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Peer-Assisted Social Learning In Urban After-School Programs

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PEER-ASSISTED SOCIAL LEARNING IN URBAN AFTER-SCHOOL PROGRAMS

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by

SARAH A. HELSETH

2016

To: Dean Michael R. Heithaus
College of Arts, Sciences and Education

This dissertation, written by Sarah A. Helseth, and entitled Peer-Assisted Social Learning in Urban After-School Programs, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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Date of Defense: May 20, 2016

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Vice President for Research and Economic Development
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Florida International University, 2016

DEDICATION

I dedicate this dissertation to my parents and my sister, who have always encouraged my love of psychological science and have supported me throughout my entire education.

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This dissertation stands on the strong foundation built by research mentors, professors, teachers, and colleagues I have encountered during my education: without your support, mentorship, and training, I would very likely not have the distinct pleasure of thanking you for your efforts here, in my doctoral dissertation.

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ABSTRACT OF THE DISSERTATION

PEER-ASSISTED SOCIAL LEARNING IN URBAN AFTER-SCHOOL PROGRAMS

by

Sarah A. Helseth

Florida International University, 2016

Miami, Florida

Professor Stacy L. Frazier, Major Professor

This study launches a program of research that targets the unmet mental health needs of children living in urban poverty by infusing evidence-based practices and mental health promotion into peer-mediated recreational activities delivered in community-based after-school programs (ASP). We examined the feasibility and promise of a Peer-Assisted Social Learning (PASL) model to promote social competence among low-income, minority youth. In collaboration with our community partner, we developed and implemented a series of 21 recreational activities designed to generate natural opportunities for peer-facilitated problem solving. Socially skilled children were identified by ASP staff and paired with less-skilled peers to maximize opportunities for social learning and minimize the demands placed on staff. Thirty children at an Experimental site participated in PASL activities, while 31 children at a Comparison ASP participated in recreation-as-usual activities. Five Experimental staff received training and participated in 10 weekly supervision meetings to support PASL implementation. Feasibility was assessed using measures of child and staff attendance, participation, and engagement in PASL, as well as staff adherence to and competence with implementation. Promise was assessed pre- and post-PASL, using measures including staff-reported social

skills, children's problem-solving strategies, and peer reported social standing (i.e., likability ratings, peer nominations, and social network mapping). Strong evidence emerged for fidelity of implementation (adherence, competence) and broader feasibility (attendance, participation, enthusiasm). Promise effects were mixed; children who participated in PASL demonstrated improvements in problem behavior and social skills, but also exhibited increased reliance on aggressive strategies to solve problems and some declines in peer-reported social standing. Implications related to the capacity of ASPs to incorporate evidence-based practices for mental health promotion into natural routines are discussed.

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I. INTRODUCTION TO THE RESEARCH

I am building a program of research to bridge the gap between the interpersonal relationship and implementation science literatures to improve youth social competence among at-risk children. My research focuses on a) targeting a vulnerable population of low-income, minority children with unmet mental health needs; b) building collaborative partnerships with community organizations to deliver evidence-based practices in non-specialty settings; and (c) utilizing theories of social competence to reconceptualize the role of peers in assessments and interventions.

Rationale for Research

National surveys estimate that 80% of low-income children living in the United States with an identified mental health need do not receive services (Kataoka, Zhang, & Wells, 2002) prompting researchers to pursue early and universal opportunities for mental health promotion. Community-based after-school programs (ASPs) provide unique and critical opportunities to infuse social learning into natural routines and activities (Frazier, Cappella, & Atkins, 2007) yet efforts that overburden ASP staff or utilize an external or grant-funded workforce for intervention implementation limit generalizability of the effects and sustainability of evidence-based practices (Atkins, Graczyk, Frazier, & Adil, 2003; Lyon, Frazier, Mehta, Atkins, & Weisbach, 2011). Peer-Assisted Learning (PAL) activities mobilize peers as agents of change, thereby leveraging indigenous resources by relying on competent children to serve as both positive models and rehearsal partners for less-competent children, and in turn limiting the demands placed on staff members. These peer-mediated approaches lend themselves well to strengthening children's social competence (Dirks, Treat, & Weersing, 2007a;

Rubin, Bukowski, & Laursen, 2009), as they require pairs of children to utilize social problem-solving skills together in pursuit of a shared objective. PAL programs are traditionally utilized within schools to improve academic progress for students, and have been most effective among young, urban, low-income, minority students (Rohrbeck, Ginsburg-Block, Fantuzzo, & Miller, 2003). To our knowledge, only one study to date has examined PAL in an ASP setting (Frazier, Chacko, Van Gessel, O'Boyle, & Pelham, 2012), and researchers have yet to capitalize on PAL as a natural vehicle to promote social learning for children. We therefore proposed that the unmet mental health needs of children living in poverty could be addressed by infusing mental health promotion into peer-mediated ASP activities.

Presentation of Research Findings

This dissertation explores the feasibility and promise of a Peer-Assisted Social Learning (PASL) model designed to improve social competence outcomes among children attending a community-based ASP. The research is described in two separate manuscripts, both intended for submission to the journal *Administration and Policy in Mental Health*, that reflect distinct literatures and research aims associated with the PASL model. Chapter two presents feasibility outcomes that speak to the *implementation of the program*, namely how our research-community partnership developed and ultimately delivered PASL activities. The goal is to identify contextual variables that functioned as facilitators or barriers to program implementation, including participant attendance, available resources, or program reception within the site, to help guide future implementation efforts. Chapter three describes the *impact of the program* on participants, namely whether their participation in the program was associated with any

measurable change on performance indices—essentially asking if the program was effective. Implementation scientists have increasingly argued for the need to concurrently evaluate the effectiveness and feasibility of evidence-based interventions, in part because understanding the context in which services were delivered can provide insight into effectiveness outcomes (Kazak et al., 2010). Therefore, we generated exploratory and experimental hypotheses regarding both the feasibility and promise of the PASL model to improve social competence among youth attending a community-based ASP. Guided by the evidence base for PAL and service delivery in community settings, we proposed that the PASL model would indeed be feasible to implement with fidelity to the protocol. Feasibility was assessed using ASP attendance records, and child and staff participation in and enthusiasm for PASL activities. Fidelity, which is one aspect of broader program feasibility (Schoenwald et al., 2011), was measured using staff- and observer-reported adherence to the protocol, as well as permanent research product (i.e., activity points awarded by staff to children) as evidence of staff competence. Regarding promise outcomes, we hypothesized that participation in PASL would be associated with children's effective problem-solving on hypothetical vignettes, improvements in social skills, reductions in problem behavior, and improved social status among peers.

II. PEER-ASSISTED SOCIAL LEARNING FOR DIVERSE AND LOW-INCOME YOUTH: INFUSING MENTAL HEALTH PROMOTION INTO URBAN AFTER SCHOOL PROGRAMS

This manuscript will be submitted to *Administration and Policy in Mental Health*, and thus adheres to its use of APA 6th Edition formatting guidelines.

Helseth, S. A., & Frazier, S. L. (in preparation). Peer-assisted social learning for diverse and low-income youth: Infusing mental health promotion into urban after school programs.

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Abstract

Urban after-school programs (ASPs) possess the capacity to support positive youth development by incorporating evidence-based practices into recreational activities. Our university-community collaboration developed and implemented a Peer-Assisted Social Learning (PASL) model. Thirty children completed 21 PASL activities that paired socially skilled and less-skilled children together to complete recreational activities designed to generate natural opportunities for peer-mediated problem solving. Five ASP staff received training and participated in 10 weekly supervision meetings to support implementation. Strong evidence for fidelity of implementation (adherence, competence) and broader feasibility (attendance, participation, enthusiasm) were found. Implications related to the capacity of ASPs to incorporate evidence-based practices for mental health promotion are discussed.

