THE IMPACT OF AFTER-SCHOOL PROGRAMS: MOTIVATION FOR SUCCESS IN

LOW-INCOME YOUTH

By

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Submitted to the graduate degree program in Clinical Child Psychology and the Graduate

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ABSTRACT

Evidence that after-school programs can have educational benefits for youth, and that program quality matters is growing (Yohalem et al., 2009). Specifically, existing literature suggests that federal funding is allocated towards "high quality" programs with the goal of helping youth do better in school (After School Alliance, 2009; U.S. Department of Education, 2009), and that both structure (Fauth et al., 2007; Vandell & Corasaniti, 1988) and adult involvement (Pierce et al., 1999; Roffman et al., 2001) are considered to be elements of high quality programs. To support the rationale that it is important to provide evidence to continue investing in after-school programs that help youth achieve academically, it is imperative to first understand why there is a relation between quality of an after-school program and academic outcome. The current study aimed to address the mechanisms behind why after-school program quality matters for academic engagement in youth. Specifically, the current study employed an evidence-based framework to test how aspects of motivation (e.g., competence and relatedness) can be positively related to academic engagement in 57 low-income school-age children. Although not confirming the direct association between after-school program quality and academic engagement, findings suggest that children's sense of competence and aspects of relatedness are significantly and positively related to how engaged they are in school. Implications, such as incorporating the developmental needs of children in after-school programs, and the need to study these associations within other after-school programs serving low-income youth, are discussed.

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The impact of after-school programs: Motivation for success in low-income youth

During the Civil Rights movement, Ella Baker stated that, "an effective social movement needs people who are interested in developing the leadership of others instead of being leaders themselves" (Cantarow & O'Malley, 1980, p. 70). Historically, the United States has invested heavily in community programs based upon the assertion that individuals within a community are key to shifting the negative impact of social problems that affect children and families (Booth & Crouter, 2001). Community programs often aim to target populations with limited access to resources such as health care and education because a lack of resources can create barriers for children and families to reach their maximum potential. For example, children raised in poverty are at-risk for poor educational outcomes, including below average cognitive performance and academic failure (Belsky & Steinberg, 1978; Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Landesman & Ramey, 1989). Due to the multitude of risk factors associated with living in a deprived environment, the goal of many community programs is to reverse the developmental trend of children living in poverty by providing alternative resources such that the teratogenic effects of community-level risks are minimized and positive functioning is supported.

Of particular interest are programs that assist youth who are at-risk for poor academic outcomes (e.g., school drop-out, school failure) to engage, benefit from and stay in school. To this end, an estimated $1.31 billion a year is allocated by the U.S. Department of Education and State Education Agencies to community learning centers through the 21st Century Community Learning Centers (21st CCLC) initiative. This initiative, introduced in 1995, aims to provide after-school services to students attending high poverty, low performing schools and is currently the only federal funding source dedicated exclusively to after-school programs (Afterschool Alliance, 2009). Since 2007, the amount appropriated for programs meant to aid children in

poverty has steadily increased and there are currently over 9,000 school-based and community-based centers serving over 1 million children across the country (Afterschool Alliance, 2009). Despite this considerable financial effort, little evidence exists speaking to the utility of this investment, particularly regarding what mechanisms make these programs effective in improving academic functioning. The purpose of the present study was to examine the impact of community programs as they relate to academic outcomes for youth. Specifically, the aim was to test how resources provided by these programs operated to benefit the academic engagement of youth living in poverty.

After-school Community Programs

Community programs that target youth development are multi-faceted and the outcomes they target are equally numerous. Generally, community programs are described as "semi-structured processes most often lead by adults and designed to address specific goals and youth outcomes" (Benson & Saito, 2000, p.126). These programs have a variety of names including after-school programs, enrichment programs, youth programs, youth activities, or programs during out-of-school time or non-school hours (Eccles & Gootman, 2002). Although the terminology may vary, the growth of these programs was sparked by common concerns about low academic achievement and behavioral problems in poor children and the child-care needs of working parents (Larson, 2000).

In an effort to improve educational outcomes for children, an after-school community model often includes resources such as academic enrichment programs, counseling, recreation, and drug and alcohol prevention programs (U.S. Department of Education, 2009). Many community programs also aim to provide emotional support for children who are at-risk for poor outcomes. For example, the Freedom Schools Program, founded by two Civil Rights

organizations in the early 1960s, is one such organization that operates on the belief that while culture and community conditions influence child development, education, specifically teachers and mentors providing education, are transformative agents (Taylor, Medina, & Lara-Cinisomo, 2010). Promoting a safe, nurturing, and caring environment through relationships with supportive adults is a core component of programs like the Freedom Schools.

The current study illuminated the relation between key aspects of community programs (e.g., relationships between adults and youth) and positive academic outcomes. Specifically, the pathway between these factors were discussed via a motivational framework that included the individual's sense of competence and relatedness to individuals in the organization to highlight the mechanisms that potentially underlie the reasons why after-school programs can lead to better performance in school.

Program Activities and Academic Outcome

Much of the initial research on the effectiveness of after-school programs examines the types of activities provided during after-school hours and their impact on academic outcomes. Findings are mixed, indicating that the specific activities youth participate in (e.g., homework programs, sports) are associated with both positive and negative academic outcomes. For instance, some studies report improved academic outcomes for youth who participate in after-school sports (Holland & Andre, 1987), while others indicate that participating in sports after school is negatively correlated with academic achievement (Posner & Vandell, 1999). Similarly, participating in after-school enrichment programs are linked to positive as well as null effects. Bergin, Hudson, Chryst, and Resetar (1992) documented that children from low-income families attending an after-school academic program displayed higher achievement test scores than children not attending the program, while Tucker et al. (1995) found that students enrolled in a

program that included tutoring and adaptive skills training for low-income students did not display improvement in their grades.

Such discrepant findings in the research examining which after school activities are the most salient for positive academic outcomes do not provide a clear picture of how after-school programs lead to better performance in school for low-income youth. Specifically, because results from the studies highlighted above do not explain how activities are impacting outcome, but instead are more descriptive, it may not be enough to look at the type of activities being offered when exploring the relation between after-school program participation and academic outcome. More recent studies suggest that it is the quality of the program (including quality of activities) and not simply the activities the program offers that may better explain why after-school programs can aid children in performing better in school.

To clarify the relation between participation and outcome, Fauth, Roth, and Brooks-Gunn (2007) suggested the inclusion of measures assessing the quality of the organization. They highlighted, but did not test, the potential importance of adult involvement in the organization (i.e., time spent with adults, adult supervision) and structure of after-school time to better assess why participation in different types of activities leads to different outcomes. Similarly, Mahoney, Lord, and Carryl (2005) suggested that because the relation between after-school participation and academic outcomes can be expected to vary according to dimensions of program quality, aspects of quality such as adult involvement and structure should be explored.

Program Quality and Academic Outcome

Studies examining program quality with children at-risk for poor academic outcomes demonstrate that programs successful in positively influencing children's school performance offer structure (Fauth et al., 2007) and time spent with adults (Roffman, Pagano, & Hirsch, 2001)

during the activity, and that when programs do not have these qualities, children may display poor academic progress. For instance, Posner and Vandell (1994) examined whether structure of activities and time spent with adults influence academic outcomes in their study of children in formal after-school care in an urban area. The results indicated that children's academic grades were negatively correlated with time spent in unorganized outdoor activities (i.e., bike riding, playing tag, hanging out), positively related to time spent in one-on-one academic work with an adult and positively related to time spent in structured lessons such as working on plays, musical programs, or art projects. This finding, coupled with evidence that lack of structure (Vandell & Corasaniti, 1988) and poor adult involvement (Pierce, Hamm, & Vandell, 1999) in after-school programs are related to negative academic outcomes (e.g., poor grades in reading and math, truant behavior), suggests that structured activities (e.g., academic work, creative tasks, sports) and spending time with adults may contribute to positive academic outcome. This research also suggests that participating in just any after-school program or activity may not be useful in promoting positive school outcomes, particularly when adequate structure and adult supports are not present.

Because no systematic test has examined how program quality influences academic outcome, the field can only speculate about what aspects of after-school programs have contributed to positive child outcomes. The evidence available thus far points to several similar characteristics that distinguish successful, academic-promoting programs from others. That is, programs marked by academic success for youth appear to emphasize adult involvement (e.g., spending time with adults) and providing structure during after-school time (See Figure 1). While these aspects of program quality may aid in promoting positive academic outcomes, it remains unclear why this is the case, especially what benefits children receive from spending

time with adults for example, that help them do better in school. The present study adds to the field by testing how factors may influence the relation between program quality and academic outcome in low-income youth.
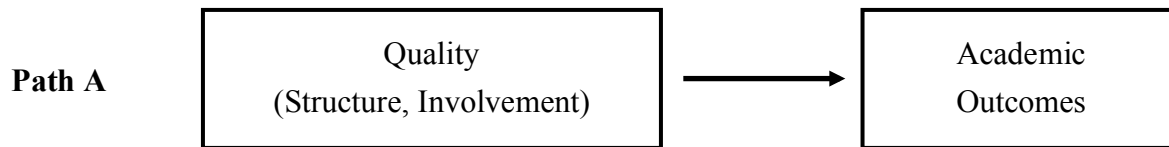
Path A

| Quality (Structure, Involvement) | → | Academic Outcomes |

Figure 1. Relation between after-school program quality and academic outcomes.

One possibility is that the factors that contribute to after-school program quality are actually part of a larger framework of assets that create change in the individual child. For example, Schinke, Cole, and Poulin (2000) found that grade point averages and school attendance were higher for school-aged children who participated in an educational enhancement program offered by Boys & Girls Clubs compared to children who participated in other non-educational enrichment community organizations. While it is not clear why youth participating in the program performed better, the authors posit that children who performed better academically were more motivated to improve than those in the comparison group. Therefore, it is possible that the relation between specific features of programs and academic outcomes may not be a direct one, but is instead influenced by how motivated the child is to do well in school.

Motivation, Program Quality, and Academic Outcomes

Although the motivation of youth to succeed academically has not been examined in the context of an after-school program and academic outcome, some research suggests that it may help explain why after-school programs can help to improve academic outcomes for youth. According to Connell (1990), the construct of motivation is composed of two key elements

including one's sense of competence and one's sense of relatedness. Both are theorized to be important for predicting how an individual is likely to respond to environmental demands.

Competence

Competence is defined as "the need to experience oneself as capable of producing desired outcomes and avoiding negative outcomes" (e.g., Deci & Ryan, 1985; Harter, 1985; White, 1959). Although feeling capable has been conceptualized in a variety of ways in the motivational literature (e.g., perceived competence, self-efficacy, attributional style, control beliefs), at the simplest level, competence is students' beliefs that they are able to perform a given task (Bandura, 1997). Well-established evidence in the field indicates that feeling capable is related to academic outcomes (see Figure 2) (Masten & Coatsworth, 1998), in that people engage in tasks in which they feel capable and avoid those in which they do not feel as confident (Eccles et al, 1983). Pintrich and De Groot (1990) reported that students who believed they were capable were more likely to display cognitive engagement by persisting more often at difficult or uninteresting academic tasks, than those who did not believe themselves to be as competent. Furthermore, Caraway, Tucker, Reinke, and Hall (2003) reported that students who reported a greater sense of global self competence were more engaged in school than those who did not feel as competent.

