creates a sense of internal satisfaction, has been shown to be related to cognitive engagement (i.e.,

the degree to which individuals employ strategies to solve problems or complete tasks) (Walker, Greene, & Mansell, 2006). Unfortunately, research has also documented that as a whole, high school adolescents report significant declines in intrinsic motivation as they perceive school to be less interesting, useful, and important to their immediate needs (Anderman & Maehr, 1994; Roeser, Eccles, & Sameroff, 1998). In a study of amotivation, researchers determined that students who have a lack of academic values and low-ability beliefs were more likely to demonstrate problem behaviors at school, participate in academic misconduct, and express an intention to drop out of high school (Legault, et al., 2006).

Deci and Ryan's Self-Determination Theory (SDT) has recently served as one prominent lens to understand the importance of motivation and engagement at school (Deci, Vallerand, Pelletier, & Ryan, 1991; Deci & Ryan, 2000). Three particular constructs are emphasized in SDT: autonomy (possessing a sense of being self-initiated), competency (feeling capable to complete specific tasks), and relatedness (feelings of attachment, sense of belonging, and security in relationships) (Deci et al., 1991; Ryan & Deci, 2000a; Urdan & Schoenfelder, 2006). While all three constructs are important and much research has documented the importance of choice and self-efficacy in adolescents' motivation to complete tasks, Deci and Ryan (2000b) contended that the most likely motivator for task completion is feeling a connection with the individual who made the assignment or request. Thus, indicating that students who perceive a positive relationship with their teachers, or feel connected to the teachers and staff at school, are more likely to remain motivated/ engaged. Research has documented that students who believe their teachers think they are competent and have the ability to exert enough effort to complete

the task, are more likely to actively participate at school (Legault, Green-DeMers, & Pelletier, 2006). Therefore, it seems that a student's perceptions of his/her teacher's thoughts about them, influences his/her competency beliefs. One might infer that a student who has positive perceptions regarding his/her teacher's beliefs, may share a positive relationship with the teacher. Following this inference might suggest that improving student-teacher relationships is a good starting point for reengaging students in the academic domain. Tasks which an individual is required to complete can become internalized, or a personal goal, when an individual feels s/he shares a relationship with the person assigning the task. Understanding that relatedness contributes to the individual feeling personally, or internally, motivated to complete tasks assists in explaining why tasks that are not initially intrinsically rewarding can become personal goals (Deci, Egharari, Patrick, & Leone, 1994). This understanding can then be applied to the classroom setting; when these social-contextual factors are incorporated, personal motivation should be facilitated (Ryan & Deci, 2000). Therefore, it follows that when personal motivation is increased, the student should be less likely to become disengaged with the school experience and successfully complete school.

As engagement and/or motivation is crucial to the success of adolescents in high school, it is important to generate methods of improving students' engagement in the school experience. Promoting relationships with peers and faculty is considered the first step towards enhancing the quality of academic life among students; this appears particularly important as student school satisfaction is affected by his/her perception of student-teacher relationships and school connectedness, among other items as well (Zullig, Huebner, & Patton, 2011).

The Importance of School Belongingness

The importance of relationships for individuals is not a new concept. In fact, Baumeister and Leary (1995) noted that having stable, long-lasting relationships is a basic need of all humans—akin to food and water. Lerner (2002) posited that the relationships adolescents have with various individuals (e.g., parents, teachers, peers, etc.) and institutions (e.g., school) influence the developmental trajectories of adolescents. Ostracism is the opposite of feeling a sense of relatedness, and much research in the area of ostracism indicates that even in contrived situations, individuals experience significant distress when ostracized. Brief ostracism has been shown to cause pain and distress, resulting in sadness and anger (Williams, 2007). Research also suggests that individuals' long-term reactions to being ostracized may lead to a number of maladaptive outcomes, including anxiety and loneliness (Goldschmidt & Wang, 1999). When the need to belong is not satisfied, individuals may show signs of maladjustment or stress. For adolescents, a lack of relationships can lead to feelings of alienation and has been associated with violence, membership in gangs, school failure, and school dropout (Brown, Higgins, Pierce, Hong, & Thomas, 2003).

Although data supporting the contention that belongingness is a key component to academic success is relatively new, Roeser, Eccles, and Sameroff (1998) found that students who incorporated the values of the school, which produced a good fit between the student and school (e.g., school belongingness), experienced less stress over time. Furthermore, a relationship between academic achievement and feeling supported and respected by teachers was demonstrated. Finally, students who were well-adjusted both

emotionally and academically reported that their teachers were more supportive, were positive in their interactions with students, and treated the students with respect (1998).

In a recent study using a large sample of high school students, Zimmer-Gembeck et al. (2006) found that school fit (e.g., the sense of relatedness the student feels to the school) partially mediated the relationship between teacher-student relationships and engagement (e.g., student's perception of his/her effort, persistence and attention at school), indicating that belongingness is a key factor in understanding students' engagement at school. The researchers concluded that students who have their needs met at school are more likely to be actively engaged with class work, which in turn leads to increased academic achievement and promotes a sense of well-being.

In a study of more than 5,000 students in high school, Faircloth and Hamm (2005) found that students' perceptions of belonging mediated the relationship between students' academic success and their motivation (e.g., his/her efficacy beliefs and valuing of school), indicating that belonging remains a key factor in motivating school success for students. Similar findings were reported by Nelson and DeBacker (2008) as adolescents reported greater self-efficacy and mastery goals when they believed they were valued and respected members of the classroom. Furthermore, student and teacher reports indicated that students who demonstrated greater emotional and behavioral engagement also reported a greater sense of relatedness (Furrer & Skinner, 2003). In a comprehensive review of the research on students' relationships with peers and teachers, Osterman (2000) also reported a robust relationship between relatedness and school engagement. The research indicated that students' relationships with those in their academic

environment play a significant role in their academic achievement, suggesting that it is imperative that schools develop methods of improving school relatedness.

As this review has documented, it has been established that relationships appear to play an important role in school belonging (Roeser, Eccles, & Sameroff, 1998), and by extension, a key contributor to engagement, academic achievement, positive social relationships, and mental well-being (Roeser, Midgley, & Urdan, 1996; Zimmer-Gembeck, et al., 2006). Research has documented that fostering mentoring relationships with positive adults and engaging students in supervised activities with peers can increase students' feelings of belongingness at school, as the following literature review will demonstrate.

Factors that promote belongingness.

The role of peers. Positive peer relationships are important in establishing and maintaining motivation, as peer acceptance and relationships with high-achieving friends have been shown to increase positive academic outcomes (Wentzel & Watkins, 2002; Altermatt & Pomerantz, 2005). Specifically, Altermatt and Pomerantz (2005) conducted a study to examine the impact of having relationships with peers who performed well in the classroom. The researchers found that there were beneficial academic outcomes for students who were already performing well, as well as students who were low-achieving (2005). Additionally, in a correlational study of middle school students, Wentzel and McNamara (1999) found that positive peer acceptance was a predictor for prosocial behavior, indicating that adolescents have the opportunity to learn appropriate social skills from peer interactions. The study also revealed that emotional distress was negatively correlated with peer acceptance, indicating the importance of peer acceptance.

Finally, Gillison et al. (2008) examined the quality of life of students transitioning from elementary school to secondary school. Specifically, the researchers focused on the three components of SDT to determine those that affected the students' quality of life during the first ten weeks of school. Autonomy and relatedness to peers were found to be significant factors in promoting a positive transitional experience (Gillison, Standage, & Skevington, 2008).