Keywords: Peer-assisted learning, after school program, problem solving, and feasibility

Literature Review

After school programs (ASPs) are well positioned to support children's mental health, particularly in low-income communities where limited access to and low utilization of mental health services result in substantial unmet need (Harrison, McKay, & Bannon, 2004; Kataoka et al., 2002). Mental health promotion is a central tenet of most programs, and is reflected in their emphasis on activities that facilitate social-emotional learning, foster peer relationships, and promote positive youth development (Gottfredson, Gerstenblith, Soulé, Womer, & Lu, 2004). Though ASPs hold tremendous opportunity, and perhaps even advantage over schools, to improve children's social and emotional learning skills (Frazier et al., 2007), they can vary widely in size, staff

qualifications, and resources (Bouffard & Little, 2003). Like schools, ASP staff have limited time on-site when they are not working directly with youth, making it difficult for them to receive training in new procedures and participate in ongoing implementation support efforts like supervision. ASPs typically target multiple, and often competing, priorities every day (e.g., academic support, recreation activities, unstructured free time), such that pre-packaged programs cannot be delivered without removing existing programming. The present study sought to leverage the opportunity of after-school time by utilizing an evidence-based implementation framework to deliver recreational activities that build social problem solving skills for youth, while paying particular attention to addressing challenges related to ASP resources, staff training, and ongoing implementation support.

Bringing Evidence-Based Interventions to After School Programs

A recent meta-analysis of 75 studies concluded that participation in high-quality ASPs was associated with positive and significant improvements in youth feelings and attitudes, academic achievement, and behavioral adjustment (Durlak, Weissberg, & Pachan, 2010); on average, ASP participants' test scores improved 12 percentage points more than those of non-ASP participants. Importantly, these findings mirror those of a similar meta-analysis that evaluated school-based interventions targeting social-emotional learning (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), indicating that ASPs are equally capable of contributing to children's social and academic outcomes. Their natural routines and activities, including homework, tutoring, sports and recreation, share important features with evidence-based interventions (e.g., D. Fuchs, Fuchs, & Burish, 2000; Pelham, Greiner, & Gnagy, 1997), highlighting their unique

opportunity to provide the infrastructure, routine, and workforce needed to promote social-emotional learning for youth in high-need, low-resource communities.

Researchers' early enthusiasm to promote positive youth development during after school time forged a new body of work centered on developing and enhancing services delivered to at-risk youth attending ASPs. In the early 1990s, researchers sought to document the benefits of participating in high quality after school time. Children from economically disadvantaged communities who attended formal ASPs demonstrated superior academic achievement and social adjustment outcomes than children who spent their after school time in self-care or supervised by a parent or other adult (Mahoney, Lord, & Carryl, 2005; Posner & Vandell, 1994); similar benefits were not observed in middle-class samples (Vandell & Corasaniti, 1990), further underscoring the value of high quality after school time for youth living in poverty. Subsequent research focused on identifying specific indicators of high-quality programming, that included staff education, low staff-child ratios, positive staff-child relationships, and curriculum variety, all of which have since been linked to positive child outcomes and satisfaction ratings (e.g., Pierce, Hamm, & Vandell, 1999; Rosenthal & Vandell, 1996).

These findings spawned a generation of research for the new millennium that shifted researchers' focus from characterizing high quality programs to creating them. Evidence-based interventions for after school programs have taken multiple forms. Several small- (e.g., Project NAFASI; Frazier, Mehta, Atkins, Hur, & Rusch, 2013) and large-scale efforts (e.g., Youth Program Quality Intervention; Smith et al., 2012; High/Scope; High/Scope Educational Research Foundation, 2005) have sought to improve the quality of existing programs through systematic observation, organizational

change, curriculum redesign, and workforce development. Other researchers have developed or adapted manualized curricula for key individuals involved in children's lives outside of school, including coaches (Smoll, Smith, Barnett, & Everett, 1993) and peer leaders (Frazier et al., 2015).

Despite growing evidence and enthusiasm for their capacity to promote positive youth development, federal funding for community-based ASPs has stagnated in recent years, threatening to compromise the availability and quality of programs (Afterschool Alliance, 2014). This is particularly concerning to programs serving predominantly low-income and minority youth, who are more likely to attend ASPs than Caucasian children or children from higher-income families (Afterschool Alliance, 2014). Beyond financial constraints, data suggest that staff continuity and preparedness, program integration with the local community, and a strong curriculum can influence the effectiveness and stability of program implementation (Armstrong & Armstrong, 2004). Therefore, there is a clear need for resource-minimal, evidence-informed interventions that align with organizational culture and objectives of ASPs that leverage without overextending indigenous resources.

Activating Peers as Agents of Change

Peers are powerful agents of change, reflecting their inherent and increasing influence during child development. They serve as both judge and jury in peer interactions, deciding what it means to be socially competent for whom and in what context (Dirks et al., 2007a). Early childhood peer interactions are organized and supervised by adults, and can arise out of convenience (e.g., proximity, parent friendships) rather than factors relevant and valued by children. By middle childhood,

children gradually gain social autonomy and begin to select peers with whom they would prefer to associate (Bigelow, 1977). Selected peer groups are typically founded on shared interests, attitudes, and behaviors, such that they value and promote a within-group cultural norm that emphasizes homogeneity (Rodkin, Farmer, Pearl, & Van Acker, 2000) and criticizes nonconformity (Adler, Kless, & Adler, 1992). Through social norms, positive reinforcement, ignoring, or even punishment, peers wield substantial power to influence how youth solve problems and interact with one another (see group socialization theory; Harris, 1995).

Peer-based interventions capitalize on the natural power of peer interactions to facilitate learning in targeted children. The bulk of research has examined direct interventions, whereby children intervene directly on targeted behaviors, though some programs rely on children to influence behavior indirectly, such as through group contingencies (e.g., Little, Akin-Little, & O'Neill, 2015). Direct interventions reflect two nearly independent but parallel literatures stemming from the mental health and education disciplines: 1. Behavior change (mental health) and 2. Academic improvement (education). The behavior change literature is best represented by peer-mediated interventions that seek to increase prosocial behavior and reduce antisocial behavior among children with psychopathology, including autism (Zhang & Wheeler, 2011), internalizing or externalizing problems (Fantuzzo, Manz, Atkins, & Meyers, 2005), and intellectual disabilities (Mathur & Rutherford, 1991; Odom & Strain, 1984). In these peer-mediated paradigms, researchers train confederate peers close in age and developmental level to the target child to deliver instructional components. Reflective of its "target child" conceptualization, a majority of studies (8 of 12) included in the most

recent systematic review of behavior change peer-mediated interventions employed within-subjects, multiple-baseline designs (Kaya, Blake, & Chan, 2013).

In contrast, academic peer-based interventions developed by education researchers are typically implemented class-wide, a process by which students provide intensive instruction and corrective feedback to peers on targeted academic work (e.g., Delquadri, Greenwood, Whorton, Carta, & Hall, 1986; Gerber & Kauffman, 1981). In particular, Peer Assisted Learning (PAL; Fuchs, Fuchs, Mathes, & Simmons, 1997), has developed a particularly rich literature in classroom settings. PAL strategically pairs low-achieving students with superior but similarly skilled peers and demonstrates robust findings for improved performance in reading (D. Fuchs et al., 1997), writing (Topping, 1996), and math (L. Fuchs et al., 1997) among elementary school-age children and most notably, for some of the hardest to reach and most vulnerable students. Indeed, a recent meta-analysis detected the greatest effects among young, lower-income, urban, minority students (Rohrbeck et al., 2003). Finally, and perhaps most intriguing, preliminary evidence indicates that participation in PAL activities may improve correlates of social competence among children with learning disabilities (D. Fuchs, Fuchs, Mathes, & Martinez, 2002) and children with low social status (Dion, Fuchs, & Fuchs, 2005).