Path B

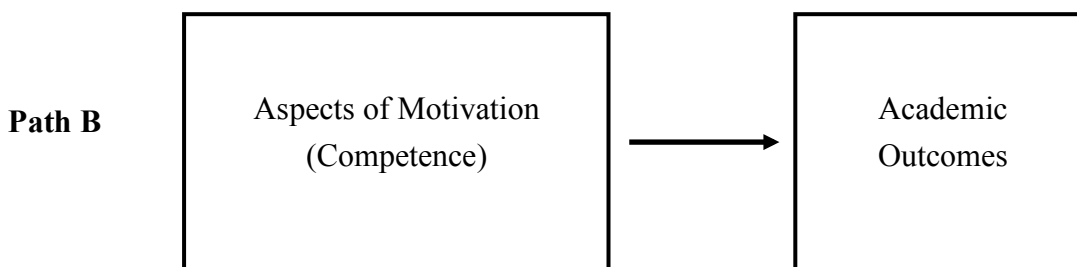| Aspects of Motivation (Competence) | → | Academic Outcomes |

Figure 2. Relation between children's sense of competence and academic outcomes.

Although there is a relation between sense of competence and academic outcome, evidence also exists for the relation between after-school program participation and feeling

capable of producing desired outcomes (see Figure 3; Larson, 2000). Participating in organized, structured activities after-school is linked to interpersonal competence (Barber, Eccles, & Stone, 2001), and after-school program participation in particular is linked to feeling capable of succeeding in academic settings. For instance, Mason and Chuang (2001) examined various aspects of competence (e.g., self-esteem, social skills and leadership competencies) in children attending a structured arts program and found that compared to those who did not attend the program, children in structured after-school care felt more capable of succeeding in various tasks. Furthermore, Mahoney, Lord, and Carryl (2005) found that youth participating in after-school programs were rated by their school teachers as displaying a greater sense of competence (e.g., holding greater expectancies of success) and improvement in their academic performance compared to children not attending an after-school program. Thus, the evidence so far indicates that after-school programs, particularly those that provide structure for youth, have the potential to influence how competent a child feels.

Path C

| Quality (Structure) | → | Aspects of Motivation (Competence) |
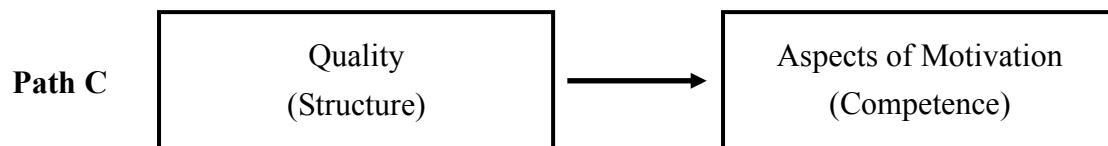
Figure 3. Relation between program structure and children's sense of competence.

Based upon the research thus far examining competence, it is possible that this construct may help to explain why quality of after-school programs may help to promote academic outcomes in youth. For instance, Mahoney et al. (2005) speculated that it may be the structure after-school programs provide that make them particularly important in the development of academic-related success (i.e., feeling capable, academic achievement). While these findings suggest that a structured after-school program is related to children feeling more capable, and

that children who feel more capable also do better in school, the role of competence in the relation between program quality and academic outcome has not been tested. Findings by Mahoney et al. (2005) coupled with evidence that sense of competence and academic outcomes are positively related (Caraway et al., 2003), suggest that a reason why after-school programs may be linked to improved academic outcomes is because children who participate in a structured program after school may feel more capable of succeeding in a variety of environments including school.

Relatedness

A second aspect of motivation that has been linked to academic outcome is sense of relatedness. Relatedness, or the need to be loved, appreciated, and connected with important others (Baumeister & Leary, 1995), may help to explain why spending time with adults in an after-school program is linked to academic success. For example, Ryan and Grolnick (1986) found that students who experience their teachers as warm and supportive are more likely to be motivated to do well in school than students with more negative views of their teachers. Furthermore, youth who describe their relationships with significant adults (e.g., parents, teachers) as positive demonstrate greater engagement in school than youth who describe their relationships as less positive (Ryan, Stiller, & Lynch, 1994). Finally, Furrer and Skinner (2003) found that children who reported a higher sense of relatedness to significant adults (e.g., teachers) demonstrated greater engagement in school compared to children who reported a lower sense of relatedness. Overall, children's cumulative sense of relatedness to parents, teachers, and peers is shown to be a significant predictor of both teacher and child reports of engagement in the classroom, during Kindergarten (Royer, Provost, Tarabulsy, & Coutu, 2008), elementary, and junior high school (Lynch & Cicchetti, 1997) (see Figure 4).
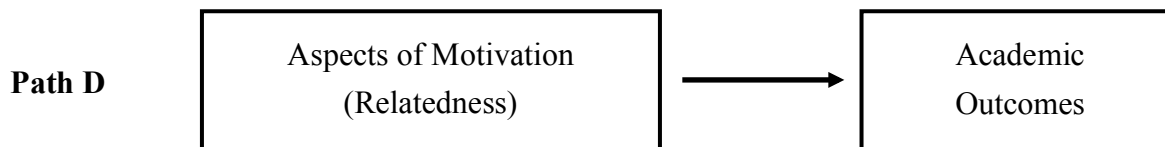
Path D	Aspects of Motivation (Relatedness)	→	Academic Outcomes

Figure 4. Relation between children's sense of relatedness and academic outcomes.

In addition to being linked to academic outcome, sense of relatedness can also describe the emotional quality of children's relationships with adults in a variety of contexts (e.g., schools, after-school programs) (Lynch & Cicchetti, 1992). For example, Skinner, Furrer, Marchand, and Kinderman (2008) examined children's sense of relatedness to teachers in their classroom. Results indicated that the more involved teachers were in their students' everyday activities, the more related children reported feeling towards them, indicating that time spent with adults may be linked to youth's sense of relatedness (see Figure 5).

Path E	Quality (Involvement with Adults)	→	Aspects of Motivation (Relatedness)
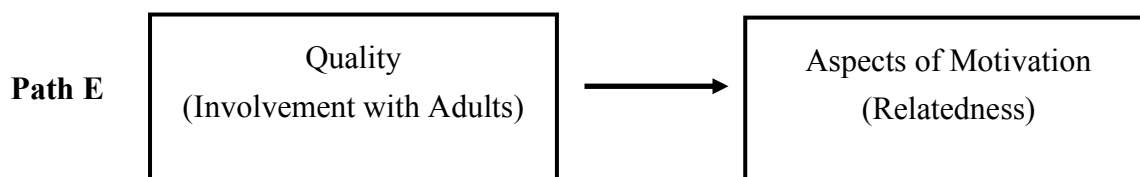
Figure 5. Relation between involvement with adults and sense of relatedness.

Large-scale descriptive and qualitative studies regarding what is important in after-school programs indicate that spending time with adults is associated with positive youth outcomes only if youth describe their interactions with adults as high-quality (e.g., safe and supportive) (Ferrari & Turner, 2006; Herrera, Sipe, McClanhan, Arbreton, & Pepper, 2000; Langhout, Rhodes, & Osborne, 2004; Sipe, 2000). Thus far, one study to date has looked specifically at the construct of relatedness in an after-school program. Allen, Kupermine, Philliber, and Herre (1994) examined sense of relatedness as one aspect of a multi-site study involving over 1,000 students

participating in a Teen Outreach Program. The results indicated that youth who perceived their after-school program as promoting a sense of relatedness with adults (i.e., adults were more involved in the program), had better outcomes (e.g., a decrease in problem behaviors such as teen pregnancy) following participation in the program compared to youth who did not feel a sense of relatedness to adults in the program.

After-school programs can buffer children against problem behaviors in youth, particularly by providing an environment where children feel safe and can form long-lasting relationships with adults outside their families (Eccles, 1999). Examining children's perceptions of their sense of relatedness to adults in an after-school program may help to capture how safe they feel in their environment for example, and explain why time spent with adults may be related to academic outcome. For instance, Skinner et al. (2008) also found that sense of relatedness mediated the relation between adult involvement in classroom activities and academic engagement, where how related a child felt to their teacher explained the relation between adult involvement and academic engagement. It is therefore possible that children's sense of relatedness, or how connected they feel to adults in a community organization, may play a role in explaining how quality of after-school programs (i.e., adult involvement) may influence children's success in school.

Academic Engagement

While relatedness and competence are considered aspects of motivation, academic engagement is viewed as an example of motivational behavior, or the act of being motivated. Engagement is a child's "initiation of action, effort, and persistence on schoolwork" and is considered to be a malleable construct that is capable of being changed through the interaction between the child's environment and the child (i.e., sense of competence, sense of relatedness)

(Connell & Wellborn, 1991, pg. 24). Buhs, Ladd, and Herald (2006) found that classroom engagement (e.g., classroom participation) was predictive of academic achievement, such that children who displayed an increase in classroom participation were also more likely to show an increase in achievement. Along with academic achievement, engagement is also predictive of school completion, such that the more effort a child puts into schoolwork, the more likely it is that child will graduate from high school (Fredricks, Blumenfeld, & Paris, 2004).

The concept of school engagement, or the attitude, investment, and commitment a child makes toward school, is particularly important to examine in low-income urban areas because student dropout rates tend to occur in higher incidence in these areas as opposed to suburban areas (Planty, Hussar, & Snyder, 2009). Engaged students are more likely than their disengaged peers to stay in school and demonstrate high levels of academic achievement (e.g., Bryk & Thum, 1989; Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Newmann, Marks, & Gamoran, 1995). Furthermore, high levels of engagement can explain why high-risk students succeed academically (Connell, Spencer, & Aber, 1994; Finn, 1989). Promoting school engagement, particularly understanding what motivates low-income youth to put effort and persistence into their schoolwork, may aid in the improvement of academic achievement for this population (National Research Council and the Institute of Medicine, 2004).

Recent theories of motivation take into account the importance of children's engagement in academic related tasks, along with how capable they feel of succeeding in those tasks, and the importance of the quality of their relationships with significant others in a context that provides opportunities for structure and adult involvement. The literature discussed above regarding after-school programs and academic outcomes emphasizes the importance of relationships with adults and structure of activities in explaining the success of programs in promoting positive

academic outcomes. One theory of motivation that takes into account the individual and the individual's interactions and relations within a specific context (i.e., after-school programs) is the Self-System Model of Motivational Development (SSMMD; see Figure 6), where aspects of the quality of the environment (e.g., involvement, structure) are included under *context*, elements of motivation (i.e., relatedness, competence) under *self,* and engagement, under *action* (Connell, 1990).