The importance of relationships with peers has been repeatedly supported in the research regarding structured extracurricular activities (SEAs). For example, SEA involvement was found to be positively related to school engagement (Fredericks & Eccles, 2005) and to promote relationships with peers who valued academics and prosocial behavior (Barber & Eccles, 2005). Negative behaviors often associated with adolescents who do not participate in SEAs and instead participate in unstructured activities include behaviors that are similar to students who do not feel a sense of belongingness (i.e., membership in gangs, school failure, and school dropout) (Roesser, Lord, & Eccles, 1994).

Promoting relationships with supportive adults. While fostering peer relationships appears to have positive outcomes for students, mentoring relationships have also been shown to be related to the health and well-being of adolescents (DuBois & Silverthorn, 2005). Specifically, the mentoring research reviewed for this paper revealed three broad categories of beneficial outcomes of mentoring: increased academic achievement, a reduction in negative school behaviors, and a greater sense of school belongingness. Regarding the students' academic achievement, research has documented a significant, positive relationship between significant adults' openly valuing academics and the

motivation a student has to succeed (Legault, Green-DeMers, & Pelletier, 2006).

Furthermore, perceived social support of the student within the academic domain was a key predictor of the student's level of motivation (Legault et al., 2006; Ryan, Stiller, & Lynch, 1994). Similarly, Wentzel (1998) reported that perceived teacher support was a significant predictor of class interest, school interest, and goal pursuit, indicating that the relationship between teachers and students is significant for young adolescents.

Regarding the reduction in negative school behaviors, it was found that students considered at-risk of disengagement and/or dropout who participated in a school-based mentoring program had a reduction in office referrals, an improvement in school attitude (Converse, & Lignugaris-Kraft 2009), and higher perceived teacher support (Holt, Bry, & Johnson, 2008). Further, being involved in a mentoring relationship was associated with fewer absences, higher educational expectations, and a greater sense of school belonging (Sánchez, Esparza, & Colòn, 2008).

Gilligan (1999) hypothesized that mentors can foster the development of the adolescent, as well as encourage a positive well-being. In a study of high school students' relationships with supportive parents and teachers, Ryan, Stiller, and Lynch (1994) found that students who felt secure in these relationships and emulated their teachers reported more positive attitudes and motivation in school. In examining the relationship between the teachers and students, the researchers found that students who perceived a positive relationship with the teachers reported that the tasks in class seemed more interesting and they felt more comfortable in the classroom (2003).

In summary, research has demonstrated that positive peer relationships are important in establishing and maintaining motivation, as peer acceptance and

relationships with high-achieving friends have been shown to increase positive academic outcomes (Wentzel & Watkins, 2002; Altermatt & Pomerantz, 2005). Furthermore, intervention research regarding mentoring relationships has revealed positive results including increased engagement at school (Furrer & Skinner, 2003), decreased number of office referrals (Converse & Lignugaris-Kraft, 2009), higher perceived teacher support (Holt, Bry, & Johnson, 2008), and increased positive behavior (Ryan et al., 1994). Therefore, for students who are experiencing difficulties at school, it seems imperative to engage them in a positive relationship with faculty at school, as well as ensure their participation in school activities with peers. SEA participation is one vehicle for promoting relationships with peers and supportive adults.

Structured Extracurricular Activities

Previous research has documented the relationship between participation in unstructured activities and low school achievement, as a large number of adolescents who are less engaged with the school are also involved in unstructured and delinquent activities (Roesser, Lord, & Eccles, 1994). Yet ongoing empirical research suggests that participation in extracurricular activities is related to a variety of positive academic outcomes (Holloway, 1999). One method of increasing school engagement of adolescents is to promote involvement in *structured* extracurricular activities (SEAs), as opposed to activities with little adult supervision. SEAs differ from unstructured activities in that they must adhere to specific guidelines. These activities are typically a) voluntary, not mandated, b) supervised by a competent adult, c) purposeful and emphasize skill building, and d) long-term in duration (Larson, 2000).

Past (Finn, 1989) and more contemporary reviews (e.g., Gilman, Meyers, & Perez, 2004) discuss a number of studies that document the significant and positive correlation between total extracurricular activity participation and academic achievement, as well as several other related academic outcomes (i.e., academic self-concept, taking advanced courses, and educational aspirations). Furthermore, participation in school activities fosters positive relationships with peers and supportive adults, which increase students' sense of belongingness. The following paragraphs will provide a brief review of some of the current research specifically regarding the relationship between SEA participation and a variety of indicators including academic achievement and educational/career ambitions, positive and negative social outcomes, and mental/psychological well-being.

Psychoeducational Outcomes.

Although early hypotheses (Coleman, 1959) believed that SEA participation negatively affected the academic achievement of students (because participation in such activities subtracted more time from their academic pursuits), ongoing empirical research suggests that participation in extracurricular activities supports positive academic outcomes (Holloway, 1999). For example, a study comparing student athletes' performance in season and out of season reported that the students' in-season GPAs were significantly higher than their out of season GPAs (Silliker, & Quirk, 1997). Further, among a sample of 10th and 12th grade students, Guest and Schnieder (2003) reported a significant relationship between participating in activities such as student government or journalism and academic achievement (based on self-reported GPA).

Recently, Beal and Crockett (2010) conducted a longitudinal research project regarding students' future career aspirations, educational attainment, and SEA participation. Their research demonstrated that the relationship of future ambitions and educational achievement was positive, as well as mediated by the individual's participation in SEAs. Fredericks and Eccles (2010) also reported support of participation in SEAs being predictive of academic adjustment, as well as academic achievement in three areas—grades, educational expectations, and educational status.

While not a direct measure of student academic achievement, teachers' expectations of students' academic success also appears to be related to SEA participation. For example, one study found that teachers perceived students who participated in SEAs as attaining greater academic success, demonstrating higher graduation rates, and successfully graduating from college when compared to students who worked after school or who did not participate in SEAs (Van Matre, Valentine, & Cooper, 2000). Such findings suggest that SEA participation may garner indirect benefits, including positive perceptions (and relationships) with teacher personnel (Broh, 2002). Another indirect benefit of SEA participation appears to be that students participating in SEAs have higher college expectations than students who report watching television and simply hanging out with friends (Dumais, 2009). Further, Gilman (2001) found that students who participated in SEAs reported higher levels of school satisfaction than students with very little participation in SEAs. This finding suggests that SEA participation has the potential to increase the students' positive perceptions of their school experiences.

SEA participation appears to serve as a protective factor against school drop out, especially among students most at-risk. For example, Mahoney (1997) reported that students who dropped out of high school participated in significantly fewer extracurricular activities. Further, McNeal (1995) reported significant associations between prevention of high school dropout and a variety of SEA activities, including vocational (i.e., Future Homemakers of America, Future Business Leaders of America, etc.), athletics, and academic activities (i.e., debate, drama, and academic subject clubs). Psychological Well-being.

Studies also indicate that there is a positive relationship between SEA participation and components of positive psychological variables, including academic self-concept (Marsh, 1992) and self-esteem (Tracy & Erkut, 2002). For example, Barber, Eccles, and Stone (2001) reported that participation in SEAs predicted higher levels of self-esteem and less social isolation eight years after baseline responses were obtained. This research has continued to be supported with new studies, as Blomfield and Barber (2009) conducted a study with students in Australia and found that overall, students who participated in SEAs reported higher levels of social self-concept, academic self-concept, and general self-worth. Additionally, students who were involved in SEAs that particularly included supportive relationships with activity leaders experienced lower levels of depression (Mahoney & Schweder, 2002). Longitudinal research revealed that participation in SEAs during the 11th grade predicted less problematic internalizing and externalizing behavior, as well as less alcohol and marijuana use (Fredericks & Eccles, 2010). Dodge and Lambert (2009) examined the predictive nature of sports participation during adolescence on subjective health and participation in physical activity in

adulthood. Based on their research, the authors hypothesized that the psychological support adolescents may receive as participants in sports activities may explain the beneficial outcomes in young adulthood.