From a youth social competence perspective, it is easy to see how the PAL model might improve social standing within the peer group. First, researchers sought an intervention model that would fit seamlessly into the structure of a classroom, one that would simultaneously maximize opportunities for learning (at proper instructional level) for all students without increasing instructional time or demands on teachers (Mathes & Fuchs, 1993). Students are the most abundant resource in any school, indicating a peer-

mediated approach would fit their parameters. Second, adult involvement during PAL activities is limited to awarding points to pairs for on-task, rule-following behavior; teachers only intervene if absolutely necessary. The PAL model balances monitoring and independence, providing sufficient structure to deter negative or deviant peer interactions (Dishion & Tipsord, 2011) during activities while facilitating natural social exchanges that occur between peers in the absence of adult interference (Rubin et al., 2009). Third, PAL activities engage pairs to work collaboratively towards a mutual goal, with both children taking turns serving as tutor and tutee (Simmons, Fuchs, Fuchs, Hodge, & Mathes, 1994) and sharing equally in the rewards earned. Anecdotal evidence from teachers (Jenkins, Antil, Wayne, & Vadasy, 2003) and empirical research on cooperative learning (Johnson & Johnson, 1994) suggest that peer-peer dyads promote the development of crucial interpersonal skills, including communication, cooperation, and problem-solving. Taken together, this evidence demonstrates how effectively peers can function as primary agents of change, hinting at their strong potential to facilitate social competency training during organized ASP activities.

Importantly, only one published study has examined PAL for reading in an ASP setting, as one part of a multi-component intervention targeting low-income, urban youth (Frazier et al., 2012); preliminary evidence was promising regarding feasibility and acceptability (e.g., staff consistently utilized PAL intervention tools, 90% reported they would continue to use PAL; Frazier, Mehta, Atkins, Hur, & Rusch, 2013). Though site staff reported the greatest enthusiasm for and utilization of PAL relative to other components, the intervention did not sustain well at one year follow-up assessment (i.e., some ASPs reported using PAL, but not as prescribed; Lyon, Frazier, Mehta, Atkins, &

Weisbach, 2011), reflecting, the investigators speculated, a need for increased organizational commitment or implementation support.

Implementation Science and Support

Aarons and colleagues (2011) offer a four-phase model of evidence-based practice implementation for universal, public sector settings. In the first exploration phase, community-based organization (CBO) members identify a specific issue that would benefit from intervention or organizational change. After selecting an issue and corresponding intervention tool, the CBO enters an adoption/preparation phase, wherein factors that could help or hinder implementation, such as funding, leadership, and workforce, are considered. During the active implementation phase, CBOs problem-solve challenges related to staff resistance, competing priorities, and client concerns that could influence whether or not implementation is a success. Finally, CBOs weigh the costs and benefits of implementation, which ultimately will determine the intervention's sustainability. Active and ongoing support at each stage of implementation, whether at the provider-, CBO-, community-, state-, or federal-level, is considered to be critical for the CBO to achieve successful implementation of the evidence-based practice.

Two independent but parallel implementation support literatures have emerged—one from mental health and the other from education. They coalesce around the need for and value of training, ongoing implementation support, and data-informed outcome monitoring to ensure that intervention adoption and delivery is effective and sustainable. A recent critical review of mental health services studies found that rigorous training in specialized intervention protocols directly improved therapist knowledge and attitudes, but was not sufficient to alter therapeutic behavior (i.e., protocol adherence); instead,

therapist behavior changed when all levels of the organization systematically supported and promoted adoption of the protocol (Beidas & Kendall, 2010). Mental health service providers most often support therapists via ongoing clinical supervision (Bearman et al., 2013). In fact, in their recent survey of 200 directors of community mental health agencies, Schoenwald and colleagues (2008) found that nearly all community organizations supported ongoing staff training (98%), provided weekly clinical supervision to therapists (90%), and evaluated service outcomes associated with clinical implementation (75%). The education literature similarly emphasizes training and supervision in the implementation of evidence based practices in school settings. In a recent study, Shernoff, Lakind, Frazier, and Jakobsons (2014) linked novice teachers with more experienced teachers to provide direct supervision in protocols and to help them build a network of collegial support. The education and mental health literatures have both sought to uncover implementation support mechanisms for their workforces, reflecting a broader need to conceptualize contextually relevant means of supporting and sustaining evidence-based implementation efforts.

We propose that ASPs exist at the intersection of education and mental health, despite important contextual differences (e.g., resources, staff education and experience, and time and opportunity for workforce development). In the absence of an ASP-specific literature on implementation support, we invoked the mental health and education literatures to guide implementation and assessment of our approach to staff training, measurement feedback, and ongoing supervision. Aarons and colleagues (2011) convincingly suggest that fidelity measurement serves two crucial purposes that contribute to intervention implementation. First, monitoring fidelity provides the context

through which to interpret program outcomes. Second, fidelity measures can serve a quality assurance function when they are paired with a feedback system, helping implementers refine their skills and providing ongoing implementation support. Researchers examining fidelity of implementation have argued for assessment to focus on three domains, namely implementers' adherence to treatment protocols, competence in their execution of protocols, and differentiation between implementation of protocols and care-as-usual activities (Schoenwald et al., 2011). In addition to measuring treatment fidelity, researchers have argued for a broader conceptualization of success that considers the more rudimentary, daily mechanics of implementation like participation and engagement (Hirsch, Mekinda, & Stawicki, 2010; Mahoney, Vandell, Simpkins, & Zarrett, 2009). A feasible intervention is one that not only can be implemented with fidelity to methodology, but also is well received and utilized by those it purports to target.

What We Know, What We Don't Know, and The Present Study

Positive youth development is a central tenet of most ASPs serving at-risk youth, positioning them well for prevention and intervention targeting social and emotional learning. Though open to intervention, ASP staff are often limited in both time and resources, underscoring the need for implementation support that leverages without overextending their capacity to promote youth development. Peer-based interventions show promise as a resource-minimal, high-impact tool for academic instruction, but to our knowledge PAL has been examined only once in a study on after-school time and no previous researchers have examined its capacity to facilitate social-emotional learning during or after school.

The present study represents the culmination of a two-year collaborative partnership with a community-based ASP. Our aim was to leverage our partner's natural strengths, without overextending or increasing demands, to promote development of youth social competence. Informed by youth social development theories and implementation science, we designed a peer-assisted social learning model (PASL) to provide natural opportunities for peer-facilitated social problem solving. In this paper, we report findings on feasibility of and fidelity to the PASL program from our quasi-experimental pilot study. First, feasibility was assessed with multi-source (i.e., staff & child) data on attendance, participation, and enthusiasm. Second, two components of implementation fidelity were assessed, including 1. staff- and observer-reported adherence and 2. permanent research product as evidence of staff competence.

Method

Methods adhered to IRB-approved procedures and APA Ethical Guidelines for Research. Our exploration of PASL implementation and feasibility occurred within the context of a multi-site, quasi-experimental trial; outcomes related to the impact of PASL on youth social competence are reported elsewhere (omitted for blind review).