Context ➞ **Self** ➞ **Action** ➞ **Outcomes**

➞ = Pathways tested in the proposed study

┈┈▶ = Pathways included in the SSMMD framework but not tested in the proposed study
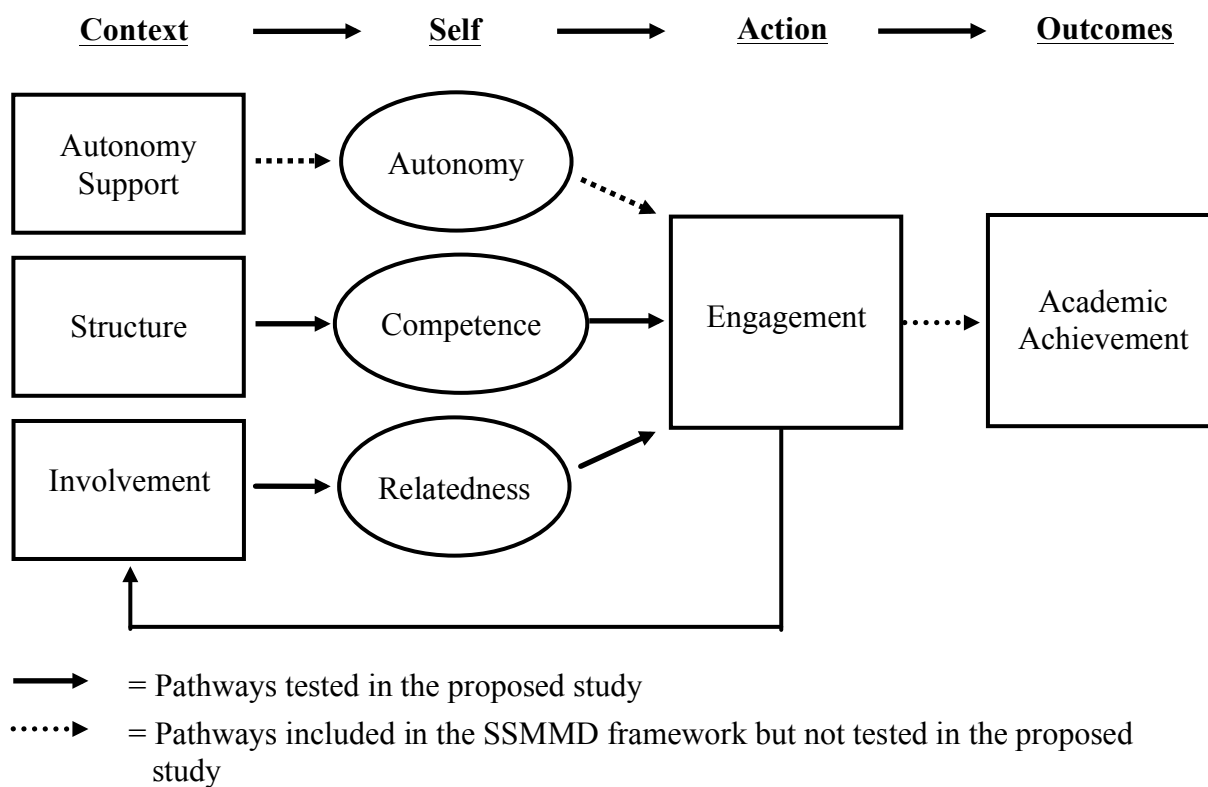
Figure 6. Self-system model of motivational development.

Self-System Model of Motivational Development (SSMMD)

The SSMMD includes a variety of motivational attributes (e.g., sense of autonomy, competence, and relatedness) where social context (e.g., involvement by adults, structure, and autonomy support) is related to these attributes and ultimately to academic engagement, which is considered the motivational behavior that results in school success (Connell, 1990; Connell &

Wellborn, 1991; Finn, 1989; Skinner & Edge, 2002). That is, the SSMMD incorporates key aspects of the environment (i.e., structure and adult involvement) that are linked to improved academic outcome in its description of what factors in the social context play a role in contributing to motivational behavior or school engagement. Specifically, this model posits that having structure in one's environment is related to sense of competence, while adult involvement is related to sense of relatedness. Feelings of competence and relatedness (i.e., both aspects of motivation) are viewed as ways that children describe how they feel about themselves in a particular context (i.e., after-school programs, academic settings). While feeling competent and having a sense of relatedness to significant others is posited as important to the quality of an after-school program in the literature, a third component in the SSMMD model, autonomy, is not supported in the literature examining quality and academic outcome. Thus, sense of autonomy was not included in the present study. Furthermore, research has linked relatedness in school (Marks, 2000) and competence (Mahoney et al., 2005) to engagement and found that the relation between relatedness and achievement is mediated by engagement (Connell & Wellborn, 1991). Therefore, school engagement will be used as a measure of academic outcome in the present study.

Thus far there is burgeoning evidence to support the SSMMD model of motivation as an appropriate framework to explain academic outcomes in low-income, urban populations. For example, a study by Connell et al. (1994) indicated that low-income youth's sense of family support for educational achievement, feelings of competence (e.g., capable of success), and relatedness (i.e., emotional security with others) contributed to their engagement in school more than socioeconomic status. This study suggests that the SSMMD model may explain how low-income children may succeed in school, namely that the way they perceive themselves in a

context where adult involvement and structure is present may contribute to positive engagement in the classroom. Because after-school programs are often geared towards improving children's engagement in school and can be a place where children spend time with adults, findings such as those by Connell et al. (1994) suggest that the SSMMD framework would be appropriate to use to study competence, relatedness, and academic engagement in a low-income after-school program population.

Limits of past research

Despite the growing empirical evidence that quality of after-school programs is related to academic outcomes, no systematic test has examined how these two constructs are linked. Thus far, the evidence that is available indicates that the shared characteristics of programs that promote academic success are structured activities after-school and time spent with adults (i.e., adult involvement). While these general characteristics of effective programs have been identified, the interactions between characteristics of youth and program components that are linked to positive development have yet to be examined within the context of an after-school program.

It is possible that features such as time spent with adults in the program are necessary, but not sufficient explanations for *why* some programs are related to academic outcomes and some are not. In fact, motivational theory suggests that positive outcomes (e.g., academic engagement) are manifested by the interaction between how a program offers a service (quality) and the individual motivation of the child. It is possible that when programs offer qualities such as structure, and time with adults, the direct result is a change in how inspired or motivated the child is to achieve and it is this individual motivation that leads to good outcomes. It is further possible that aspects of motivation on the part of the child (including sense of competence and

relatedness) may be the mechanism that helps to explain how quality of after-school programs impact academic outcomes in youth. That is, it may be that some programs inspire youth to be motivated to do well in school and that it is this attitude of motivation that accounts for school success.

While the construct of motivation has often been discussed in relation to academic outcomes, and various theories of motivation have examined the context in which children are motivated (i.e., structure of the classroom) along with the importance of feeling capable (competence) and connected to others (relatedness) as a pathway to motivational behavior (engagement), these complex relationships have not been examined in the specific context of an after-school community program. Furthermore, these relations have not been appreciated in a population of low-income youth although over $1 billion a year is allocated specifically to after-school programs or learning centers to target this high-risk population (Afterschool Alliance, 2009).

The purpose of the current study was to examine how after-school programs help to improve academic outcomes for low-income youth. Specifically, this study sought to understand the role of motivation in the relation between after-school program quality and academic outcome. The current study applied the SSMMD to the context of an after-school program to provide a framework in which to study the role of individual factors of motivation (i.e., competence, relatedness) in the relation between after-school program quality (i.e., structure, time spent with adults) and academic engagement, where aspects of motivation indirectly effect the relation between after-school program quality and academic engagement.

Hypotheses

The current study tested the following hypotheses:

1. Program quality of after-school programs will be related to academic engagement in the classroom. Specifically, program structure and adult involvement will be positively associated with child reports of academic engagement.

2. Program quality of after-school programs will be related to children's motivation. Specifically, youth who participate in after-school classrooms that provide more structure will display a greater sense of competence compared to youth who participate in classrooms that provide less structure. Furthermore, youth who are in after-school classrooms with more adult involvement will display a greater sense of relatedness to staff at the after-school program compared to youth who are in classrooms with less adult involvement.

3. Motivation will indirectly effect the relation between program quality and academic engagement. That is, the relation between adult involvement and engagement will be dependent upon children's level of relatedness to teachers and staff at the after-school program. Furthermore, the relation between program structure and engagement will be dependent upon children's level of competence.

Method

Participants

The sample included 57 school-age children recruited from a community organization with an after-school program that has received support from a federal 21st CCLC grant, in the northwest area of Missouri serving a low-income population. The participating children (38.6% male, 61.4% female) ranged in age from 8 to 17 years old ($M = 10.6$, $SD = 2.24$). In terms of ethnic

diversity, 87.7% were African American, 5.3% were European American, and 5.3% were Hispanic American. Family income ranged from no income to $37,440 ($M$ = $14,266, SD = $8,883). Family income does not reflect federal assistance programs such as SNAP, TANF, WIC, Earned Income Tax Credit, or unemployment.

Based on R^2 values gathered from previous studies exploring the relation between after-school program quality, relatedness, perceived competence and academic engagement, it was determined with the statistical program *G-Power* (Faul, Erdfelder, Lang, & Buchner, 2009), that a minimum of 48 participants were needed for the current study. Criteria for participation in the study included: 1) children attending the community organization after school, 2) children who were native speakers of English, and 3) children who were age eight years or older (minimum age for the child self-report measures).

Measures

Demographic Information

With the permission of the organization's governing board, general demographic information such as the child's age, gender, ethnicity, and family income was gathered from the organization's database.

Program Structure

To assess program structure the Appropriate Structure subscale from the Promising Practices Rating System (PPRS; Vandell et al., 2005; see Appendix A) was administered by two research assistants during an observation of the after-school program. The PPRS is designed to assess school and community based after-school programs for children in Kindergarten and higher using qualitative ratings. Program structure is observed in a classroom setting during six 15-minute intervals. Fifteen items comprise the criteria for program structure, with higher scores

indicating a more structured classroom where transitions are smooth, students have a clear

understanding of the rules, and staff are well prepared for the activities, and lower scores

indicating a less structured environment where staff are unprepared, there are long transitions

during activities, and the environment is unsafe. The mean of the six ratings obtained for each

classroom were used in the present study.