Within the National Longitudinal Study of Adolescent to Adult Health literature (ADD Health), researchers determined that as an individual's participation in sports increased, their reported feelings of depression and suicidal ideation decreased, and self-esteem and social support mediated this relationship (Babiss & Gangwisch, 2009). Mata et al. (2012) also examined SEA participation and suicidal ideation and found that school belongingness mediated the relationship, as students participating in SEAs, who also reported higher levels of school belongingness, were less likely to report thoughts of suicide. In a hierarchical growth curve model examining the effects of age and SEA participation on self-esteem over time, it was found that the type of SEA participation impacted initial levels of self-esteem and the growth of self-esteem (Kort-Butler & Hagewen, 2011).

Tracy and Erkut (2007) conducted additional, more specific research that addressed the potential for sports activity to prevent or reduce risky sexual behavior in young women. They found that sports participation was related to the delay of, or prevention of, risky sexual behaviors. However, the authors posited that the young women may have reduced engagement in risky sexual behaviors for a variety of reasons. One explanation is that the young women are more aware of the effect of their actions on their physical well-being. More simply, it was hypothesized that sports participation and engagement in risky sexual behaviors may tend towards mutual exclusion, as the young women may not have the time to participate in both.

Research has also demonstrated a relationship between psychosocial development and SEA participation. Markstrom et al. (2005) investigated the relationship between several facets of ego development and SEA participation and found a positive relationship. Specifically, participation in sports, student government, issue groups, and volunteer activities was related to hope, will, competence, purpose, and wisdom. Harrison and Narayan (2003) found that students who participated in extracurricular activities were more likely to have a positive attitude towards themselves, their peers, teacher, and family and less likely to engage in fights, early sexual activity, or substance abuse. Another study found that extracurricular participation is related to adolescent adjustment (attitude towards grades and academics, substance abuse, and academic aspirations) (Darling et al., 2005). More recent research has also demonstrated a positive correlation with future civic engagement when adolescents participated in a variety of SEA's (Fredericks & Eccles, 2010).

Although it is generally accepted that SEA participation is related to positive outcomes for adolescents both in the short-term and later young adult outcomes, the research is largely correlational in nature and may be reliant on self-selection bias, socioeconomic status, size of the school, or previous success in school. Regarding the self-selection bias, one study reported that higher levels of sports participation were associated with an increase in delinquent activities. However, they considered that there may be a self-selection bias, and they found that parental influence explained differing levels of delinquency (Kelley & Sokol-Katz, 2011). Yet another study examined the common characteristics associated with various levels of participation. The authors found that students considered to be non-participants differed from their counterparts as

they were typically attending larger schools, from a lower socioeconomic status, and reported lower grades.

Regarding disadvantaged youth, one study examined the level SEA participation among urban, low-income youth during the transition to middle school. The researchers found that a large percentage of youth were minimally involved in SEAs and participation varied over time. More importantly they found that participation in various activities appeared to be differentially associated with course performance. Within their study, adolescents who participated frequently in community or athletic settings were more successful in the academic setting, as opposed to participation in religious activities (Schwartz, Cappella, & Seidman, 2015). Crosnoe, Smith, and Leventhal (2015) also found that youth from low-income youth benefited from participation in SEAs as they demonstrated higher grades when transitioning from middle school to high school.

Further, researchers discovered that Hispanic youth were less likely to participate in school-based activities (Feldman & Matjasko, 2007). In a meta-analytic review of protective factors for African-American and Hispanic youth at-risk of developing depression, researchers found that SEA participation, among other factors, was supported as a protective mechanism (Scott, Wallander, & Cameron, 2015). Additionally, research has been conducted to examine the effect of participation on immigrant youth, and the research revealed that it is not always beneficial for immigrant youth to participate. However, the more traditional positive outcomes held true for immigrant youth when they attended higher SES schools that were racially diverse (Okamoto et al., 2013), indicating a need to examine the predictive validity of participation in SEAs for youth who are from disadvantaged backgrounds (i.e., lower socioeconomic backgrounds).

Camacho (2015) conducted research to specifically understand the benefit of SEAs among immigrant youth in regards to academic achievement and future outcomes. Her research revealed that first generation youth were less likely to participate than third generation youth, but first generation youth appeared to benefit more as there was a greater gain in GPA for participants. Nonetheless, all immigrant youth who were active in SEAs benefited as SEA participation predicted achievement and engagement.

It appears that SEA participation and sports participation are related to several positive outcomes including the following: an increase in self-esteem, a decrease in suicidal thoughts and risky behavior, and better academic achievement. However, it was also found that not all youth benefit from all activities, as some activities (e.g., football) appear to be associated with violent and delinquent behavior. It is unclear what may lead to this—a possible self-selection bias, contextual factors, or school size. Furthermore, it appears that there are areas that have yet to be explored within the realm of SEA research, specifically utilizing the ADD Health data set.

Summary

The adolescent period is filled with many changes and challenges. Negative school experiences pose serious consequences for the individual, including increased potential for school disengagement, as well as school dropout. Eisenman (2007) noted that interventions that do not have specific goals regarding relationships of students will provide students with useful skills, but fail to provide them with the motivation necessary to complete school. Engagement is viewed as an important component of the school experience because it has been shown to be positively related to students' academic performance (Fredericks et al., 2004), school attendance, and the inhibition of risky

behaviors (Board on Children, Youth, and Families [BOCYF], 2003). Self-determination theory provides a lens to explain factors that encourage motivation and engagement (e.g., autonomy, competency, and relatedness), and having positive relationships with others may be one of the most important factors in the school environment (Deci & Ryan, 2000; Deci, Vallerand, Pelletier, & Ryan, 1991;). It has been established that relationships appear to play an important role in school belonging (Roeser, Eccles, & Sameroff, 1998), and by extension, a key contributor to engagement, academic achievement, positive social relationships, and mental well-being (Roeser, Midgley, & Urdan, 1996; Zimmer-Gembeck, et al., 2006).

One method of improving relationships with peers and teachers is to promote involvement in SEAs, as ongoing empirical research suggests that participation in extracurricular activities is related to a variety of positive academic and psychological outcomes. However, much of the research has been correlational and there may be other factors contributing to the beneficial outcomes often associated with SEA participation.

There is a paucity of research that specifically analyzes the same outcomes among disadvantaged youth, specifically youth who are from low socioeconomic backgrounds. This study seeks to analyze the relationship of SEA participation to students' academic performance, school belongingness, and psychological well-being among students whose family income fell within a low socioeconomic status. Additionally, this study seeks to understand the longitudinal adult outcomes of having participated in SEAs as adolescents. Specifically, the study analyzed whether students from low socioeconomic backgrounds who participated in SEAs reported better outcomes as adults in the areas of educational achievement, adult household earnings, and psychological well-being than

those students who did not participate in SEAS. School belongingness was included in the models because previous research has indicated that it mediates the relationship between SEA participation and various outcomes. Therefore, the following hypotheses were analyzed using the data from the National Longitudinal Study of Adolescent to Adult Health:

- 1) In a sample of students from a low-income socio-economic background, it is predicted that each of the measured variables share significant correlations.
- 2) In a sample of students from a low-income socio-economic background, SEA participation, school belongingness, and adolescent psychological well-being are predictive of adult psychological well-being.
- 3) In a sample of students from a low-income socio-economic background, SEA participation, school belongingness, and GPA are predictive of adult income and educational attainment.
- 4) Finally, it is predicted that school belongingness will mediate the relationship between SEA participation and GPA, as well as the relationship between SEA participation and adolescent psychological well-being in a sample of students from a low-income socio-economic background.