Setting

Our community partner is a non-profit, faith-based organization serving children and families living in low income, urban communities throughout Miami-Dade County. Originally founded in 1973, our partner began as a grassroots organizing and advocacy program seeking social justice; in 2000 it began to develop and implement programs that directly target the immediate and long-term effects of poverty, as reflected by its new mission statement "to serve, educate, and inspire people through student, family, and

financial stability services in partnership with our communities." In addition to programs that serve adults and adolescents, our partner operates four after school enrichment programs that target academic achievement, health and well-being, and social competence in elementary school-age children. Children who participate in free or assisted school lunch programs are eligible to enroll free of charge in all programs. Our partner is primarily funded through community foundation grants, as well as a variety of corporate and personal donations; two additional full-time positions are staffed by AmeriCorps participants each year.

Our partner ASP operates during the school year at 4 locations that serve approximately 300 elementary school students in grades K-5 on weekdays from 2:30 p.m. to 6:30 p.m. The after school program is designed to deliver socially and academically enriching activities in 30 to 60 minute blocks; recreation and enrichment activities can vary across sites, but all sites provide homework tutoring, physical education (i.e., SPARK; Sallis et al., 1997), and group reading time led by a local public school teacher. Sites vary in size and amenities, but all have dedicated classroom and outdoor areas. Staff members are typically college educated, have prior experience working with children, and receive training related to their ASP activities. Site staff expressed high enthusiasm for collaboration with our university team, both for the opportunity to receive training related to positive youth development objectives and to fulfill obligations to their primary funder, which requires integration of life skills into enrichment activities. Of note, our partner requested training for non-participating sites upon completion of this study, reflecting long-term interest in sustaining the intervention model.

The intervention site was located in a pocket of concentrated urban poverty that bordered a very affluent neighborhood, such that the site's demographics were notably dissimilar to those of the larger community within which it was located. The 2013 median household income for the site's zip code was $90,649 (US Census Bureau, 2015), whereas all children enrolled at the experimental site qualified for free or reduced-price school lunches (i.e., a family of four earning <$44,123 annually; MDCPS Department of Food and Nutrition, 2014). Similarly, the surrounding neighborhood is predominantly white and Hispanic, but the site serves primarily black students who live within walking distance of the church where the ASP was located. At the time of enrollment, 35 children attended the program, facilitated by three full-time and two part-time staff members. Two additional students enrolled in the program after study recruitment had ended; they participated in the program but did not provide data. There were three additional long-time volunteers who led once-weekly activities (i.e., literacy, art, music), as well as occasional undergraduate volunteers who tutored children during homework time.

University-Community Partnership

Our university-community partnership began two and a half years ago, initiated by the Experimental Site's program director. Investigators met several times over 18 months with the program director and site staff, to identify areas of strength and need, and clarify goals for collaboration. Initial meetings emphasized relationship building and sharing expertise (i.e., scholarly and local knowledge; Frazier et al., 2007), to enhance engagement of both university and community partners (DuBois et al., 2011). Collaborative meetings led to three goals: 1. Support our community partner via staff training and ongoing consultation related to positive youth development, 2. Introduce

evidence-based tools that minimize demands on staff and maximize youth engagement, and 3. Promote social learning by facilitating opportunities for children to problem-solve together.

As a part of the collaborative process and to foster a mutual sense of commitment to the work, the first author volunteered weekly at the site, participated in partner events (e.g., talent shows, bake sales, parades), and facilitated World Café-style (Brown, Isaacs, & World Cafe Community, 2005) parent meetings on topics generated by families, including supporting children's academic needs, minimizing risky behaviors, and promoting health behaviors. Importantly, these activities directly informed the aforementioned goals for collaboration, by revealing our partner organization's strengths (e.g., academic and health curriculum, community service) and limitations (limited resources, behavior management, mental health needs).

Participants

Staff Participants. Five ASP staff members (100% of eligible) participated in the study. Staff were mostly female (60%), ranged in age from 20 to 45 years old (*Mean* = 27.6 years, *SD* = 10.2 years), and were Black/African American (40%) or Caucasian (60%). Two staff members held bachelor's degrees and three had completed some college courses or were actively pursuing a bachelor's. The ASP had 3 full-time staff, two of whom were funded on one-year AmeriCorps positions, and two part-time staff members. Staff members reported 0-15 years' experience working with children. Non-AmeriCorps staff members worked at the ASP for 1.3 to 4 years.

Child Participants. All children enrolled in the ASP were eligible to participate. Eighty-six percent of eligible children (30 of 35) enrolled in the study; no eligible

families declined enrollment, rather, there was never an opportunity to present their parents or legal guardians with information about the study because they were never on-site. They represented 24 families, accounting for 6 groups of siblings. Children were predominantly male (63%) and ranged in age from 5 to 11 years old (*Mean* = 7.6 years, *SD* = 1.8 years). Children were 63% Black/African American, 7% Hispanic/Latino, 3% Caucasian, 17% multiethnic/multiracial, and 10% Haitian-American. Parent respondents were typically mothers (79%), and most had completed high school (50%) or some college (42%), were employed full-time (63%), and one-half were single parents (50%). Families spoke primarily English at home (88%), with two families speaking only Spanish. Most households had 3 or 4 residents (67%; maximum 8 residents) and, though reported household incomes were fairly widespread, half of parents (57%) reported annual incomes below $25,000 (four parents did not report income). Using the 2014 Poverty Guidelines (U.S. Department of Health and Human Services, 2014), which combines family income and household membership to determine eligibility for federal assistance programs, we determined that at least 55% of the sample (11 of the 20 families) were living in poverty at the time of the study.

Parents completed the *Strengths and Difficulties Questionnaire (SDQ; Goodman & Goodman, 2009)*, a widely-used, psychometrically strong (Bourdon, Goodman, Rae, Simpson, & Koretz, 2005; R. Goodman, 2001) dimensional child psychopathology screener, to help characterize mental health problems in the sample. Participants' SDQ scores were used to estimate the level of risk for mental health problems in the sample (Frazier et al., 2015), with 43% at Low Risk (no reported difficulties, *n* = 13), 37% at Moderate Risk (Borderline range on at least 1 SDQ Subscale and/or Total Difficulties, *n*

= 11), and 20% at High Risk (above Clinical range on at least 1 SDQ Subscale and/or Total Difficulties, n = 6). In total, 57% of the sample was at moderate or high-risk for parent reported mental health problems.

Children completed the Vocabulary and Matrix Reasoning subscales on the Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II; Wechsler, 2011) or the Wechsler Preschool and Primary Scale of Intelligence – Fourth Edition (WPPSI-IV; Wechsler, 2012), depending on their age. Overall, participants' estimated Full Scale IQ scores were in the Average range (M = 99.03, SD = 12.86; range 75-127 points).

Research Procedures

Researchers attended the Back to School Orientation and relied on afternoon pick-up times to provide families with information about the study and an opportunity to ask questions. Parent materials were provided in English, Spanish, and Haitian Creole, and conversations with research staff were conducted in the parent's language of choice. Parents provided written informed consent and demographic information. Children provided written informed assent individually with a member of the research team at the ASP. At the request of the site director, staff recruitment and consent occurred on site during a regular program staff meeting; site staff asked questions as a group, but later provided written informed consent and demographic information independently. All children enrolled at the experimental site participated in two 30-minute PASL activities per week for 10 weeks, but only consented participants provided data.