The PPRS is unique in that it was developed for researchers assessing an after-school

care program (Yohalem, Wilson-Ahlstrom, Fischer, & Schinn, 2009), and it provides an

observational measure of structure that includes multiple items to help define and assess for

structure in classrooms. Satisfactory inter-rater reliability for program structure (kappa = .80) has

been established for the PPRS (Vandell et al., 2005). Satisfactory inter-rater reliability on the

PPRS was established for the current study (kappa = 1.0) (See Table 1 for descriptive statistics of

all study variables). Strong internal consistency and moderate predictive validity have been

established for this measure (Yohalem et al., 2009)

Table 1

Descriptive Statistics for Study Variables

	Minimum	*Maximum*	*M* (*SD*)
Structure	55.64	91.39	72.16 (11.13)
Involvement	.70	5.47	2.71 (1.46)
Competence	12.00	24.00	20.63 (3.23)
Related_EQ_All	1.55	3.91	3.05 (0.61)
Related_PS_All	1.43	4.00	2.52 (0.66)
Related_EQ_Teach	1.82	4.00	3.11 (0.65)
Related_PS_Teach	1.43	4.00	2.55 (0.68)
Engagement	1.42	4.00	3.37 (0.54)

Note. For Structure and Involvement, $N = 7$. For all other self-report variables, $N = 57$. Structure scores are reported as percentages, with higher scores indicating more structure in the classroom. Involvement scores indicate the rate of adult-child interactions per minute, with higher scores indicating more involvement. EQ = Emotional Quality subscale for Relatedness. PS = Proximity Seeking subscale for Relatedness. All = all adults at the community agency. Teach = after-school program teachers at the community agency.

Adult Involvement

To assess adult involvement in the after-school program the Interactions subscale from the Program Quality Observation tool (PQO; Vandell & Pierce, 2005) was administered by two research assistants during an observation of the after-school program. The PQO is designed to assess school and community based after-school programs for children in first grade and higher and includes time samples of adult's involvement with children during activities throughout the afternoon. Adult involvement is recorded on a time sample coding form (see Appendix B) via partial-interval time samples for 30 minutes. Sixty intervals are recorded where the observer watches the target staff member or child for 20 seconds, followed by 10 seconds of recording time. The rate of adult involvement per minute is calculated by dividing the number of

interactions (i.e., anytime the adult is attending to a child) that occurred by 60 (i.e., the number of intervals observed). Rate of adult involvement per minute was used in the current study, with scores ranging from .70 to 5.47 ($M = 2.72$, $SD = 1.46$).

The PQO rating scale is a modification of ratings used by Rosenthal and Vandell (1996), is a pre-cursor to the Promising Practices Rating System (Vandell et al., 2005), and is similar to other measures of program quality including the School Age Environment Rating Scale (Harms, Jacobs, & White, 1996). However, unlike other measures of program quality, the PQO includes a time interval measure to assess for adult-child involvement. Satisfactory inter-rater reliability for the Interactions subscale (kappa =.89) has been established for the PQO (Rosenthal & Vandell, 1996). Satisfactory inter-rater reliability on the PQO was established for the current study (kappa = .85). Strong internal consistency, concurrent validity, and predictive validity have been established for the PQO (Yohalem et al., 2009)

Perceived competence

To assess perceived competence, children were asked to complete the Self-Perception Profile for Children (SPPC; Harter, 1985; see Appendix C). The SPPC is a 36-item measure that addresses five domains of competence (i.e., scholastic competence, athletic competence, social acceptance, physical appearance, and behavioral conduct). In addition, a sixth subscale measures global self-worth or self-esteem. Each item on the SPPC consists of two opposite descriptions (e.g., "some kids feel like they are just as smart as other kids their age, but other kids aren't so sure and wonder if they are as smart"). Children were asked to choose the description that best fits them and then indicate whether the description is somewhat true or really true for them. Each item was scored on a four-point scale with a higher score reflecting a more positive view of oneself. For each of the domains of competence and the global self-worth scale, a total score was

computed by summing relevant items. Scores from the global self-worth scale, consisting of six items, were used in the present study. Total scores on the global self-worth scale could have range from 1 to 24. Scores in the present study ranged from 12 to 24 ($M = 20.63$, $SD = 3.23$).

Relatedness

To measure relatedness, children were be asked to provide information on the emotional quality of their relationships and how close they feel to their relationship partners using the Relatedness Questionnaire (Lynch & Cicchetti, 1991; see Appendix D). The Relatedness Questionnaire consists of 36 items measured on a four-point Likert scale that target children's perceptions of the emotional quality of their relationships and how close they feel to their relationship partners. This measure targets specific relationships relevant to the study's questions including relationships to teachers at the community organization and relationships to all individuals they know at the community organization.

The Relatedness Questionnaire yields two subscales including emotional quality and psychological proximity seeking. The emotional quality scale consists of items that assess children's feelings of specific positive (e.g., relaxed, happy, important, safe, loved) and negative (e.g., ignored, mad, bored, unhappy, scared, sad) emotions when they are with the specified relationship figure. Children rate how they feel about their relationship, with higher scores indicating that they almost always feel a certain way. The psychological proximity seeking scale consists of items where children rate on the degree to which they wish they were psychologically closer to the relationship figure. These dimensions demonstrate good internal consistency as indicated by alphas ranging from .67 to .83 for emotional quality and .83 to .93 for psychological proximity seeking across a variety of relationships (Lynch & Cicchetti, 1992). Further, scores on the Relatedness Questionnaire

are highly correlated with psychosocial outcomes in children from low-income backgrounds (Toth & Cicchetti, 1996).

The current study used mean scores from the emotional quality scale and the psychological proximity seeking scale to determine relatedness towards staff at the after-school program. For children's relatedness towards all adults at the community agency, scores ranged from 1.55 to 3.91 on the emotional quality scale ($M = 3.05$, $SD = 0.61$) and 1.43 to 4 on the psychological proximity seeking scale ($M = 2.52$, $SD = 0.66$) indicating qualitatively adequate patterns of relatedness. For children's relatedness towards their teachers at the community agency, scores ranged from 1.82 to 4 ($\alpha = .75$) on the emotional quality scale ($M = 3.11$, $SD = 0.65$) and 1.43 to 4 ($\alpha = .82$) on the psychological proximity seeking scale ($M = 2.55$, $SD = 0.68$), indicating qualitatively adequate patterns of relatedness.

Academic engagement

To measure academic engagement, children were asked to complete the school engagement scale from the Rochester Assessment Package for Schools (RAPS-S; Institute for Research and Reform in Education, 1998; Wellborn & Connell, 1987; see Appendix E). This scale consists of 15 items rated on a four-point Likert scale. The Engagement scale incorporates two subdomains of student adjustment in school: a) ongoing engagement with school; and b) reaction to challenge (i.e., strategies students use when faced with negative or stressful school events). A total score for the Engagement scale is computed by first obtaining mean scores for the two subdomains of engagement and then computing the mean of these two scores. The total engagement score was used in the current study. Scores ranged from 1.42 to 4 ($M = 2.55$, $SD = 0.68$), and satisfactory reliability was established ($\alpha = .85$). Scores on the engagement scale predict student GPAs and standardized test scores (Connell et al., 1994; Connell et al., 1995).

Procedure

Staff at a community agency in Northwest Missouri were contacted and provided information about the proposed project. After establishing cooperation from the community agency, school-age children and their families were recruited. Specifically, parents who had children attending the agency received a consent form when they come to drop off or pick up their children from the center (see Appendix F). Either the staff at the center, the principal investigator or research assistant(s) distributed this form to parents. If parents were interested in having their child participate in the study, they signed the consent form and returned it to the principal investigator. The principal investigator obtained permission from the organization's governing board to gather general demographic information such as the child's age, gender, ethnicity, and parental income, using the community organization's database.

The principal investigator and/or research assistant(s) met with children while they were attending the after-school program in a space with minimal distractions provided by the cooperating agency. Children were first read an assent form (see Appendix G) and administered the study measures. In some instances, data was collected over a period of several days as children attended the program for varying lengths of time after school (e.g., sometimes they would ride the bus home early in the afternoon, sometimes a parent would pick them up later in the evening). The measures were read to the child to ensure comprehension of the questions. In the event that the child requested help in filling out the measures, the principal investigator or research assistant(s) assisted with circling answers indicated by the child. Parents of participants were given movie passes for each of their children that completed the measures. Children were further compensated with school supplies and small toys.

Children were also observed in their after-school program classroom setting. All seven after-school classrooms for children age eight and older were observed by four research assistants who are not familiar with the after-school program. Two observers were trained on the Appropriate Structure subscale of the PPRS and the additional two were trained on the Interactions subscale of the PQO. To establish inter-rater reliability, research assistants practiced observing classrooms that were not included in the present study. Coding Manuals for the PPRS (see Appendix H) and for the PQO (see Appendix I) were created to assist in establishing reliability. The exact agreement method was used to establish reliability (Repp et al., 1976). In this method, the number of responses recorded by each observer in each interval was compared. On the structure subscale, an agreement was defined as an item in which both observers recorded the same response, and a disagreement as an item in which both observers did not record the same response. Inter-rater reliability was determined by dividing the number of agreements by the total number of items on the structure scale. On the interactions subscale, an agreement was defined as an interval in which both observers recorded the same number of responses, and a disagreement as an interval in which the observers did not record the same number of responses. Inter-rater reliability was determined by dividing the number of agreements by the total number of intervals in the session. To establish reliability, the percentage of agreement between both raters should equal at least 80 percent. Once this percentage was established, each observer was randomly assigned three to four classrooms to rate on either program structure or adult involvement.

To obtain a measure of structure for a classroom, one observer watched a classroom for six intervals of 15 minutes over the course of the three hours youth attended the after-school program. The intervals were spread out evenly across the three hours. Observers were provided

a checklist of 15 items that included specific criteria for structure including transitions during the activity, clarity of instructions given to youth, and safety of the environment. Observers checked each item as occurring or not occurring during one 15- minute interval. Next, ratings for that interval were assigned according to the number of items observers indicated as occurring or not occurring, where fewer items endorsed were considered a less structured environment and greater items endorsed were considered a more structured environment.

To obtain a measure for adult involvement, one observer watched a classroom for 30 minutes. The observer listened to an audiotape via headphones that indicated when to watch for an interaction between the teacher in the classroom and a child, and when to record if an interaction occurred. The observer watched the teacher for 20 seconds and then recorded the interaction for 10 seconds. This continued for 120 intervals of 30 seconds, or 60 minutes total. Observations were conducted during a time when all children were in the classroom (i.e., before parents picked them up from the program) to ensure that the majority of interactions that occurred between children and adults in the program were observed.

Results

Given that the data was collected from a community sample from a program where daily attendance was not required, approximately 5% of data was missing. That is, on some occasions, a child stopped attending the after-school program during the study and therefore, some of the measures were not completed.

Because choosing to delete cases list-wise or pair-wise with missing data or using other techniques such as sample-wise or subject-wise mean-replacement can result in biased or reduced variances or biased correlations, multiple imputation was used to account for missing data. Specifically, the expectation-maximization (EM) imputation algorithm was implemented

to inform the PROC multiple imputation (MI) procedure in the SAS program prior to importing the data to MPlus v. 6.0 (Muthén & Muthén, 2007) for further analyses (Graham, 2009; Graham, Cumsille, & Elek-Fisk, 2003). This missing data correction is ideal as it uses the complete information from the data obtained to impute missing data values. This technique results in utilization of parameter estimates that are unbiased and accurate for the model estimation analyses (Graham et al., 2003).