Chapter 2: Method

Data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health, 2009) were utilized for the purposes of this study. These data were initially collected to study the health and well-being of adolescents and the effects of the decisions adolescents make on their health. This dataset was chosen due to the longitudinal method of data collection, the representative sample of the United States, and the data collected is related to the proposed research questions. The ADD Health data collectors utilized a clustered sampling design in which they began with 80 high schools and 80 feeder schools (i.e., junior highs that promoted students to the selected high schools) and sampled 90,000 adolescents in grades 7 through 12 in the academic year 1994-1995. These 90,000 students completed an In-School Questionnaire, and from these 90,000 participants, a stratified, nationally representative sample was created (20,745 students). Students selected completed an In-Home Questionnaire and their parents were also asked to complete a questionnaire. Although other questionnaires were completed, data for this sample will be pulled from the In-Home database, which consists of the in-school questionnaire, in-home questionnaire, and the parent questionnaire. The same adolescents were followed through three more waves of data collection; therefore, to answer the longitudinal nature of the research questions, data from Wave IV will also be utilized. In 2008, during Wave IV 92% of the original sample was located, but only 80% (15,701 participants) from the original 20,745 were administered the In-home questionnaire.

Materials and Procedure

Several questionnaires were administered during the course of the ADD Health study; however, the questionnaires were compilations of various instruments and questions. The actual questionnaires do not have associated reliability or validity data. Where available the reliability for specific measures have been included in the descriptions of the variables.

The In-School Questionnaire was a self-administered instrument that more than 90,000 students in grades 7 through 12 completed during a 45- to 60-minute class period between September 1994 and April 1995. The researchers did not permit "make-up" days for students who were absent on the predetermined data collection date. Parents were made aware of the data collection date in advance and could choose for their children to not participate. Topics included in the questionnaire are the following: social and demographic characteristics of respondents (of interest both as data and as selection criteria for in-home special samples), education and occupation of parents, household structure, risk behaviors, expectations for the future, self-esteem, health status, friendships, and school-year extracurricular activities.

In-home interviews were conducted between April and December 1995. All respondents received the same interview, which was one to two hours long depending on the respondent's age and experiences. The majority of interviews were conducted in respondents' homes. To protect confidentiality, data was recorded via a laptop to protect confidentiality. At times, the interviewer read the questions aloud and entered the respondent's answers (less sensitive topics). When the topics were considered to be more sensitive, the respondents listened through earphones to pre-recorded questions and

entered the answers directly into the laptop in order to limit potential interviewer or parental influences. In addition to maintaining data security, this minimized the potential for interviewer or parental influence.

The In-Home questionnaire covered several of the same topics as the In-school questionnaire, as well as several others. The following topics were included: health status, health-facility utilization, nutrition, peer networks, decision-making processes, family composition and dynamics, educational aspirations and expectations, employment experience, the ordering of events in the formation of romantic partnerships, sexual partnerships, substance use, and criminal activities.

During Wave IV of data collection, only the In-Home questionnaire was administered during the 2008-2009 academic year. The interview required approximately 90 minutes to complete and the structure was similar to the previous interviews (i.e., less sensitive topics conducted with interviewer and more sensitive topics completed individually via a computer). Following the interview, biomedical information was also collected. The Wave IV In-home questionnaire was intended to continue collecting data on similar issues as had been collected during previous Waves.

A parent, preferably the resident mother, of each adolescent respondent interviewed in Wave I was asked to complete a questionnaire covering several topics including the following: inheritable health conditions, marriages and marriage-like relationships, neighborhood characteristics, involvement in volunteer, civic, and school activities, health-affecting behaviors, education and employment, household income and economic assistance, parent-adolescent communication and interaction, and parent's familiarity with the adolescent's friends and friends' parents.

As the research questions are focused on the relationship of SEA participation and positive outcomes among adolescents who are from low-income households, the researcher determined the upper range of household income (from Wave I, parent questionnaire) for the bottom quintile of the overall sample (e.g., 20th percentile and below) and utilized this number for selecting the cases to be utilized. Initial analysis revealed that the upper range of the bottom quartile was \$18,000; therefore the researcher used this cut value to select cases for the current study. The sample size was then significantly reduced to 3,277 participants.

Demographic variables included in this study are age, sex of the participant (56.9% Female), and race. The students grade level at the time of data collection in Wave I were used as a proxy for the participant's age ($M = 9.46$, $SD = 1.6$). Race information was collected in a variety of questions and the ADD Health website includes instructions, as well as code for statistical programs to recode the data into a single race variable (Hispanic= 1, African American= 2, Asian= 3, American Indian= 4, Other= 5, and White= 6). Within the sample 23.5% were Hispanic, 34.6 were African American, 2.5% were Asian, 2% were Native American, 36.7% were White, and Other Race comprised 0.8% of the sample. Utilizing the specified code, race variable was created, and following this, a dummy-coded variable for each race was created (i.e., Specified race = 1, Not Specified race = 0). The dummy-coding of variables was performed because the created race variable is nominal in nature but would have been interpreted as a scaled variable in Stata when running regression analyses.

SEA Participation. On the In-School questionnaire 33 different extracurricular activities were listed (e.g., football, band, art club, etc.). Each adolescent was asked to

respond either yes or no to indicate whether he/she had been, was currently, or planned to participate sometime during the year to each of the 33 activities. For each participant, a Total SEA participation variable was created, which summed each of the activities that the student indicated he/she had participated in or intended to participate in during the 1994-1995 academic year. When utilizing the full dataset (e.g., not selecting cases based on income), the mean total number of activities was 2.3 ($SD = 2.78$). When only analyzing the low-income group, the mean number of SEAs was 1.9 ($SD = 2.5$).

Academic Achievement. Academic Achievement was defined by the grades reported by each adolescent. Each participant was asked to indicate his/her current letter grade in four subjects (language arts, math, science, and social studies), where an A= 1, B= 2, C= 3, and D or below= 4. These grades were reverse coded by the researcher to reflect a more typical grading scale (e.g., A= 4, B= 3, C= 2, and D or below= 1) and averaged to create a grade point average (GPA). However, there was significant missing data (i.e., the sample was cut to approximately 800 participants); therefore, the researcher calculated the GPA based on only the reported math and English grades ($M = 2.58$, $SD = .86$). This increased the sample size to approximately 1,000 participants.

School Belonging. School Belonging was created from five questions that were included on the In-home questionnaire regarding the students' feelings regarding their attachment to the school, peer, and adults. Examples of questions include: *You feel close to people at your school*; *You feel like you are part of your school*; *You are happy to be at your school*; and *The teachers at your school treat students fairly*. The questions were responded to via a 5-point Likert scale with one indicating strongly agree and 5 indicating strongly disagree. The responses were reverse coded and then summed. The sums of

these scores were tallied to create an overall score for school belongingness with higher scores indicating greater school belongingness. Internal consistency for this scale has been reported to be relatively high ($\alpha = .79$; McNeely, Nonnemaker, & Blum, 2009). The maximum possible score for this measure was 25 and the participants revealed a mean score of 18.37 ($SD = 3.72$).