Intervention Design and Delivery

Peer Assisted Social Learning Program (PASL). PASL was designed as an ASP-wide intervention intended to enhance our partner's 30-minute daily enrichment

activities, which routinely included cultural lessons, art, social-emotional discussions, and recreational games. Following PAL models for reading and math (Fuchs, Fuchs, Simmons, & Mathes, 2008; Fuchs, Fuchs, Karns, & Phillips, 2009), PASL was conceptualized as a series of brief, structured recreational activities that could provide opportunities for peer supervised problem solving, with adults monitoring in a nondirective but supportive manner. Researchers and site staff collaborated to find and design developmentally appropriate recreational activities that would be engaging and fun, but still challenging and frustrating for children, in order to generate natural problem-solving opportunities. In total, children participated in an introductory activity and 12 different problem-solving activities over 21 sessions; two activities were not repeated because of space limitations at the site and difficulty preparing the necessary materials (see Table 1 for descriptions of selected activities).

Pairing Procedures. Consistent with social competence curriculum and partnering procedures in PAL interventions (McMaster, Fuchs, & Fuchs, 2006), staff completed the *Social Skills Improvement System –Teacher Report* (SSIS; Gresham & Elliott, 2008) for each child to determine their relative social competence. To help limit the burden of paperwork, each staff member reported on only a subset of children; staff determined who among them was best positioned to evaluate each child. Children were rank ordered by their SSIS Social Skills total scores; the list was then cut in half, and pairs were made such that the student with the highest score in the top half of the group was paired with the student who received the highest score among the bottom half of the group. Pairs rotated every two weeks, so that less-skilled children were paired with a

variety of highly skilled peers over 10-weeks. Program staff reviewed and modified pairs if necessary (e.g., separated siblings, extreme age differences).

Implementation. On the first day of the program, the researcher and site director together introduced PASL to the children. Directions were designed to account for age and gender variability. After a brief overview of activities, rules, point procedures, and an introduction to the problem-solving sequence, children were introduced to their initial partners. Children then practiced transitioning into pairs and using a PASL Cue Card (Fuchs et al., 2009; see Figure 1). The cue card served two functions; one side of the card listed the questions they might ask their partner to help them through the problem-solving sequence (e.g., Crick & Dodge, 1994). The other side of the cue card listed the five PASL Rules (stay in area, share materials, use cue card to problem solve, do the activity, help your partner). Staff awarded points directly on each pair's PASL Cue Card whenever they were observed in compliance with a rule, similar to a positive-only variation of the Good Behavior Game (Wright & McCurdy, 2012).

Thereafter, activities began with a review of the scoreboard, which listed children's total points, and solicitation of the PASL rules, after which the activity leader introduced objectives, rules and instructions for that day's activity. Activities were always led by the more socially competent child first, to provide the less socially competent child an appropriate peer model (D. Fuchs et al., 2000) for problem solving; pairs spent 10 minutes doing the activity, then switched roles and restarted the activity, allowing each child the opportunity to benefit from being the peer leader and observing a peer model. Though peer support was built into the original PAL model, it was further incentivized through inclusion in the PASL activity rules: pairs earned additional points

by helping their partner during the activity or guiding them explicitly through the problem solving sequence. Activities ended with a group discussion on the strategies pairs used, what problems arose, and how pairs solved them. Each activity's highest-point team earned a small treat or privilege, and at the end of each week pairs exchanged their points for small prizes. During PASL activities, staff facilitated child participation in a non-directive manner, monitoring on-task behavior and awarding points for use of the PASL Cue Card, cooperative behavior and rule following (McMaster et al., 2006). If a pair seemed stuck or explicitly asked for help, staff would model a specific step of the problem solving sequence aloud (e.g., clarify the problem, generate possible solutions), and provide further assistance or feedback to facilitate learning.

Implementation Support: Staff Training and Supervision. At the site director's request, the initial 2-hour training occurred during a regular staff meeting. It included both a didactic component and role-play with feedback, reflecting recent recommendations for training in evidence-based interventions (Beidas & Kendall, 2010; Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). An advanced doctoral student facilitated PASL activities for two weeks to model implementation for staff, who co-facilitated. Thereafter, staff became the primary facilitators, with researchers co-facilitating or offering support as needed. Implementation supervision was scheduled to occur for 15-30 minutes during weekly staff meetings. Consistent with evidence based clinical supervision models (Schoenwald, Mehta, Frazier, & Shernoff, 2013), the primary goal of supervision meetings was to problem-solve barriers to successful implementation, though time was also devoted to promoting bi-directional feedback between site staff and the research team regarding the PASL model and implementation adherence.

Measures

Participation. Four indicators of participation were assessed. First, the experimental site provided researchers with attendance data for child participants, to determine whether or not children attended the program on a day when PASL occurred. Second, participation in PASL activities was derived from PASL Cue Cards, such that children whose names appeared on the cards were recorded as participating that day (some days children left the ASP early or were otherwise unable join the PASL activity). The distinction between attendance and participation is important (e.g., Weiss, Little, & Bouffard, 2005), as it provides dual insight into the dosage of treatment received and, if the two are disparate, may signify potential barriers to PASL feasibility (Hirsch et al., 2010; Mahoney et al., 2009). Finally, staff facilitation of PASL activities and attendance at PASL supervision meetings was recorded by a member of the research team at the beginning of each activity or meeting, to track their participation. Averages and standard deviations were calculated for all measures of participation.

Enthusiasm. Stakeholder enthusiasm for the intervention was assessed for both child and staff participants. First, immediately following each PASL activity, children reported the extent to which they enjoyed an activity, enjoyed working with their partner, and used the PASL Cue Card to solve problems. Additional items asked children to report the extent to which they thought the activity made them a better problem-solver, made their partner a better problem-solver, and how likely they would be to use the skills learned in the activity to later solve a problem. Children used a 4-point Likert scale (e.g., *hated it*/*no, didn't like it*/*I don't think so, liked it OK*/*maybe*, *loved it*/*yes*), with responses

of comparable valence worded to fit each question. Internal consistency for these items was strong, with Chronbach's $\alpha = 0.91$.

Staff enthusiasm was measured at one time-point, as part of the larger post-PASL assessment. Staff rated how much they liked each activity, how much they perceived the children to enjoy each activity, and to what extent they thought each activity helped the children practice problem solving. The final two items asked how likely staff were to implement each activity again in the future and how comfortable staff would feel leading each activity. Again, all items were rated using a 4-point Likert scale (e.g., *not at all, a little, some, very much*) and demonstrated strong internal consistency, with Chronbach's $\alpha = 0.90$.

Fidelity. Two components of fidelity were assessed: adherence and competence. Adherence to PASL implementation was measured three ways. First, staff self-reported their adherence to specific aspects of PASL implementation (e.g., formed pairs, reviewed PASL rules, awarded points) on a brief survey completed during weekly staff meetings; responses applied to their actions during the previous two PASL sessions. Items were scored on a 4-point Likert scale (*rarely* = 1, *always* = 4). Second, an independent observer (not blind to condition in the quasi-experimental design) live-coded staff implementation of PASL protocols using the same adherence checklist, reporting whether or not staff as a group implemented each component of PASL during the activity to inform ongoing training and supervision. The observer attended one activity per week, for the duration of the program. Third, a member of the research team counted the total number of pairs present and the number of correctly partnered pairs (i.e., children completed the activity with their intended partner) present during each PASL activity, to

assess adherence to PASL pairing procedures. Although recommended as a strategy when students were absent and numbers were uneven, groups of 3 were marked as incorrectly paired for the purpose of assessing adherence to pair procedures, regardless of whether or not two of the three children were in fact paired with their intended partner.