Bivariate correlations were used to explore the relations between the study variables (see Table 2). To test the hypothesis that program quality is positively related to academic engagement, correlational analyses were computed between program structure (Appropriate Structure on the PPRS), adult involvement (Interactions on the PQO) and academic engagement (Engagement Composite on the RAPS-S). As expected, the findings demonstrated a positive relation between variables, however, the results did not support hypothesis one in that program structure and adult involvement were not significantly correlated with academic engagement.

To test the hypothesis that program quality is positively related to motivation, correlational analyses were computed between program structure (Appropriate Structure on the PPRS) and competence (Global Self-Esteem on the SPPC) and between adult involvement (Interactions on the PQO) and relatedness (Emotional Quality and Psychological Proximity Seeking subscales). The results did not support hypothesis two in that program structure was not significantly correlated with competence and adult involvement was not significantly correlated with relatedness.

Table 2

Zero-Order Correlations Between Study Variables

	1	2	3	4	5	6	7	8
1. Structure	1.00							
2. Involvement	.89**	1.00						
3. Competence	-.13	-.08	1.00					
4. Related_EQ_All	.14	.19	.09	1.00				
5. Related_PS_All	.03	.11	.26*	.40**	1.00			
6. Related_EQ_Teach	.11	.13	.05	.70**	.43**	1.00		
7. Related_PS_Teach	-.07	.05	.21	.20	.67**	.25	1.00	
8. Engagement	.04	.05	.24*	.21	.32**	.20	.15	1.00

Note. $N = 57$. EQ = Emotional Quality subscale for Relatedness. PS = Proximity Seeking subscale for Relatedness. All = all adults at the community agency. Teach = after-school program teachers at the community agency. *$p < .05$. ** $p < .01$.

The intent for hypothesis three was to test that motivation has an indirect effect on the relation between program quality and academic engagement. Although the independent and dependent variables were not significantly related, it is possible to find that an indirect effect is significant (Preacher & Hayes, 2004). Therefore, a test for indirect effects was computed between program structure (Appropriate Structure on the PPRS), competence (Global Self-Esteem on the SPPC) and engagement (RAPS-S) and between adult involvement (Interactions on the PQO), relatedness (Emotional Quality and Psychological Proximity Seeking subscales) and engagement (RAPS-S).

Regression analysis models were tested using MPlus v. 6.0 (Muthén & Muthén, 2007). One thousand bootstrap resamples were used to obtain accurate confidence limits. Bootstrapped confidence intervals are reported for regression slopes and indirect effects as bootstrapping is

robust to violations of normality and is appropriate even when sample sizes are small (Preacher & Hayes, 2004). All reported regression weights are unstandardized, and indirect effects are based on unstandardized regression weights. Findings demonstrated that children's sense of competence did not indirectly effect the relation between structure and academic engagement (see Table 3), and children's reports of relatedness to all staff (see Table 4) and teachers (see Table 5) in the after-school program did not indirectly effect the relation between adult involvement and academic engagement. Results, however, did indicate a significant positive correlation between children's sense of competence and academic engagement and children's sense of relatedness, specifically psychological proximity seeking, and academic engagement (see Table 2; see Figure 7).

Table 3

Indirect Effect of Structure on Academic Engagement Through Competence

	Point Estimate	Product of Coefficients		Bootstrapping Percentile 95% CI	
		SE	Z	Lower	Upper
Competence	0.039	0.038	1.026	0.000	0.121

Note. N = 57; 1,000 bootstrap samples.

Table 4

Indirect Effect of Adult Involvement on Academic Engagement Through Relatedness to Staff at a Community Agency

	Point Estimate	Product of Coefficients		Bootstrapping Percentile 95% CI	
		SE	Z	Lower	Upper
Relatedness (Emotional Quality)	0.009	0.013	0.692	0.000	0.045
Relatedness (Proximity Seeking)	0.014	0.016	0.875	0.000	0.596

Note. N = 57; 1,000 bootstrap samples.

Table 5

Indirect Effect of Adult Involvement on Academic Engagement Through Relatedness to Teachers at a Community Agency

	Point Estimate	Product of Coefficients		Bootstrapping Percentile 95% CI	
		SE	Z	Lower	Upper
Relatedness (Emotional Quality)	0.008	0.012	0.667	0.000	0.046
Relatedness (Proximity Seeking)	0.002	0.011	0.182	0.000	0.165

Note. $N = 57$; 1,000 bootstrap samples.

Self   →   **Action**

Competence

Engagement

Relatedness
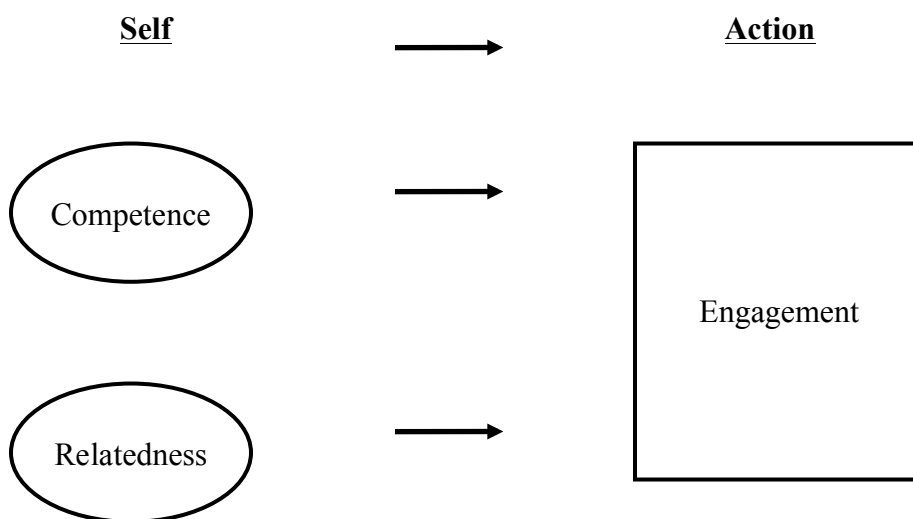
Figure 7. Positive correlations between variables

Discussion

As a way to begin to clarify how federally funded after-school programs may promote academic success in low-income youth, the current study examined the role of motivation in the relation between quality of an after-school program at a community agency and academic engagement. The literature examining the beneficial effects of after-school programs on academic outcomes has evolved from a microanalysis of the effects of specific activities on

academic outcomes (e.g., Bergin et al., 1992; Holland & Andre, 1987; Posner & Vandell, 1999), to a macro approach of suggesting that it is aspects of program quality, and not specific activities, that may be more clearly related to academic success (e.g., Fauth et al., 2007; Hirsch, Mekinda, & Stawicki, 2010; Pierce et al., 1999; Roffman et al., 2001). While the current study sought to continue in the vein of examining program quality and academic outcomes in low-income youth (represented as academic engagement in the present study), the results did not corroborate findings from previous studies that suggest a positive relation between program quality and academic outcome. Moreover, while findings from the current study did not highlight an indirect effect of motivation within this relation, it did provide support for a positive relation between sense of competence and academic engagement and relatedness and academic engagement

Hypothesis one

The current study did not find support for the relation between after-school program quality and academic engagement. Specifically, attending a structured after-school program with regular interactions between staff and youth (e.g., approximately two interactions per minute) may not help children engage in school. Findings from the current study also indicate that program quality, particularly adult-child interactions and program structure, may not be sufficient for promoting academic engagement in youth.

Program Structure and Academic Engagement

After-school programs that include prepared staff, adequate resources, and clear rules during activities have empirical support for improving children's engagement in the classroom including their persistence on academic related tasks and improved work habits (Vandell et al.,

2005). While the current study also examined structured after-school classrooms, results did not suggest that incorporating structure was related to children's academic engagement.

It is possible that the structure of the program alone is not enough to make a difference in children's academic engagement. Rather, incorporating activities that include learning academic skills may be useful in promoting children's academic engagement. For instance, programs that include an academic component such as homework time that is not structured, do not significantly impact children's academic engagement (Mason & Chuang, 2001), and programs that are structured, but do not include time working on homework or other academic activities also do not improve children's engagement in schoolwork (Durlak, 2007). Rather, a structured set of activities that incorporate academics such as homework time with a mentor or educational games is associated with the improvement in children's attitude towards and investment in school (Durlak, Weissberg, & Pachan 2010). While the after-school program in the current study did have a structured schedule with specific activities and consistent transitions between these activities, the schedule did not include academic-related tasks where children received help on homework or academic topics of interest. It is possible that adding an additional component to the after-school program that incorporates structured learning time, or partnering with public school personnel to include a child's academic curriculum in activities offered at the after-school program (Bergin et al., 1992) may help to improve academic engagement in children.

Furthermore, it is likely that even though the classrooms within the after-school program were structured (e.g., smooth transitions, prepared staff, adequate resources, clear rules in the classroom), not having a daily curriculum that was predictable and consistent may have been a reason why the relation between program structure and academic engagement was not significant in the present study. For instance, during data collection, the after-school curriculum, including

the order of activities, sometimes changed weekly. Setting clear expectations, including a consistent routine during after-school time was not measured in the present study, but is an aspect of program structure that has some support as a contributor to positive outcomes in youth, including academic outcomes such as the likelihood that children will engage in and remain in school (Sheldon, Arbreton, Hopkins, & Grossman, 2010). It is possible that. although the after-school classrooms incorporated clear transitions between activities and were prepared with appropriate materials and instructions during each activity, the changes made to the children's schedules may have dampened the potentially positive impact of the quality of the program on academic engagement.

Adult involvement and Academic Engagement

Because time spent with adults in an after-school program is related to academic outcomes such as grades (Posner & Vandell, 1999), and academic engagement is predictive of grades (Buhs et al., 2006), it was hypothesized in the present study that adult involvement in an after-school program, operationalized as regular staff-child interactions, would be positively related to academic engagement. However, results indicated that staff-child interactions are not related to academic engagement for youth. One reason for this finding may be that adult involvement, particularly interactions between children and adults in the after-school program, was conceptualized differently than in previous studies. Specifically, the current study used the number of interactions observed between adults and children as a measure of involvement, while past research has predominately used child reports of involvement, such as ratings of positive and negative interactions with staff (Pierce et al., 1999) and ratings of staff willingness to help them solve homework problems (Skinner et al., 2008). Number of interactions was used in the current study because measures that use rater observations indicating interactions as positive and

negative are often scrutinized for not being objective (McCollum & McBride, 1997). The current study attempted to extend beyond a narrow perspective of positive versus negative interactions by conducting unbiased observations of the quantity of interactions in the after-school environment.