Adolescent depression. Adolescent depression was utilized as a proxy measure for psychological well-being although it is acknowledged that the absence of depression does not indicate positive mental health. It was measured by questions comprising the Feelings Scale from the In-Home questionnaire, which is nearly identical to The Center for Epidemiologic Studies Depression (CES-D) screener, a measure of somatic and affective symptoms of depression in samples of adults (Radloff, 1977). Although developed for use with adults, the CES-D has been utilized in research on adolescents as well (Phillips et al., 2006; Radloff, 1991; Roberts et al., 1991). Previous studies have reported acceptable levels of reliability ($\alpha = .85$; Chabrol, Montovany, Chouicha, & Duconge, 2002). The students were to respond to the questions on a 4-point Likert scale, where 0 = never or rarely, 1 = sometimes, 2 = a lot of the time, and 3 = most of the time. Examples of questions include: *You felt depressed*, *You felt sad*, *You had a poor appetite*, and *You enjoyed life*. Four of the questions were written as positive statements and required reverse coding. The sum of these scores was calculated with lower scores indicating a better psychological well-being. In adolescents, the mean score on the CES-D was 12.37 with a standard deviation of 7.80 (the max score was 43).

Depression in Adulthood. Depression in adulthood was estimated by the use of an abbreviated version of the CES-D. Unlike in Wave I, data collected in Wave IV

regarding psychological well-being has been developed into a variety of scales. The In-home questionnaire addressed these areas and the managers of this data have combined questions to create variables that fit several areas of interest. The CES-D Depression Scale was utilized as a proxy to measure adult mental health, but it should be noted that it truly only measures the presence of depression. The CES-D Depression Scale is interpreted as lower scores indicate a more positive well-being (i.e., less depressed). The mean score was 2.88 with a standard deviation of 2.70.

Adult personal income. Information regarding the participants' personal income earnings during Wave IV was collected via the questionnaire. It represents the individual earnings of the participant as opposed to the total household income ($M= \$25,239.51$, $SD= \$19,655.01$).

Educational attainment. Educational attainment was measured by the participant's response to a question on the In-home questionnaire of the Wave IV data collection. The participants were asked about the highest level of education they achieved and it was coded (e.g., 1 = 8th grade or less, 2 = some high school, 3 = graduated high school, etc.). The lowest was 8th grade or less and the highest was a doctoral degree or some other professional degree (e.g., lawyer, nurse, medical school etc.). When reviewing the descriptive statistics for the participant's level of education, the median and mode were equal (6 = some college) and revealed that the majority of the participants had at least completed some college coursework.

Chapter 3: Results

Prior to beginning the analysis, examination of the data was conducted. Specifically, steps were performed to identify only those WAVE I participants who lived in households that generated less than \$18,000 annually and a dummy-variable was created to identify these participants. Deleting cases of participants who were part of households generating more than \$18,000 was not an option as the use of the sample weights require the full data set to avoid incorrect standard error estimates. All future analyses were based on the full dataset but the subpopulation was specified. Following the selection of these participants, the researcher analyzed the data regarding skewness, kurtosis, linearity, and homoscedasticity. Outliers were also determined prior to beginning any data analysis and the procedure for identifying them is described in the following paragraphs. Following the reduction in the sample to those participants whose parents reported less than \$18,000 in annual income, the sample size was 3,277. To address variables that violated the principles of normal distributions, the following variables were converted to z-scores: SEA, GPA, Adolescent Depression, School Belongingness, Adult Personal Income, Level of Education, and Adult Depression. Any variable with a z-score of four or above was deleted from the study. Eighteen participants had z-scores greater than four for SEA, 41 for adult income, and five for adolescent depression.

The following variables demonstrated unacceptable levels of skew or kurtosis ($>+2$) and several observations were removed, revealing a data set that was considered to be normally distributed: SEA, Adult Depression, and Adult Personal Income (Wave IV). Upon review of the frequency tables, 99% of the participants participated in 9 or less

activities; therefore, those students who indicated they had participated in 10 or more SEAs during a school year were excluded from the sample. Additionally, the majority (99%) of the participants during Wave IV reported earnings of \$110,000 or less; therefore, only those participants were included in final sample. Regarding Adult Depression, 99% had total scores of 14 or less and those participants were included. Following these adjustments, acceptable levels of skew and kurtosis were demonstrated and the sample size was 1,535.

It should be noted that the ADD Health researchers have created sample weights specific to the various Waves to ensure that the sample remains a nationally representative sample. This analysis utilized the grand sample weight variable specific to Wave I when only analyzing Wave I data. The Wave I sample weight is written mathematically as follows:

$$W_j = \frac{\sum w_{iji}^s}{R!} \quad (4)$$

Tourangeau and Shin (1999) explained the use of the sample weight and reported the purpose of the sample weight. Each participant had the potential in Wave I to be a part of four different sampling groups based on their school size, ethnicity/ disability, genetics, and core sample; therefore, the researchers developed a method using multiplicity that ultimately simplified the sample weights. The procedure tallies the weights that would have been applied to the participant based on their placement in the various sample groups and then divides by the number of samples within which the participant was eligible (minimum of one group, maximum of four groups). Tourangeau and Shin

indicated that this method was less error prone, yields unbiased estimates, and incorporates nonresponse and post-stratification adjustments.

When analyzing Wave I and Wave IV data simultaneously, a different grand sample weight supplied by the ADD Health researchers was utilized (Biemer & Aragon-Logan, 2011).

$$F_{D4}^C = \frac{\hat{X}_{E_{D4}}}{\sum_{i \in R_{D4}} \omega_{D4i}^C}$$

where

$$\hat{X}_{E_{D4}} = \sum_{i \in E_{D4}} \omega_{1i}$$

This weight is appropriate for use when analyzing data across the various waves of data. There is a separate provided grand sample weight for use when researchers are utilizing only data from Wave IV and allows for cross-sectional analysis. As cross-sectional analysis was not conducted with Wave IV in this study, that grand sample weight was not utilized or reported here.

To begin the analysis, an analysis of variance (ANOVA) was conducted to evaluate for SEA difference based on ethnicity given that previous research has indicated the Hispanic youth were less likely to participate in SEAs (Feldman & Matjasko, 2007). The one-way ANOVA revealed differences amongst the races as those identified as Hispanic were significantly different from the other racial groups in their SEA

participation ($F(5, 1529) = 5.91, p < 0.00$). Due to the significant difference, the race variable was utilized as a control variable in the ensuing analyses.

In an effort to produce acceptable R -values for the relationships existing between the variables, simple regression analyses were conducted between each of the main variables and the square root of R^2 was used as a proxy. This approach was utilized as SPSS overestimates the statistical significance of results when sample weights are used. Stata is recommended by the ADD Health researchers as the statistical program for analyzing data with sample weights. However, correlations using the subpopulation and the correct sample weights were not possible. The appropriate sample weights were utilized when conducting the simple regression analyses.