The points staff awarded on pairs' cue cards during activities were treated as permanent product (functional residue) implementation data, to provide preliminary insight into the competence with which staff delivered the PASL program. Unlike adherence, which is often treated as binary (e.g., did staff award points, yes or no), competence allows us to move closer to capturing the quality with which staff implemented a particular program component, in this case the cue cards and point system.

Results

Child Participation

The experimental site provided the research team with the ASP's child attendance data for the entire school year (177 days). On average, 26 of 30 (*SD* = 3.0; range 9-30) study participants were present on any given day. Attendance was comparable on PASL activity days, averaging 25 of 30 children (*SD* = 2.4; range 20-28). Child participation in PASL activities was tracked via permanent research product (i.e., names on PASL Cue Cards). On average, 19 of 30 (*SD* = 3.1; range 14-25) participants actively participated in PASL activities (see Figure 2). With regards to dosage, children

completed an average of 14 PASL activities (*SD* = 6.0; range 0-21), or 71% of all sessions.[1]

Staff Participation

On average, 4 of 5 staff members (*SD* = 0.86; range 2-5) participated in PASL activities as either facilitators or co-facilitators. This resulted in an average staff-to-child participant ratio of 4:19, or 1 staff member for every 5 children.[2] Each staff member served as the primary facilitator during 2 PASL activities, such that site staff led 10 of 21 activities. Staff led more activities during later PASL sessions (i.e., staff led 18% of the first 11 PASL activities versus 70% of the final 10), most of which were repeat activities.

All five staff members participated in the initial two-hour training session co-led by two members of the research team. Ten weekly supervision meetings were held during each week of PASL activities; supervision typically occurred on Tuesdays immediately before the first group of children arrived at the ASP. Though supervision meetings were intended to last 30 minutes, staff availability and time constraints drove 90% of supervision meetings down to only 15 minutes, with the majority of time devoted to problem-solving PASL implementation. In an effort to provide staff an opportunity to explore PASL implementation in depth, the 5th supervision meeting lasted 30 minutes;

[1] Three children left the ASP during the study and did not complete post-PASL assessments. Two children moved out of state and a third switched ASPs. If excluded, dosage rates were only slightly better (*M* = 15 activities, *SD* = 4.67; range 4-21), therefore their absences were included.

[2] Due to the paired nature of the activities and universal implementation at the site, we were able to calculate retrospectively the true number of children who participated in PASL activities. Total child participation, regardless of enrollment in the research study, averaged 25 of the 35 children who attended the ASP (*SD* = 3.4; range 20-31). As such, our staff-to-participant ratio was 4:19, but our staff-to-child ratio was 4:25 (i.e., 1 staff member for every 6 children), reflecting an increased demand on staff time and attention.

the team reviewed implementation data (e.g., attendance, peer pairings, points awarded), and staff provided feedback on PASL activities (e.g., feasibility, enthusiasm).

Enthusiasm

Children completed a total of 282 enthusiasm surveys for 15 of the 21 PASL sessions; surveys were collected beginning in the 6th session to allow children to become familiar with PASL procedures. Percentages refer to completed responses on enthusiasm surveys. Children reported that they enjoyed PASL activities (*loved it* = 61.4%; *liked it* = 18.9%; *did not like it* = 4.3%; *hated it* = 15.4%) and working with their partner (*loved it* = 65.6%; *liked it* = 16.7%; *did not like it* = 4.6%; *hated it* = 13.1%). Responses regarding the utility of the PASL Cue Card were mixed, with about half of participants reporting that it was helpful (*yes* = 54.4%; *maybe* = 17.4%; *I don't think so* = 6.0%; *no* = 22.1%). Most children thought activities improved their problem-solving skills (*yes* = 58.2%; *maybe* = 20.9%; *I don't think so* = 3.5%; *no* = 17.4%) and their partner's problem-solving skills (*yes* = 57.8%; *maybe* = 19.9%; *I don't think so* = 6.0%; *no* = 16.3%). Finally, most children were confident that they would use their new skills to solve future problems (*yes* = 64.7%; *maybe* = 14.7%; *I don't think so* = 5.8%; *no* = 14.7%). Across all items, children responded positively (i.e., *loved it* or *liked it*) 78% of the time.

Staff enthusiasm was more variable. Staff reported that they liked more activities (*very much* = 30%, or *some* = 28.3%) than they disliked (*a little* = 26.7%, or *not at all* = 15.0%). Staff perceived that children enjoyed most PASL activities (*very much* = 41.7%; *some* = 26.7%; *a little* = 21.7%; *not at all* = 10.0%), but were skeptical as to whether the activities generated opportunities to help children practice problem solving (*very much* = 23.3%; *some* = 25.0%; *a little* = 41.7%; *not at all* = 10.0%). Staff were optimistic about

using PASL activities in the future (*very much* = 36.7%; *some* = 26.7%; *a little* = 23.3%; *not at all* = 13.3%) and confident in their ability to lead them (*very much* = 66.7%; *some* = 20.0%; *a little* = 8.3%; *not at all* = 5.0%). Across all items, staff responded positively (i.e., *very much* or *a little*) 65% of the time.

Fidelity

Self-Reported Adherence. Staff completed a total of 44 adherence surveys describing 18 of the 21 PASL sessions; surveys were collected weekly, beginning in Week 2, allowing time for staff to acclimate to the PASL model; a more comprehensive post-PASL exit interview replaced surveys during the last week. Staff indicated that they began PASL activities by reviewing the PASL Rules (*always* = 75.0%, *often* = 18.2%, *sometimes* = 6.8%, *rarely* = 0%), but did not always review the steps in the problem-solving sequence (*always* = 46.2%, *often* = 28.2%, *sometimes* = 25.6%, *rarely* = 0%). During PASL activities, staff reported that they consistently and effectively awarded points for rule-following behavior (*always* = 65.9%, *often* = 34.1%; *sometimes* and *rarely* were never endorsed). Staff reported that children typically worked in pairs (*always* = 56.8%, *often* = 40.9%, *sometimes* = 2.2%, *rarely* = 0%), but denied seeing pairs switch roles (*always* = 25.6%, *often* = 39.5%, *sometimes* = 34.9%, *rarely* = 0%) or systematically problem solve (*always* = 0%, *often* = 15.8%, *sometimes* = 68.4%, *rarely* = 15.8%). Finally, staff noted that pairs' points were publicly posted (*always* = 88.4%, *often* = 7.0%, *sometimes* = 4.7%, *rarely* = 0%) and that they exchanged points for rewards weekly (*always* = 75.0%, *often* = 20.5%, *sometimes* = 4.5%, *rarely* = 0%). Across all items, staff reported good adherence (i.e., *always* or *sometimes*) 76% of the time.

Observed Adherence. A member of the research team observed half of the PASL activities to code for staff adherence to PASL. Observation data revealed frequent review by staff of PASL Rules (*always* = 77.8%, *rarely* = 22.2%; *often* and *sometimes* were not endorsed), but less frequent review of the problem-solving sequence (*always* = 11.1%, *rarely* = 88.9%; *often* and *sometimes* were not endorsed). During PASL activities, staff consistently awarded points for rule following (*always* = 44.4%, *often* =22.2%, *sometimes* = 33.3%, *rarely* = 0%) and children worked in pairs as planned (*always* = 55.6%, *often* = 33.3%, *sometimes* = 11.1%, *rarely* = 0%). However, the observer noted few instances of role switching from tutor to tutee (*always* = 25.0 %, *often* = 12.5%, *sometimes* = 37.5%, *rarely* = 25.0%) or explicitly adhering to the problem solving sequence (*sometimes* = 55.6 %, *rarely* = 44.4%; *always* and *often* were not endorsed). Finally, the observer indicated that points were posted (*always* = 87.5%, *rarely* = 12.5%; *often* and *sometimes* not endorsed) and exchanged for rewards (*always* = 75.0%, *rarely* = 25.0%; *often* and *sometimes* not endorsed). Across all items, the observer reported good adherence (i.e., *always* or *sometimes*) 60% of the time. In order to determine the reliability of staff report, each rater's total adherence scores across all time points were averaged and then examined via bivariate correlations. Pearson's *r* correlations revealed moderate to strong inter-rater reliability on adherence. Specifically, correlations for staff with the observer ranged from $r = .334$ to $r = .914$ (see Table 2).