It is also possible that the relation between adult involvement and academic engagement was not significant because other qualities, such as the one-on-one support children receive from adults on academic related tasks, is key to academic engagement. For instance, Marchand and Skinner (2007) found that children who have more interactions with their teacher throughout the day, including help on their homework or asking questions during class, are more engaged in their schoolwork and perform better in school than children who do not ask questions or interact with their teachers. Like at school, an after-school program that includes staff-child interactions around academic related topics such as homework (e.g., tutors, mentoring programs with an academic component) may be more successful in improving children's academic outcomes than programs that may have a high rate of interactions between staff and children, but do not necessarily interact around issues related to academic progress. The interactions between adults and children observed for the present study were in the context of structured activities that were unrelated to children's homework or academics taught at school. One way that an after-school program may better promote academic engagement is if children are assigned a mentor or teacher to help with their work and provide them with direction on how to spend their free time in the after-school program. As past research suggests that after-school programs that are successful in improving academic outcomes for youth often involve schoolteachers as mentors in the program (Tucker et al., 1995), it is possible that having a high level of adult-child

interactions is not sufficient to impact academic engagement in youth, but rather interactions around academic topics may be more helpful.

Hypothesis two

Program Structure and Competence

The present results did not support the findings of past research suggesting that structure of after-school care may be linked to children's sense of competence following program participation (Barber et al., 2001; Mahoney et al., 2005). It is possible that a child's improvement in motivational components like competence could be due to aspects of the program other than structure. That is, different types of programming, particularly culturally relevant programming, may be a factor in why some programs have support for improving children's sense of competence. For instance, Mason and Chuang (2001) found that an increase in self-esteem for low-income African American youth who participated in an after-school program was because of the structure of the program and the culturally relevant curriculum, including awareness, pride, and history related to African American culture. Because the majority of the children in the current study were also low-income African American youth, and because existing literature demonstrates a significant relation between cultural pride and self-esteem for African American youth (Hughes, Witherspoon, Rivas-Drake, & West-Bey, 2009), it is possible that not having a culturally relevant curriculum may help explain why findings in the current study were not significant.

Additionally, studies that did find evidence that a structured after-school program was related to improved sense of competence in youth appeared to qualitatively measure this relation. For instance, Dawes and Larson (2011) utilized a qualitative approach to evaluate what children gained from attending the after-school program and found that children reported developing a

sense of competence during the structured activities they participated in after school. It is possible that quantifying the constructs of structure and competence do not provide the same findings as a qualitative analysis of children's perceptions of the after-school program.

Adult Involvement and Relatedness

Relationships between children and adults at an after-school program were also examined in the current study. Although previous findings, both in a school setting (Skinner et al., 2008) and an after-school program (Allen et al., 1994) have suggested that the amount of time children spend with adults is directly related to how connected children feel to the staff, the current study did not corroborate these findings. The measure of adult involvement and the characteristics of study participants, including a desire to help the organization, may have played a role in the current study's results.

This study was the first of its kind to use an observational tool created for evaluating after-school programs to measure the amount adults were involved with children in the program. Other studies reporting a significant relation between adult involvement and relatedness in an after-school program used a measure of children's *perceptions* of adult involvement. For example, Allen et al. (1994) used a qualitative approach to ask youth if they believed they had a connection with adults in the program and if they thought adults were interested in their well-being. It is possible that while children's perceptions of adult involvement is significantly associated with their sense of relatedness, quantitative observations of adult involvement with children at the after-school program does not capture the same relation.

It is also possible that the interactions observed in the classroom were only a small percentage of the interactions children had with adults in the community agency. For example, during data collection, participants would frequently discuss the CEO and founder of the

organization as adults that they personally knew at the agency. However, these individuals did not often come to the classrooms, rather, children would seek them out. Because the children in this study, regardless of the classroom they were in, endorsed adequate patterns of relatedness (i.e., average levels of positive affect and psychological closeness in their relationships) towards staff and teachers at the after-school program, it is possible that measuring the adult-child interactions that happened in the classroom did not fully represent the amount of interactions children had with adults while attending the afterschool program.

Finally, it may be that there was a selection bias during the recruitment process of the current study. Specifically, recruitment materials included slogans encouraging families to participate in the study as a way to support the organization's continued success and growth. It may be that the families who signed up to be a part of a study that encouraged support of the organization were families that already felt supported by the organization.

Hypothesis three.

Competence and Academic Engagement

Results from the current study indicate that youth who feel capable of succeeding in a variety of tasks are more likely to engage in academic related activities. While this finding is similar to past research indicating that children are more likely to engage in tasks which they feel confident in (Eccles et al., 1983), the present study adds to the field by demonstrating the impact that competence can have on academic engagement among a low-income urban population. However, contrary to predictions, the results did not support an indirect effect of competence in the relation between structure and academic engagement. That is, the level of child competence did not change the impact that classroom structure had on academic engagement. Therefore, while feeling confident in one's abilities to accomplish tasks is important for academic

engagement, this confidence is not necessarily related to how structured the child's environment is at the after-school program and does not impact the relation between structure and academic engagement.

One possibility for this finding is that all classrooms observed were moderately to highly structured, making it difficult to determine if a difference in structure impacted children's sense of competence. Additionally, all children in the study were in the 3rd grade or higher. It may be that children in late elementary school and older are not motivated by structure, but rather from a choice of activities or from other academic-related activities other than those offered at the after-school program. For instance, Pierce, Bolt, and Vandell (2010) found that the availability of diverse activities was associated with more positive outcomes including a greater sense of competence after the 3rd grade, while younger children benefited from more structured activities with fewer choices. These findings suggest that while young students may benefit from structure, as children grow older, they may benefit from opportunities to explore a wider range of options. It is possible that for after-school programs that include children ranging from 3rd grade through middle school and high school, qualities other than structure of the program is important in promoting children's sense of competence and academic engagement.

Relatedness and Academic Engagement

As children's need to be connected to others was not related to adult involvement at the after-school program, it also did not impact the relation between adult involvement and academic engagement. However, findings from the current study did demonstrate that children's proximity seeking, or desire to be closer to staff at the after-school program, was positively correlated with academic engagement. These results suggest that the more children wished they were close to staff, the more engaged they were in their schoolwork. Past research indicates that children's

sense of relatedness, or reports that they already feel close to significant adults such as teachers and parents is positively related to their academic outcomes, while their desire to be closer to staff is not related to these outcomes (Furrer & Skinner, 2003; Ryan & Grolnick, 1986; Ryan et al., 1994). Specifically, academic outcomes often improve when emotional quality of the relationship increases and proximity seeking decreases. While findings in the current study are counterintuitive in that they do not fit with past literature, there may be some explanation for why emotional proximity seeking, or wanting to feel close to adults, was positively related to academic engagement.

First, it is possible that participants' interpretation of the questions on the relatedness scale for proximity seeking may have impacted the findings. For instance, the proximity seeking subscale of the Relatedness Questionnaire included statements such as "I wish I was closer to people" at the after-school program. Often, children were observed circling "very true" while reporting to the interviewer that they already felt close to the staff and would like to continue to be closer to them. It is therefore possible that children who appeared to rate highly on the proximity seeking subscale, in fact already felt very related or close to the staff.

Another reason why children reporting emotional proximity seeking also demonstrated positive academic engagement, may be because children who want to be closer to mentors or adults, may seek them out for help with homework or other academic tasks, as opposed to children who report that they do not wish they were closer to teachers or other significant adults (Lynch & Cicchetti, 1997). For example, Marchand and Skinner (2007) found that children in elementary and middle school who sought out others when they needed help with their schoolwork, were more academically engaged than children who did not seek out help. This finding suggests that similar to participants in the current study, children who report they are not

close enough to significant adults, and would like to be closer to them, may be more actively engaged in their academic learning than children who do not actively try to be more connected to significant adults.

Limitations of Current Study

The current study has several notable strengths, but it is not without limitations. First, the research design was cross-sectional and the analyses were correlational; therefore, caution is warranted as the results do not suggest causality between the study variables. Furthermore, while bootstrapping techniques were used to determine indirect effects, which is the most well-documented method for testing pathways within small sample sizes (Preacher & Hayes, 2004, 2008; Zhao, Lynch, & Chen, 2009), it was not possible to determine any potential directionality and reciprocity of the relations between the study variables.

Second, as the current study was examining an after-school program that did not operate in isolation, but rather was housed within a larger agency, the measure of adult involvement did not capture all potential interactions that children had with other adults at the agency including past teachers and administrative staff. It is possible that children were having more interactions with adults than was captured in the current study.

Third, although research in the community setting is important, this setting may have added some limits to the research methods. For instance, data were collected at a time when the after-school program was experiencing some transitions. For instance, the director of the after-school program changed two times during data collection and with each new leader, the schedule of activities and vision for the after-school program shifted. Despite these changes, the after-school program managed to maintain structured classrooms as evidenced by the results from the observations in the current study. Changes regularly happen in classrooms in school as well as

in programs after-school, and it is encouraging that the changes that occurred during data collection did not appear to impact the structure of the after-school classrooms.

Finally, the after-school program did not keep a thorough attendance record, and the philosophy of the program promoted flexible attendance and viewed mandatory attendance as punitive for the population it served. Therefore, analyses did not control for length of time children attended the after-school program or number of days they attended throughout the year. It is possible that inconsistent attendance may have limited the findings (i.e., varying dosage levels of program exposure) in that attendance can play a significant role in how much the after-school program can impact child outcomes (Ferrari & Turner, 2006)

Implications and Future Directions

The present study is one of the few to examine a single program specifically funded to promote academic functioning in a sample of low-income urban youth. Examining low-income youth in the context of after-school programs is important as children raised in poverty are at-risk for poor educational outcomes and the goal of many after-school programs is to help at-risk youth become more engaged in school. While the current study is unique in that it examines the very population that many after-school programs are targeting, future studies with this population are needed to determine if the findings from the present study are unique to the specific after-school program examined, or if findings are generalizable across all after-school programs serving low-income urban populations.

Also, as the results indicated that low-income children attending an after-school program reported high levels of competence, relatedness and academic engagement, future studies should continue to investigate aspects of motivation, particularly competence and relatedness, as qualities that may be fostered in children attending an after-school program as a way to promote

academic engagement. As the current study was conducted at one time point, a next step in determining the potentially unique contributions of after-school programs is to collect longitudinal data to determine if motivation and academic variables change as a function of length of time in the after-school program. Additionally, utilizing a motivational framework, such as the Self-System Model of Motivational Development (SSMMD), to compare youth from the same community who do or do not attend an after-school program may further help to illuminate the effectiveness of after-school programs on academic engagement for low-income youth.

Next, as the current study did not find a significant relation between after-school program quality and children's motivation or academic engagement, and because after-school programs similar to the one examined in the current study are often funded to promote positive academic outcomes in youth, consideration of what other elements of after-school program quality may help to promote children's academic engagement is needed. One approach researchers may consider is the child's age. For instance, developmental theory posits that as children get older, they are given greater independence and choice by parents (Gauvain & Perez, 2005), and beginning in middle school, many children choose to spend more time in extracurricular activities (Holland & Andre, 1987). Some studies suggest that for children entering middle school, after-school programs should support skill development including social skills and fostering children's talents and abilities (Pettit, Laird, Bates, & Dodge, 1997), along with allowing them to explore their independence through activities that develop peer relationships and relationships with adults (Eccles, 1999). However, for younger children in early elementary school, the research points to the need for high supervision and structure as opposed to fostering

independence (Vandell et al., 2005). It is likely important that after-school programs attend to and tailor their programming to the developmental needs of their participants.