Table 1

Summary of Intercorrelations, Means, and Standard Deviations for Wave I and Wave IV

Measure	1	2	3	4	5	6	7
1. GPA	--						
2. SEA	.20**	--					
3. Adolescent Depression	-.09*	-.19**	--				
4. School Belongingness	.13**	.11**	-.30**	--			
5. Adult Personal Income	.13*	.11*	-.16**	.02	--		
6. Level of Education	.31**	.16**	-.13**	.03	.20**	--	
7. CESD	-.12*	-.08	.26**	-.15**	-.21**	-.15**	--
<i>M</i>	2.57	1.74	12.37	18.37	25,239	4.96	2.86
<i>SD</i>	.85	1.73	7.81	3.72	19,665	2.03	2.70

Note: * $p < .05$. ** $p < .01$.

All correlations were in the expected direction but not all correlations were significant as was predicted. It should be noted that School Belongingness shared an expected statistically significant relationship with each of the variables collected in Wave I (e.g., SEA participation, GPA, and Depression); however, it was only significantly related to the variable Depression in Wave IV (see Table 1). Additionally, SEA was significantly correlated with each of the variables from Wave I and Wave IV with the exception of adult depression in Wave IV. Interestingly, GPA also shared a statistically significant relationship with each of the variables. Although many of the variables were significantly correlated at the statistical level, whether the relationships are meaningful from a practice perspective will be discussed later.

Barron and Kenny's method of testing the effects of a mediation variable within regression analysis was utilized to investigate whether school belongingness mediated the relationship between SEA participation and the various outcome variables in adulthood. There are four prescribed steps within this model: 1) simple regression analysis is conducted between the predictor and outcome variables; 2) simple regression analysis is then conducted with the predictor variable predicting the mediating variable; 3) a simple regression analysis is computed with the proposed mediating variable predicting the outcome variable; and 4) a multiple regression analysis is conducted with the predictor variable and mediating variable both predicting the outcome variable. It is noted that if the one of the first three steps reveals nonsignificant relationships, then the ensuing analyses are not performed, as is generally accepted that the mediating variable is not mediating the relationship. MacKinnon et al. (2007) raised concerns with this method, specifically that this method may create Type II errors (e.g., accepting the null hypothesis

when a significant relationship does exist). Using the MacKinnon approach was considered; however, some of the assumptions of the MacKinnon approach could not be met. For example, the study design used a clustered sampling method (possibly increasing Type 1 errors) and educational attainment was a categorical variable; therefore, the MacKinnon approach was not utilized.

As previously stated, simple regression analyses were conducted. Following the Baron and Kenny approach, step one requires understanding the relationship between the predictor (SEA participation) and outcome variables (GPA, adolescent depression, adult income, educational attainment, and adult depression). These regression analyses were previously discussed as correlations and revealed that SEA participation was predictive of all outcome variables with the exception of adult depression. Adolescent depression was also predictive of adult depression, and GPA was predictive of adult income and educational attainment. In the second step, the researcher analyzed whether school belongingness was predicted by SEA participation and it was. Therefore, the second step was passed. In the third step, one is to utilize the mediating variable (School belongingness) to predict the outcome variables. School belongingness predicted only one of the adult outcome variables: adult depression. School belongingness also predicted GPA and adolescent depression. Based on the Baron and Kenny model, one would only proceed with the multiple regression analysis involving SEA participation, adolescent depression, school belongingness, and adult depression. The following paragraphs explain the multiple regression analyses conducted.

Adult Depression predicted by SEA, Adolescent Depression, and School Belonging

In the first model, SEA participation and adolescent psychological well-being were used to predict adult psychological well-being ($R^2 = 0.090$, $F(7, 101) = 6.00$, $p < 0.00$). In the second model, school belongingness was added to the model, as it is considered to be a mediating variable. School belongingness was not considered to be a significant

Table 2

Predictors of Adult Depression

Variable	Model 1 <i>B</i>	Adult Depression	
		<i>B</i>	95% CI
Constant	1.36	2.59*	(.30, 4.87)
Psychological Well-Being	.09**	.08**	(.04, .112)
SEA	-.10	.08	(-.25, .08)
Hispanic	.35	.38	(-1.41, 2.19)
African American	1.12	1.20	(-.61, 3.00)
Asian	.85	.97	(-1.29, 3.22)
Native American	1.66	1.63	(-.90, 4.15)
Other Race	--	--	
White	.34	.37	(-1.34, 2.08)
School Belonging		-.07**	(-.13, -.002)
R^2	.0895		.095
F	6.00**		6.84**
ΔR^2			.006
ΔF			.84

Note: $N = 958$. CI = Confidence Interval. SEA = Structured Extracurricular Activity.

* $p < .05$. ** $p < .01$.

mediating variable as: (1) SEA participation and adolescent psychological well-being significantly predicted depression in adulthood; and (2) the effect on predicted depression in adulthood of adolescent psychological well-being and SEA participation were not significantly diminished when school belongingness was added to the model ($R^2 = 0.095$, $F(8, 100) = 6.84$, $p < 0.00$). As one can see in Table 2, both models explain only a marginal amount of variance (e.g., less than 1% based on the R^2 value for both models) in the variable Depression.

Adult Income predicted by SEA, GPA, and School Belonging

Although the Baron and Kenny approach dictates that multiple regression analyses not be conducted due to the failure to pass step three when predicting adult income and educational attainment, the researcher opted to analyze these areas as well. Models three and four were similar in nature (See Table 3). In model three, SEA participation and GPA were used to predict adult income ($R^2 = 0.037$, $F(7, 94) = 2.4$, $p < 0.026$). In the fourth model, school belongingness was added to GPA and SEA participation to predict adult income. School belongingness was not considered to be a significant mediating variable as: (1) GPA significantly predicted adult income in the first model; and (2) the effect on predicted adult income of GPA was not significantly diminished when school belongingness was added to the model ($R^2 = 0.037$, $F(8, 93) = 2.03$, $p < 0.051$). Furthermore, the change in R^2 was negligible when school belongingness was added to the model.

Educational Attainment predicted by SEA, GPA, and School Belonging

Models five and six were similar in nature. In model five, SEA participation and GPA were used to predict Level of Education ($R^2 = 0.11$, $F(7, 94) = 8.22$, $p < 0.00$). In

the sixth model, school belongingness was added to GPA and SEA participation to predict Level of Education. School belongingness was not considered to be a significant mediating variable as: (1) GPA significantly predicted Level of Education in the first

Table 3

Predictors of Adult Personal Income

Variable	Adult Personal Income		
	Model 1 <i>B</i>	<i>B</i>	95% CI
Constant	7400.77	6048.53	(3006.06, 31108.87)
GPA	2509.38*	2438.58*	(758.90, 4739.88)
SEA	1196.90	1164.49	(389.09, 2487.17)
Hispanic	12264.36	-12129.68	(-11517.27, 15656.49)
African American	8165.67	7948.84	(-16191.52, 11316.13)
Asian	6481.49	6252.67	(-9316.09, 21821.43)
Native Am.	--	--	--
Other Race	6939.28	6936.01	(-5313.80, 19185.82)
White	7215.31	7106.68	(-2485.14, 16698.50)
School Belonging		94.48	(-441.85, 630.80)
<i>R</i> ²	.04		.04
<i>F</i>	2.40*		2.03*
ΔR^2			.00
ΔF			1.14

Note: *N* = 958. CI = Confidence Interval. SEA = Structured Extracurricular Activity.
* *p* < .05. ** *p* < .01.

model; and (2) the effect level of education of GPA was not significantly diminished when school belongingness was added to the model ($R^2 = 0.11$, $F(7, 94) = 6.98$, $p < 0.00$). However, SEA participation, while not a significant predictor of Level of

Education, did diminish when school belongingness was added to the model (See Table 4). Nonetheless, there was no change in R^2 when school belongingness was added to the model.