In order to assess staff adherence to PASL pairing procedures, a member of the research team recorded the total number of pairs present at the beginning of every PASL activity, noting which of those pairs were correctly partnered. On average, 12 pairs (*SD* = 1.4; range 10-14) of children completed daily PASL activities. Of those pairs, 8 pairs (*SD*

= 2.1; range 5-11) completed the activity with their assigned peer. Following PASL procedures, the remaining children were paired with a compatibly skilled partner early in the PASL activity.

Competence. Finally, points earned by students for rule following during PASL activities were obtained directly from the cue cards and considered an indicator of staff competence in PASL implementation. Staff awarded pairs anywhere from 0 to 16 points during the 20 active minutes of problem solving (M = 5.8 points, SD = 2.6). Total points earned by all pairs for each rule were calculated at the group-level (see Figure 3). Overall, staff awarded the most points to pairs for completing the activity (M = 22.3, SD = 6.3), following in sequence by staying in their area (M =17.1, SD = 6.3), helping their partner (M = 17.0, SD = 10.3), and using materials correctly (M = 13.3, SD = 7.3). Points awarded for using the PASL Cue Card were markedly lower (M = 3.9, SD = 4.1).

Discussion

The present study sought to capitalize on the inherent capacity of after school programs (ASPs) to support positive youth development by incorporating evidence-based practices into routine programming. In collaboration with our community partner, we developed and implemented a peer-assisted social learning (PASL) model that paired socially skilled and less-skilled children together during recreational activities designed to generate natural opportunities for peer-facilitated social problem solving. Children and site staff actively participated in a series of 21 activities, suggesting that key ASP members were eager for training and ongoing support built into the program. This, coupled with staff- and child- reported enthusiasm for the activities and intervention components, provide preliminary evidence of feasibility for the PASL model in the

context of a community-based ASP. Adherence and competence findings also suggest that our partner ASP was able to implement PASL with fidelity to the protocol, further underscoring the promise of a peer-mediated approach to universally promote positive youth development within the after-school context.

Facilitators and Barriers to PASL Participation

Perhaps one of the greatest potential barriers to feasibility is revealed by the disparity between children's ASP attendance and PASL participation. Though roughly 25 children attended the ASP on days when PASL activities were scheduled, only 19 children (76%) participated in PASL on any given day. Participation also varied widely, with children receiving on average just 71% of PASL activities. Feedback from site staff revealed difficulty scheduling PASL activities within their existing programming while maximizing opportunities for child participation: scheduling early in the afternoon interfered with homework completion for some children, while scheduling later in the afternoon would exclude children whose parents picked them up early. Hence, homework and transportation most interfered with participation. In a recent survey Sanderson & Richards (2010) asked low-income families attending urban ASPs about their programming preferences and, in particular, to identify potential barriers to participation; homework assistance was the most desired ASP component, while safety and transportation concerns were identified as significant barriers to ASP participation.

It is important to note, however, that child participation rates likely only interfered with feasibility of the PASL model on an individual level (i.e., dosage), rather than interfering with implementation of the activity overall. Though on average eight children needed a new partner at the beginning of an activity due to another child's absence, staff

did not report difficulty adhering to the peer pairing procedures. Children's nametags on the PASL scoreboard were color coded to remind staff members which children could be partnered (i.e., skilled versus less-skilled problem-solvers). That, coupled with their familiarity with children at the ASP helped them pair children whose partners are absent with relative ease. Unlike school settings in which the peer-assisted learning model was developed, ASP attendance is often sporadic (Kane, 2004), thus requiring a higher level of flexibility and adaptability by staff. ASP attendance could be considered a double-edged sword. On the one hand, absences reduced the child-to-staff ratio during PASL activities, allowing them to provide greater reinforcement (points) to fewer children, effectively facilitating implementation of PASL. On the other hand, variable child participation required staff to be more resourceful to partner the 33% of children whose partners were absent. Despite these challenges, staff demonstrated flexibility and ease pairing children for activities, reflecting the observer's report of activities being completed in pairs 89% of the time. Future efforts to deliver peer-mediated programs in ASPs will need to better account for the variability in child attendance, perhaps by increasing the number of sessions, repeating sessions, or lengthening the duration of the program in order to achieve sufficient dosage.

Striving for High Benefit and Low Burden

Staff scheduling and availability similarly impacted their participation in both PASL activities and supervision meetings. Children's struggles to complete homework before PASL activities directly impacted staff availability to facilitate; our partner ASP did not permit children to be unsupervised during homework time, such that at least one staff member was absent during almost every PASL activity. Though we successfully

completed all ten supervision meetings, meetings were brief (i.e., 15 minutes) and difficult to prioritize in light of competing demands (i.e., preparing for the day's activities, transporting children to the ASP). Staff members were not paid for time spent in training or supervision meetings, nor were their ASP-related duties reduced to reflect planning or implementation of PASL activities, yet they still completed all that was asked of them. For example, the strong correlations between staff self-reported adherence and observer-reported adherence indicate that staff accurately reported on their behavior. This self-report adherence data could be incorporated into a measurement feedback system, in further support of ongoing training and supervision. Intervention support in the form of training and ongoing supervision is critical to effective implementation of any evidence-based tool, but incremental benefit must outweigh the potential burden (Becker, Keperling, Marchese, Kelly, & Ialongo, 2015). Importantly, we designed our approach to implementation support following the mental health and education literatures (due to the absence of an ASP-specific literature on the topic). The present findings underscore the pressing need to examine implementation support models in non-specialty settings like ASPs, to inform the time and format of implementation support required to deliver evidence-based recommendations with fidelity.

Shared Information and Decision-Making

Collaborative partnerships that emphasize open communication and shared, data-informed decision-making have been associated with increased buy-in to and sustainability of implementation efforts (Durlak & DuPre, 2008; Hahn, Noland, Rayens, & Christie, 2002). We conceptualized our collaboration as an iterative process, whereby information and data collected during the program were immediately integrated into the

team's knowledge base and used to guide future decisions regarding implementation (e.g., Cappella, Frazier, Atkins, Schoenwald, & Glisson, 2008; National Research Council, 2002). Every stage of PASL design and implementation was open-ended and flexible to encourage input from research and community team members that might help identify opportunities for course corrections and promote sustainability. Nowhere was this more apparent than in weekly PASL supervision meetings. Our supervision meetings served multiple functions, with researchers providing ongoing support for site staff on program implementation and site staff providing crucial feedback to researchers regarding the need to modify challenging components of the protocol. For example, a staff member recommended we create variations on activities that were well liked and implementable. We utilized watercolor paints instead of crayons when repeating an art-based activity, to help slow children down and thus increase opportunities for problem solving. Finally, our partner site served a broader age range (i.e., 5-12 years) than the school classrooms for which peer-assisted learning was originally developed, prompting site staff to request participant age be factored into PASL pairing procedures. Subsequent peer pairings accounted for age, which site staff believed led to superior matches, age-appropriate skill levels, and promoted smoother completion of PASL activities. In many ways, ongoing feedback received from site staff during weekly supervision meetings informed the design and delivery of PASL just as much as the evidence base, because it provided contextually relevant insight regarding feasibility of activities in the targeted setting.