Along with clarifying which after-school program qualities are the most relevant for certain populations, further examining *how* program quality is best measured is needed. For instance, while the current study attempted to extend beyond a qualitative (e.g., positive versus negative) perspective of adult-child interactions by conducting quantitative observations of the after-school environment, perhaps more important would be to consider these quantifiable interactions along with children's perceptions of their interactions with adults. Past research that has used child reports as the primary measure of adult involvement suggests that combining this method with observer reports of adult involvement may provide a more comprehensive understanding of the involvement of adults with children at the after-school program (Roffman et al., 2001).

Finally, as many after-school programs are funded specifically to promote academic outcomes in youth, examining grades as an outcome to after-school program quality is a necessary next step. Prospective endeavors could use a framework such as the SSMMD to evaluate the relation between motivation variables such as relatedness to after-school program staff and academic achievement including grades and test scores. As academic engagement is shown to be a precursor to academic achievement, and findings from the current study indicate a positive relation between motivation variables and academic engagement, feeling positive about one's abilities to succeed, while also striving to be close to meaningful adults such as teachers and mentors at an after-school program, may promote academic achievement.

To obtain children's academic grades, it is important to develop a partnership between the after-school program and the participants' home school (Afterschool Alliance, 2012). Having a partnership may also contribute to the success of some after-school programs in

helping to improve a child's sense of competence. For instance, some programs that are recognized for promoting children's sense of competence include: 1) school teachers helping to recruit families to participate in both the after-school program as well as the program evaluation (Mason & Chuang, 2001); 2) a licensed teacher as site coordinator (Reisner et al., 2007); and 3) a location at the child's home school where classroom teachers participate in the program as a tutor or mentor (Mahoney et al., 2005). Future research should compare programs that do and do not partner with their children's school teachers to determine if a relation between an after-school program and a child's home school make a difference in not only children's sense of competence, but also their academic outcomes.

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Appendix A

Promising Practices Rating System
Appropriate Structure Subscale

Observer Name: _____
Classroom: _____
Date Observed: _____
Time Observed: _____
Activity Observed: _____

Criteria for Structure:	Yes (Occurred)	No (Did not occur)
Transition times are minimal (e.g., students do not need to wait a long time for an activity to start)		
Activity area is prepared and ready when youth arrive		
Materials are accessible and efficiently dispersed to youth		
Materials are in a condition that allows them to be used as required (e.g., sports equipment is functional, games have all required pieces, computers work)		
There are enough materials to allow youth to participate simultaneously in activities		
Staff understand the instructions and are prepared to support students in the activity		
Staff explain reasons for rules and structure of the activity		
Instructions are easily understandable and easy to follow		
Students understand and follow instructions		
Students understand their responsibilities		
Students know what is expected of them		
Staff members support each other (e.g., do not work at cross-purposes or give conflicting information to students)		
The classroom area is cluttered (i.e., materials are left on the floor)		
There are dangerous or broken materials in the classroom		
External distractions are minimal (e.g., do not interfere with students' participation/experience)		

Appendix B

Program Quality Observation
Interactions Subscale

Sample Rating Form

Interval (seconds)	Interval (#s)	Rater 1	Rater 2
0-19	1		
30-49	2		
60-79	3		
90-109	4		
120-139	5		
150-169	6		
180-199	7		
210-229	8		
240-259	9		
270-289	10		
300-319	11		
330-349	12		
360-379	13		
390-409	14		
420-439	15		
450-469	16		
480-499	17		
510-529	18		
540-559	19		
570-589	20		

Appendix C

Self-Perception Profile for Children

What I am Like

Really true for me	Sort of true for me					Really true for me	Sort of true for me

Sample sentence:

		Some kids would rather play outdoors in their	BUT	Other kids would rather watch T.V.		

1. Some kids feel that they are very *good* at their school work but other kids *worry* about whether they can do the school work assigned to them.
2. Some kids find it *hard* to make friends but other kids find it's pretty *easy* to make friends.
3. Some kids do very *well* at all kinds of sports but other kids *don't* feel that they are very good when it comes to sports.
4. Some kids are *happy* with the way they look but other kids are *not* happy with the way they look.
5. Some kids often do *not* like the way they behave but other kids usually *like* the way they behave.
6. Some kids are often *unhappy* with themselves but other kids are pretty *pleased* with themselves.
7. Some kids feel like they are *just as* smart as other kids their age but other kids aren't so sure and *wonder* if they are as smart.
8. Some kids have *a lot* of friends but other kids *don't* have very many friends.
9. Some kids wish they could be a lot better at sports but other kids feel they are good enough at sports.
10. Some kids are *happy* with their height and weight but other kids wish their height or weight were *different.*
11. Some kids usually do the *right* thing but other kids often *don't* do the right thing.
12. Some kids *don't* like the way they are leading their life but other kids *do* like the way they are leading their life.
13. Some kids are pretty *slow* in finishing their school work but other kids can do their school work *quickly.*
14. Some kids would like to have a lot more friends but other kids have as many friends as they want.
15. Some kids think they could do well at just about any new sports activity they haven't tried before but other kids are afraid they might *not* do well at sports they haven't ever tried.
16. Some kids wish their body was *different* but other kids *like* their body the way it is.

17. Some kids usually act the way the know they are *supposed* to but other kids often don't act the way they are supposed to.
18. Some kids are *happy* with themselves as a person but other kids are often *not* happy with themselves.
19. Some kids often *forget* what they learn but other kids can remember things *easily*.
20. Some kids are always doing things with *a lot* of kids but other kids usually do things by *themselves.*
21. Some kids feel that they are *better* than others their age at sports but other kids *don't* feel they can play as well.
22. Some kids wish their physical appearance (how they look) was *different* but other kids *like* their physical appearance the way it is.
23. Some kids usually get in *trouble* because of things they do but other kids usually *don't* do things that get them in trouble.
24. Some kids *like* the kind of person they are but other kids often wish they were someone else.
25. Some kids do very *well* at their classwork but other kids *don't* do very well at their classwork.
26. Some kids wish that more people their age liked them but other kids feel that most people their age *do* like them.
27. In games and sports some kids usually *watch* instead of play but other kids usually *play* instead of watch.
28. Some kids wish something about their face or hair looked *different* but other kids *like* their face and hair the way they are.
29. Some kids do things they know they *shouldn't* do but other kids *hardly* ever do things they know they shouldn't do.
30. Some kids are very happy being the way they are but other kids wish they were *different.*
31. Some kids have *trouble* figuring out the answers in school but other kids almost *always* can figure out the answers.
32. Some kids are *popular* with others their age but other kids are *not very* popular.
33. Some kids *don't* do well at new outdoor games but other kids are *good* at new games right away.
34. Some kids think that they are good looking but other kids think that they are not very good looking.
35. Some kids behave themselves very well but other kids often find it hard to behave themselves.
36. Some kids are *not* very happy with the way they do a lot of things but other kids think the way they do things is *fine.*

Appendix D

Relatedness Questionnaire

<u>Directions</u>

This questionnaire is given to all children eight years old and above. You will read the items to the child, and the child will indicate his or her responses. For **all** children, use one copy of the measure and the Relatedness Response Scale. You will read from this copy, the child will pick his/her response from the scale, and you will circle the child's response on the relatedness questionnaire.

You will be asking the child about seven sets of relationships: their relationship with people at Operation Breakthrough, their teacher at Operation Breakthrough, their family, their older sibling (if they have one), their younger sibling (if they have one), their mother, and their father (if he is present).

The following directions are read to the child:

"Now I'd like to talk with you about different people that you know. I'm going to ask you what you think about them and how you feel about them. Do you have any questions?"

a.) Introduce the first set of questions: "First, I'd like you to think about the **people at Operation Breakthrough**. Can you tell me who you know at Operation Breakthrough? List your top five adults" Have the child name everyone he or she knows at Operation Breakthrough. "OK, these questions will be about <u>all</u> the people you just named at Operation Breakthrough."

Go over the response scale with the child (**no matter what his/her age**). Say: "For these first questions, the choices are 'NOT AT ALL TRUE', 'NOT VERY TRUE', 'SORT OF TRUE', and 'VERY TRUE'. Does that make sense?" Make sure that the child understands the scale. In using the Relatedness Response Scale, it is a good idea to fold the response scale in half so that the child sees only one scale at a time. Ask the first seven (7) questions.

For the next set of questions, turn over the response scale to show the second set of choices and say: "For these questions, the choices are 'ALMOST NEVER', 'NOT VERY OFTEN', 'SOME OF THE TIME', and 'ALMOST ALWAYS'. Does that make sense?" Make sure that the child understands the scale. Ask the remaining questions about the best friend.

b.) Introduce the second set of questions: "Next, I'd like you to think about **your teacher at Operation Breakthrough**. "These questions will be about your teacher at Operation Breakthrough."

ID: _____
DATE: _____

RELATEDNESS SCALES

1= Not at all true
2 = Not very true
3 = Sort of true
4 = Very true

1	2	3	4	1. I wish people at Operation Breakthrough paid more attention to me.
1	2	3	4	2. I wish people at Operation Breakthrough could spend more time with me.
1	2	3	4	3. I wish people at Operation Breakthrough knew me better.
1	2	3	4	4. I wish people at Operation Breakthrough knew more about how I feel.
1	2	3	4	5. I enjoy the time I spend with people at Operation Breakthrough.
1	2	3	4	6. I wish I was closer to people at Operation Breakthrough.
1	2	3	4	7. I wish I could talk about more things with people at Operation Breakthrough.
1	2	3	4	8. When I'm with people at Operation Breakthrough, I feel **RELAXED.**
1	2	3	4	9. When I'm with people at Operation Breakthrough, I feel **IGNORED.**
1	2	3	4	10. When I'm with people at Operation Breakthrough, I feel **HAPPY.**
1	2	3	4	11. When I'm with people at Operation Breakthrough, I feel **MAD.**
1	2	3	4	12. When I'm with people at Operation Breakthrough, I feel **BORED.**
1	2	3	4	13. When I'm with people at Operation Breakthrough, I feel **IMPORTANT.**
1	2	3	4	14. When I'm with people at Operation Breakthrough, I feel **UNHAPPY.**
1	2	3	4	15. When I'm with people at Operation Breakthrough, I feel **SCARED.**
1	2	3	4	16. When I'm with people at Operation Breakthrough, I feel **SAFE.**
1	2	3	4	17. When I'm with people at Operation Breakthrough, I feel **SAD.**
1	2	3	4	18. When I'm with people at Operation Breakthrough, I feel **LOVED.**
1	2	3	4	19. I wish my teacher at Operation Breakthrough paid more attention to me.
1	2	3	4	20. I wish my teacher at Operation Breakthrough could spend more time with me.
1	2	3	4	21. I wish my teacher at Operation Breakthrough knew me better.
1	2	3	4	22. I wish my teacher at Operation Breakthrough knew more about how I feel.
1	2	3	4	23. I enjoy the time I spend with my teacher at Operation Breakthrough.
1	2	3	4	24. I wish I was closer to my teacher at Operation Breakthrough.
1	2	3	4	25. I wish I could talk about more things with my teacher at Operation Breakthrough.
1	2	3	4	26. When I'm with my teacher at Operation Breakthrough, I feel **RELAXED.**
1	2	3	4	27. When I'm with my teacher at Operation Breakthrough, I feel **IGNORED.**
1	2	3	4	28. When I'm with my teacher at Operation Breakthrough, I feel **HAPPY.**
1	2	3	4	29. When I'm with my teacher at Operation Breakthrough, I feel **MAD.**

1 2 3 4   30. When I'm with my teacher at Operation Breakthrough, I feel **BORED.**
1 2 3 4   31. When I'm with my teacher at Operation Breakthrough, I feel
                  IMPORTANT.
1 2 3 4   32. When I'm with my teacher at Operation Breakthrough, I feel **UNHAPPY.**
1 2 3 4   33. When I'm with my teacher at Operation Breakthrough, I feel **SCARED.**
1 2 3 4   34. When I'm with my teacher at Operation Breakthrough, I feel **SAFE.**
1 2 3 4   35. When I'm with my teacher at Operation Breakthrough, I feel **SAD.**
1 2 3 4   36. When I'm with my teacher at Operation Breakthrough, I feel **LOVED.**

Appendix E

Rochester Assessment Package for Schools (RAPS-S)
School Engagement Scale

Read each of the following items. For each one, tell us how true it is for you by circling one of
the four answers: very true, sort of true, not very true, not at all true.