Table 4

Predictors of Educational Attainment

Variable	Educational Attainment		
	Model 1 <i>B</i>	<i>B</i>	95% CI
Constant	2.11	1.96**	(.56, 3.35)
GPA	.71**	.70**	(.49, .91)
SEA	.09	.09	(-.02, .19)
Hispanic	.91	.89	(-.34, 2.12)
African American	1.12*	1.20	(-.07, 2.27)
Asian	.56	.54	(-.87, 1.95)
Native American	--	--	--
Other Race	.57	.57	(-.95, 2.10)
White	.64	.63	(-.48, 1.74)
School Belonging		.01	(-.04, .06)
R^2	.11		.11
F	8.22**		6.98**
ΔR^2			.000
ΔF			1.24

Note: $N = 958$. CI = Confidence Interval. SEA = Structured Extracurricular Activity.

* $p < .05$. ** $p < .01$.

In summary, all correlations were in the expected direction and several were significant. Although school belongingness was appropriately related to many of the

outcome measures, it did not statistically mediate the relationships between SEA participation and outcome measures.

Chapter 4: Discussion

Past (Finn, 1989) and more contemporary reviews (e.g., Gilman, Meyers, & Perez, 2004) have illustrated the significant and positive correlation between total extracurricular activity participation and academic achievement. Furthermore, participation in school activities fosters positive relationships with peers and supportive adults, which increase students' sense of belongingness. Unfortunately, there is a scarceness of research that specifically analyzes the same outcomes among disadvantaged youth, specifically youth who are from low socioeconomic backgrounds. The purpose of this study was to better understand the relationship of SEA participation to students' academic performance, school belongingness, and psychological well-being among students whose family income fell within a low socioeconomic range. Specifically, the study analyzed whether students from low socioeconomic backgrounds who participated in SEAs reported better outcomes as adults in the areas of educational achievement, adult household earnings, and symptoms of depression than those students who did not participate in SEAs. As previous research (Roeser, Midgley, & Urdan, 1996; Zimmer-Gembeck, et al., 2006) has indicated that school belongingness is related to SEA participation and various outcomes (Gilman, Meyers, & Perez, 2004), school belongingness was included in the models.

Although it is generally accepted that SEA participation is related to positive outcomes for adolescents both in the short-term and later young adult outcomes, the research is largely correlational in nature and may be reliant on self-selection bias, socioeconomic status, size of the school, or previous success in school. The findings of this research study revealed results that are consistent with current and past research

regarding SEAs and the positive outcomes typically associated with participation in SEAs (Gilman, Meyers, & Perez, 2004). However, there was one difference in the research in the past and the current study; the sample for this study was a sample of students from low socio-economic backgrounds. Although this research did not address the question of self-selection bias or previous success in school, it did reveal promising findings for disadvantaged youth who participate in SEAs. For example, when examining the relationship between participation in SEAs and the student's academic achievement, adolescent depression, and relatedness to the school, positive outcomes were revealed among youth from families with limited family income. Specifically, greater SEA participation was positively related to better GPAs, lower scores on a scale measuring depression, and increased feelings of school belongingness, indicating that positive outcomes associated with SEA participation are not solely a side benefit of being from a more affluent background. Although this is promising as this study deviated from most SEA research and used a subsample of the ADD Health data set to specifically consider students from a low-income background (the bottom 20% of the sample), it explained only a small percentage of variance in the outcomes. Therefore, while it is tempting to claim statistical significance and promote participation in SEAs for students from disadvantaged backgrounds, more research needs to be conducted to determine other factors that are contributing to the success of students, as the results were not robust. The amount of variance explained by the predictor and mediating variables in the various outcome variables was small. This indicates that there are many other factors that were not analyzed in this study and may better explain the different outcomes of youth in their young adulthood. As previously mentioned, self-selection bias and

previous success in school may be factors that contribute to the decision to participate in activities. Additionally, many athletic activities and honor clubs have GPA requirements that may prevent some youth from participating; therefore, they are denied the opportunity to potentially benefit from SEA participation.

One factor that was briefly discussed in this paper is racial and ethnic differences for SEA participation. Previous research has documented that youth from a Hispanic background were less likely to participate in school-based activities (Feldman & Matjasko, 2007). Additionally, research has been conducted to examine the effect of participation on immigrant youth, and the research revealed that it is not always beneficial for immigrant youth to participate. However, the more traditional positive outcomes held true for immigrant youth when they attended higher SES schools that were racially diverse (Okamoto et al., 2013). Within this study, a difference among the various races was noted with regard to SEA participation. Specifically, Hispanic youth SEA participation was statistically different from the other racial groups within the study. More research in this area to better understand the reason for the varying levels of participation needs to be conducted.

Correlational analysis also revealed some expected relationships with the adult outcomes. SEA participation was positively correlated with adult income and adult level of education. However, SEA participation was not a statistically significant predictor of these adult outcomes in the multiple regression analyses. This indicates that SEA participation explains relatively little of the variance in the level of education and income achieved by the participants in the study. Interestingly, GPA was significantly (statistically, not clinically) related with all three adult incomes (e.g., adult depression,

level of education, and adult personal income), and GPA remained a significant predictor in the multiple regression analyses for level of education and adult income. Intuitively, this is to be expected—students who perform well in high school (i.e., earn higher GPAs) are more likely to be accepted at universities and then pursue education. Past research has revealed positive relationships between academic success and participation in SEAs and with GPA being predictive of later success, it was somewhat surprising that SEA participation was not also predictive of later success. For example, as previously cited, Beal and Crockett (2010) conducted a longitudinal research project regarding students' future career aspirations, educational attainment, and SEA participation. Their research demonstrated that the relationship of future ambitions and educational achievement was positive, as well as mediated by the individual's participation in SEAs. It is possible that the method of collecting information regarding SEA participation compromised the reliability of the information, which will be discussed in the limitations to this study. However, multicollinearity between GPA and SEA participation may have contributed to the lack of statistical findings regarding SEA participation.

One of the main premises of this study was that school belongingness serves as a mediating variable for the relationship of SEA participation and various outcome variables, both in adolescence and later adulthood. Specifically, the researcher hypothesized that although there is a positive relationship between SEA participation and academic achievement, as well as a relationship between SEAs and better psychological well-being, feelings of school-belongingness would explain why there was a positive relationship among these variables. Similar results were expected for the relationship between adolescent SEA participation and adult outcome measures of personal income,

educational status, and feelings of depression. However, not all of these hypotheses were supported. The researcher failed to reject the hypotheses related to school belongingness and adult outcomes as it was only related to the adult depression measure, not level of education or adult income. Furthermore, it did not explain a significant amount of variance in the multiple regression analyses with the adult outcome variables. However, previous research has demonstrated a convincing relationship between sense of belongingness and positive outcomes (Roeser, Midgley, & Urdan, 1996; Zimmer-Gembeck, et al., 2006). It is possible that the questions asked did not adequately measure the student's sense of membership at his/her school. In a future study, one may wish to research more specific components of school belongingness and set up an experimental and control group. The experimental group then receives/ participates in activities that are specifically associated with components of school belongingness. For example, adolescents who participate in mentoring relationships likely have a better sense of school belongingness; therefore, one could specifically measure the amount/ degree to which the student participating in SEAs feels fostered by the sponsors/ coaches of the activities. Another possible explanation is that this study specifically considered students from a lower socioeconomic background; it is possible that the positive outcomes previously revealed were typical of those students that were from more affluent backgrounds with more resources.

Limitations

Limitations to this study are numerous and are the result of using a pre-existing data set. One of the most significant limitations is the method of collecting information regarding SEA participation. Although the information is helpful and a good start to this

area of research, it includes responses regarding the students' intentions to participate in various activities (e.g., data collected in the fall includes a student's intention to play baseball in the spring). While the concept of including participants' intentions in research is not uncommon (i.e., it follows the medical model of intent to treat in experimental designs), in this study it likely confused the issues. The students were not randomly assigned to treatment and placebo groups; therefore, there may be a difference in those participants who planned to participate and those that actually participated in SEAs. It is impossible to know as the SEA participation information was only collected once during Wave I and there was no follow-up to determine actual participation. The research surrounding the positive outcomes associated with SEA participation have been attributed to key factors such as being supervised by an adult, skill-building, long-term in duration, and voluntary (Larson, 2000). These factors are not yet in play when a student simply plans to participate; therefore, it is difficult to assume that the positive outcomes typically associated with SEA participation are actually effecting any change in the student, much less contributing to the student's responses on other questionnaires included in the study.

Furthermore, students' participation in activities, feelings of depression, sense of school belonging and grades in specific subjects were all collected concurrently; therefore, the only conclusions regarding Wave I that can be drawn from this study are correlational, not causal, as the research was not longitudinal. This is of supreme importance in this study as school belongingness was predicted to mediate variables in Wave I and Wave IV. However, it is impossible to know whether a student's participation had any effect on any of the other variables or if because they were already successful academically, psychologically, etc., they then chose to participate in activities.

Another limitation to this study is that the ADD Health team failed to consistently measure feelings of depression. The original Feelings I Have scale included 19 items; however, in Wave IV several items were removed from the scale. This is a limitation for two reasons: 1) it is difficult to compare the two scores as the scales are not equivalent and 2) it is difficult to know whether it is a reliable and valid measure of depression as the ADD Health team did not report a process for eliminating certain items or how this affected the overall validity of the scale.

Future Research

Future studies may include collecting the same information during the initial phase of the study and then providing SEA participation as an intervention to students randomly assigned to groups (i.e., one group participates and another acts as a wait-list control group). This would allow future research to examine whether there is a self-selection bias involved (students who are performing better academically/ feeling less depressed are also more likely to participate) and whether students feel a greater sense of school belongingness due to participation or if the opposite is true (i.e., due to a greater sense of school belongingness, students are more likely to join activities). Additionally, future research may wish to actively recruit students from various socioeconomic backgrounds and randomly assign them to the aforementioned groups (i.e., treatment versus wait-list) to determine if socioeconomic status is a contributing factor.

Finally, the issue of intention to participate versus actual participation was raised in the current study as a confounding factor that could not be statistically controlled for due to the nature of data collection. This was unfortunate in the current study because it may have affected the outcomes of the study. Nonetheless, it raises a valid question: what

are the factors that contribute to actual participation? And what are the factors that may prevent students from joining SEAs? One might assume that they do not have an interest, they may not have an adequate GPA to participate, or they may not have the time (i.e., the student may have a job or other responsibilities at home). A future study may wish to collect information regarding intentions at the beginning of an academic year and follow-up at the end of the year to determine how many students actually participated, as well as reasons for not participating. This research may allow schools to better assist students in pursuing their interest in participation, and by default, encourage the achievement of the positive outcomes commonly associated with SEA participation.

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Education:

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Graduate Certificate in Developmental Disabilities Awarded on 06/27/2008
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Educational Specialist in School Psychology, University of Kentucky, Lexington, KY, July 2005

Thesis: Adolescents' frequency of participation in structured extracurricular activities: differential relationships with psychoeducational, psychosocial, and psychological indicators

Advisor: Rich Gilman, Ph.D., University of Kentucky
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Master of Science in Educational and Counseling Psychology, University of Kentucky, Lexington, KY, M.S. July 2002

Advisor: Stephen T. DeMers, University of Kentucky
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Bachelor of Arts in Psychology & Spanish, Georgetown College, Georgetown, KY
May 2001

Clinical Experience:

School Psychologist, Clark County School System, Winchester, KY, August 2012—Present

School Psychologist, Kentucky School for the Deaf, Danville, KY, August 2010—May 2012

School Psychology Resident, Louise R. Goldhagen Regional Multidisciplinary Evaluation and Consulting Center, Florida State University, Tallahassee, FL, August 2009—June 2010

Pre-Doctoral Intern, Louise R. Goldhagen Regional Multidisciplinary Evaluation and Consulting Center, Florida State University, Tallahassee, FL, August 2008—July 2009

Practicum Student, Neonatology Intensive Care Unit Graduate Clinic, University of Kentucky Clinic, Lexington, KY, November 2007—May 2008

Practicum Student, Developmental and Behavioral Pediatrics Clinic, University of Kentucky Clinic, Lexington, KY, February 2006—December 2006

School Psychology Intern, Scott County Schools, Georgetown, KY, August 2003—June 2004

Practicum Student, RISE Summer Program, Comprehensive Care, Harrodsburg, KY, June 2003—July 2003

Practicum Student, School Psychology Clinic, University of Kentucky, Lexington, KY, August 2002—June 2003

Unpublished Manuscript:

Stacy, C. (2005). Adolescents' frequency of participation in structured extracurricular activities: differential relationships with psychoeducational, psychosocial, and psychological indicators.

Professional Presentations:

Bowers, B., Stacy, C., & LaFavers, J. (2013, February). Hearing loss: implications for assessment and classroom supports. Presented at the annual meeting of the National Association of School Psychologists, (NASP), Seattle, Washington.

Stacy, C. (2011, March). *Response to Intervention: An Overview*. Presented at the TDHH HI Cadre meeting, Somerset, KY.

Gilman, R., Huebner, E.S., Antaramian, S. & Stacy, C. (2007, April). Positive Psychology in the Schools: Selected Assessment Techniques and Related Intervention Strategies. Presented at the annual meeting of the National Association of School Psychologists, (NASP), New York, New York.

Gilman, R., Huebner, E.S., & Stacy, C. (2006, June). Providing a theoretical perspective on subjective well-being and psychological adjustment among youth. Presented at the annual meeting of the Canadian Psychological Association (CPA).

Nowak, T.M., Nellis, L., Sampers, J., & Stacy, C. (2004, March). What's new and improved in assessing young children and their special needs: the Revised Merrill Palmer. Presented at the annual meeting of the National Association of School Psychologists (NASP), Dallas, Texas.

Other Research and Professional Experience:

Research Assistant to Beth Rous, Ph.D.
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National Early Childhood Transition Center:

Research Assistant to Rich Gilman, Ph.D.
University of Kentucky, Lexington, KY, Spring 2003
Department of Educational and Counseling Psychology,

Data Collector for the Stoelting Company
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Substitute Teacher
Fayette County Schools, Lexington, KY August 2001-May 2002

Teaching Experience:

Invited Guest Lecturer
Florida State University June 9, 2010
Autism Assessment
Briley Proctor, Ph.D., professor

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Functional Behavioral Assessments
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Teaching Assistant
University of Kentucky, August 2006—May 2008
Department of Educational Policy Studies and Evaluation
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Honors and Awards:

Served as the doctoral representative for the local Student Association of School Psychology (2005-2006)
Omicron Delta Kappa, 2001--Present
Graduated Summa cum Laude, 2001

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