1. I work very hard on my schoolwork
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

2. When something bad happens to me in school (like not doing well on a test or not being able
    to answer an important question in class), I say the teacher didn't cover the things on the test.
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

3. I don't try very hard in school.
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

4. When something bad happens to me in school (like not doing well on a test or not being able
    to answer an important question in class), I worry that the other students will think I'm dumb.
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

5. When something bad happens to me in school (like not doing well on a test or not being able
    to answer an important question in class), I try to figure out what I did wrong so that it won't
    happen again.
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

6. When something bad happens to me in school (like not doing well on a test or not being able
    to answer an important question in class), I tell myself it didn't matter.
    A   B   C   D
    Very   Sort of   Not very   Not at all
    True   True   True   True

7. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I say it wasn't important.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

8. I say I didn't care about it.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

9. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I get angry at the teacher.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

10. I pay attention in class.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

11. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I try to see what I did wrong.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

12. I often come to class unprepared

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

13. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I say it was the teacher's fault.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

14. When something bad happens to me in school (like not doing well on a test or not being able to answer an important question in class), I tell myself I'll do better next time.

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

15. How important is it to you to do the best you can in school?

A	B	C	D
Very True	Sort of True	Not very True	Not at all True

Appendix F

INFORMED CONSENT STATEMENT

Operation Breakthrough Research Program

INTRODUCTION
The Departments of Psychology and Applied Behavioral Sciences at the University of Kansas support the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish for you and your child to participate in the present study. You may refuse to sign this form and decline participation for yourself and your child in this study. You should be aware that even if you agree for yourself and your child to participate, you are free to withdraw at any time. If you do withdraw yourself or your child from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY
The goal of this study is to gather information about the emotional, social, academic and behavioral functioning of the children and families receiving preschool, after school care, summer enrichment, medical, dental and mental health services at Operation Breakthrough. Operation Breakthrough and the investigators are interested in understanding how these services are helping children and families. By understanding how the children and families receiving services at Operation Breakthrough are functioning now, the staff of Operation Breakthrough hope to improve services and gain more funding to support the children and families of Operation Breakthrough. Operation Breakthrough has requested the research and agreed to the following research plan.

PROCEDURES

If you agree to participate, you will be asked questions about how your child thinks, feels and behaves during a scheduled appointment at Operation Breakthrough. You will also be asked your feelings and experiences with your family. Researchers will discuss these areas with you, and your answers to these questions will be recorded on paper either in small groups or individually with researchers. These appointments will take place during a time that is most convenient for you. Completing questionnaires will take approximately 2 hours of your time. This time will be broken up into two 1 hour sessions if needed. All answers that you provide will be kept confidential and stored in a locked cabinet.

If you agree for your child to participate, your child will be asked questions about how he or she thinks, feels and behaves. Children will also be asked to complete some puzzles and shown pictures to test their academic skills. Older children will be asked to complete questionnaires with assistance from researchers, while younger children will be asked questions directly by researchers. Completing questionnaires and assessments will take about an hour of your child's time at Operation Breakthrough. This time will be broken up into two or three 30-minute sessions if needed. Additionally, please note that children will not be pulled away from important group activities during their time at Operation Breakthrough to participate in this study. All

assessments will take place during free time. All of your child's answers will be kept confidential and stored in a locked cabinet.

RISKS

All of the measures in this study have been previously used in other research projects like this one with no negative effects reported. Although the questions will assess your child's emotional, social, academic and behavioral functioning, no risks are expected for you or your child from completing the study measures. However, if you or your child becomes distressed or upset at any time from these questions, please contact a member of the research team or Operation Breakthrough staff to discuss these concerns. If participation in this study has raised issues for you or your child that you may wish to speak with someone about, you may contact Operation Breakthrough staff or researchers for a referral.

BENEFITS

This study will determine the functioning of the children and families receiving services at Operation Breakthrough. Your participation (and your child's) will give Operation Breakthrough staff a picture of how their services are helping your child, and guide them in improving services. This information may also help Operation Breakthrough obtain more funding to increase the number and quality of services that you and your child receive.

PAYMENT TO PARTICIPANTS

After completing questionnaires, you will be provided with laundry detergent and a $10.00 gift card to Walgreen's. After completing questionnaires and assessments, your child will be compensated with a small toy of his or her choosing from the researchers' prize box, worth less than $10. Investigators may ask for your social security number in order to comply with federal and state tax and accounting regulations.

PARTICIPANT CONFIDENTIALITY

Your name and your child's name will not be associated in any way with the information collected about you or your child or with the research findings from this study. The researchers will use a study number or a pseudonym instead of your name and your child's name. The researchers will not share information about you or your child unless required by law or unless you give written permission.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form you give permission for the use and disclosure of your and your child's information, excluding your or your child's names, for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you and your child are receiving or may receive from Operation Breakthrough or the University of Kansas or to participate in any programs or events at Operation Breakthrough or the University of Kansas. However, if you refuse to sign, you and your child cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION
You may withdraw your consent for your participation and/or your child's participation in this study at any time. You also have the right to cancel your permission to use and disclose information collected about yourself and/or your child, in writing, at any time, by sending your written request to: Yo Jackson, Ph.D., ABPP, 1000 Sunnyside Avenue, Dole Human Development Center, Room 2013, The University of Kansas, Lawrence, KS 66045. If you cancel permission to use your or your child's information, the researchers will stop collecting additional information about you and your child. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION
Questions about procedures should be directed to the researchers listed at the end of this consent form.

PARTICIPANT CERTIFICATION:
I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights and my child's rights as a research participant, I may call (785) 864-7429 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email mdenning@ku.edu.

I agree to take part in this study as a research participant and to allow my child to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

_____   _____
 Type/Print Parent/Participant's Name   Date

_____
 Child's Name

_____
 Parent/Guardian Signature

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Appendix G

Child Assent

Operation Breakthrough Research Project

"I am interested in finding out what you think about school, friends, and the people around you, so I would like to ask some questions about your experiences and feelings. I also have some pictures and puzzles I would like to show you and ask you about. We will spend about 30 minutes talking about these things today, and 30 minutes again later. If you don't feel like answering any questions, you don't have to, and you can stop at any time and that will be all right. I will be happy to answer any questions you have. Do you want to answer my questions?"

Appendix H

Promising Practices Rating System
Appropriate Structure Subscale
CODING MANUAL

1) **Transition times are minimal (e.g., students do not need to wait a long time for an activity to start)**: 5 minutes or less before teacher starts activity.

2) **Activity area is prepared and ready when youth arrive**: All materials for activity are available and room is ready for children to participate in activity (Assess on coder's arrival into room)

3) **Materials are accessible and efficiently dispersed to youth:**
Only not accessible if: Out of reach, have to ask teacher, materials not available to everyone

4) **Materials are in a condition that allows them to be used as required (e.g., sports equipment is functional, games have all required pieces, computers work)**: Children don't have to ask for additional materials because current materials are unusable; children don't have to change activity due to inadequacy of materials.

5) **There are enough materials to allow youth to participate simultaneously in activities**: Enough Materials (all children are able to participate in activities without having to wait for someone else due to lack of materials)

6) **Staff understand the instructions and are prepared to support students in the activity**: If student asks for help, teacher able to assist/respond appropriately.

7) **Staff explain reasons for rules and structure of the activity:** At start of activity, teacher sets guidelines by addressing the whole class.

8) **Instructions are easily understandable and easy to follow:** Clear language, step by step process of explanation. May be bad grammar, but clear to population.

9) **Students understand and follow instructions**: Children participate in activity by clearly following directions. Need to hear explicit instructions.

10) **Students understand their responsibilities**: Staying on task (i.e., not leaving room or getting other toy)

11) **Students know what is expected of them**: Follow instructions if teacher has to redirect child's behavior. Teacher has repeated instructions at least once if child is not following directions. OR they all walk in and do the same thing; no yelling and no hitting.

12) **Staff members support each other (e.g., do not work at cross-purposes or give conflicting information to students):** In case of 2nd adult, reinforces 1st adults' instructions.

13) **The classroom area is cluttered (i.e., materials left on the floor):** Materials are cluttered if they are on floor or not in their respective places (i.e. bins or piles) before or after the activity.

14) **There are dangerous or broken materials in the classroom:** Sharp objects are easily accessible, plugs, cords, something broken during activity such as glass.

15) **External distractions are minimal (e.g., do not interfere with students' participation/experience):** Intercom goes off, people other than teachers/staff coming in and out of activity area.

Appendix I

Program Quality Observation
Interactions Subscale
CODING MANUAL

Interactions = Teacher attending to a child

**Start "fresh" with each interval (as if looking at a new picture)

Interactions include:

1) Gestures
    a. Nodding head (Yes)
    b. Shaking head (No)
    c. Pointing to a toy

2) Facial Expressions
    a. Smiling at child
    b. Frowning at child

3) Touching
    a. Picking up child
    b. Patting on back
    c. Hugging child
    d. Holding a child

4) Speaking (Interaction ends when teacher stops attending to child)
    a. Saying a child's name
    b. Conversing with a child while looking at him/her
    c. Directing comments to a child, even if standing behind the child (e.g., giving commands such as "put the toys away" while looking at the child)
    d. If talking to a group, count as one interaction (*note: includes if a teacher addresses two children to do the same thing; e.g., "bobby and sally, please come here").

5) Handing child materials (e.g., paper, markers)

6) Taking materials a child is handing to teacher