While feedback from staff was invaluable to the evolution of PASL, permanent product data derived from elements of intervention delivery itself promoted data driven

decisions regarding activity modifications. For example, PASL Cue Cards originally were designed to remind children of the activity rules and the steps in the problem solving sequence, and to allow staff an easy way to award and monitor points for compliance. However, the PASL Cue Cards can also be conceptualized within the multilevel context of the intervention: on the individual level, they describe a pair's rule-following behavior during an activity, and at the group level, they illustrate staff competence (awarding points) and have the potential to reveal challenges with implementation. Site staff and researchers discussed group-level Cue Card data from the first 8 sessions at the 5th supervision meeting (session 9; see Figure 3). Team members noted that children were not using the PASL Cue Card to help problem-solve and decided to offer bonus points as an incentive to increase explicit problem solving in the next activity. Indeed, session 10 revealed an apparent increase in the frequency with which children earned points in that domain, though several explanations are possible. First, children may have responded to the added incentive and increased the frequency with which they utilized cue cards to guide problem solving (staff awarded points accordingly). Second, the supervision meeting may have reminded staff about this activity rule and helped them to become better observers, attending more closely to children's use of the cue cards for problem-solving. For instance, staff may have overlooked pairs' ongoing use of the cue card, such that after the meeting, points more accurately reflected children's typical use of the cue card to facilitate problem solving. Third, staff awarded more points after the meeting for cue card problem solving (possibly more points than children deserved) because it became more salient for them, and because it was expected of them. Though we can only speculate in the absence of

observational data to differentiate between child problem-solving behavior and staff point-awarding behavior, this hints at the potential clinical utility of data based feedback. In our future work we will utilize implementation data to serve multiple purposes, as a means of program evaluation within the context of a research study (e.g., fidelity) and as a feedback mechanism to inform and improve ongoing implementation efforts (Schoenwald et al., 2011) with the potential to promote sustainability upon completion of the study (Atkins et al., 2015; Schoenwald et al., 2013). One final note regarding sustainability: Though we did not assess the long-term sustainability of PASL, we were pleased to learn that our community partner shared photos of their ongoing implementation of several PASL components on their social media account more than five months after conclusion of research activities.

Limitations, Lessons Learned, and Future Directions

The present findings must be considered in light of several limitations. First, the present data speak only to the implementation and feasibility of PASL. Analyses related to child outcomes, including data from our ASP-as-usual comparison site, are in progress. Second, our sample was limited to a relatively small number of children attending a single ASP. The exploratory nature of adapting an evidence-based intervention to fit the unique needs of a non-specialty setting required development of a close, collaborative relationship between researchers and community partners best achieved by partnering with a single ASP. Finally, although we had multimethod measures of adherence, our measure of competence only assessed staff and did not assess the competence with which children completed PASL activities. Per Schoenwald and colleagues (2011), intervention adherence, provider competence, and differentiation of provider skills as measured by an

independent observer must all be assessed to determine whether an intervention was truly implemented with fidelity to design.

Taken together, evidence from the present study supports prior work illustrating that community-based ASPs have under-utilized capacity to deliver evidence-based interventions for at-risk youth. Because natural constraints on time, space and resources may limit staff ability to absorb additional responsibilities, it is especially important for researchers to offer recommendations that align with ASP goals, leverage without over-extending natural routines and infrastructure, and provide training and support that benefits staff, strengthens implementation, and increases likelihood of sustainability. Interventions that activate children to promote social learning in their peers maximize child engagement and minimize staff burden, converting typical ASP weaknesses into assets that can promote positive youth development in those at greatest risk and with the greatest need for services.

Tables and Figures

Table 1. Descriptions of select PASL recreational activities.

Activity	Description
Crash Landing	Partners crash-landed on an island without a clean water source; one was blinded (blindfolded) and the other lost use of their arms (hands in pockets). Must work together to build a water collection device using pieces of the "wreckage" (e.g., cardboard, tape, rubber bands, plastic wrap) before a rainstorm arrives in 7 minutes. At end of activity, staff pour water into teams' devices (Meyer & Northup, 2002).
Marshmallow Towers	Partners receive 50 toothpicks and 25 mini marshmallows. The goal is to build the tallest and most stable tower possible in 7 minutes; each pair receives a pencil and piece of paper to make a plan if they wish. Activity ends with staff measuring each pair's tower and declaring a winner.
Water Bucket Relay	Each pair receives one water bottle and a small sponge; one partner holds the bottle in the safe zone while the other runs to a nearby bucket and uses the sponge to collect water. The goal is to fill up the bottle in 3 minutes. Teams stop to mark their progress on the bottle and discuss what did/did not

	work. Pairs empty the bottle and repeat the activity, trying to improve their water collection strategy.
Pictionary	One partner picks a piece of paper with a word written on it, then draws pictures to help their partner to correctly guesses the secret word. The partner drawing is not permitted to speak or otherwise give clues.

Note. Children participated in an introductory activity and 12 different problem-solving activities over 21 sessions; two activities were not repeated due to space limitations at the site and difficulty preparing the necessary materials.

Table 2. Means, standard deviations, and inter-rater correlations for staff- and observer-reported adherence

	Respondents Mean (SD)					
Adherence Survey Questions	Staff 1	Staff 2	Staff 3	Staff 4	Staff 5	Observer
Students worked in pairs	3.78 (.44)	3.33 (.71)	3.22 (.44)	3.50 (.07)	3.89 (.33)	3.44 (.73)
PASL Rules were reviewed	3.78 (.44)	3.44 (.73)	3.89 (.33)	3.63 (.09)	3.67 (.71)	3.33 (1.3)
Problem-solving steps were reviewed	2.75 (1.2)	2.88 (.10)	3.38 (.09)	3.43 (.14)	3.63 (.06)	1.33 (1.0)
Both teammates led the activity	3.44 (.73)	2.78 (.06)	3.22 (.67)	2.86 (.09)	2.22 (.06)	2.38 (.53)
Teams went through the problem-solving sequence	2.25 (.71)	2.38 (.06)	3.22 (.67)	1.50 (.09)	1.75 (.06)	1.56 (.53)
Staff gave points for rule following	3.78 (.44)	3.89 (.33)	3.78 (.44)	3.50 (.07)	3.33 (.50)	3.11 (.93)
Points were posted for each pair	3.67 (.71)	4.00 (0.0)	3.67 (.71)	3.86 (.05)	4.00 (0.0)	3.63 (.13)
Points were exchanged for rewards	3.67 (.71)	3.78 (.44)	3.67 (.71)	3.50 (.07)	3.89 (.33)	3.25 (.17)
Overall Correlation with Observer Ratings	.914**	.829**	.334	.709*	.592	--

Note. Each column represents the average scores (and standard deviation) for that respondent on that adherence question. Items were scored on a 4-point Likert scale (*rarely* = 1, *always* = 4). Pearson correlations were calculated. * p <.05, ** p < .01.

Figure 1. PASL Cue Card

Names: _____ Date: _____	
PASL Rules	**Points**
1. Stay in your area	
2. Share the materials	
3. Use your cue cards	
4. Do the activity	
5. Help your partner	

PASL Problem-Solving

→ Timeout! I think there's a problem.

→ What is the problem?

→ I think it is _____.

→ What could you do to fix it?

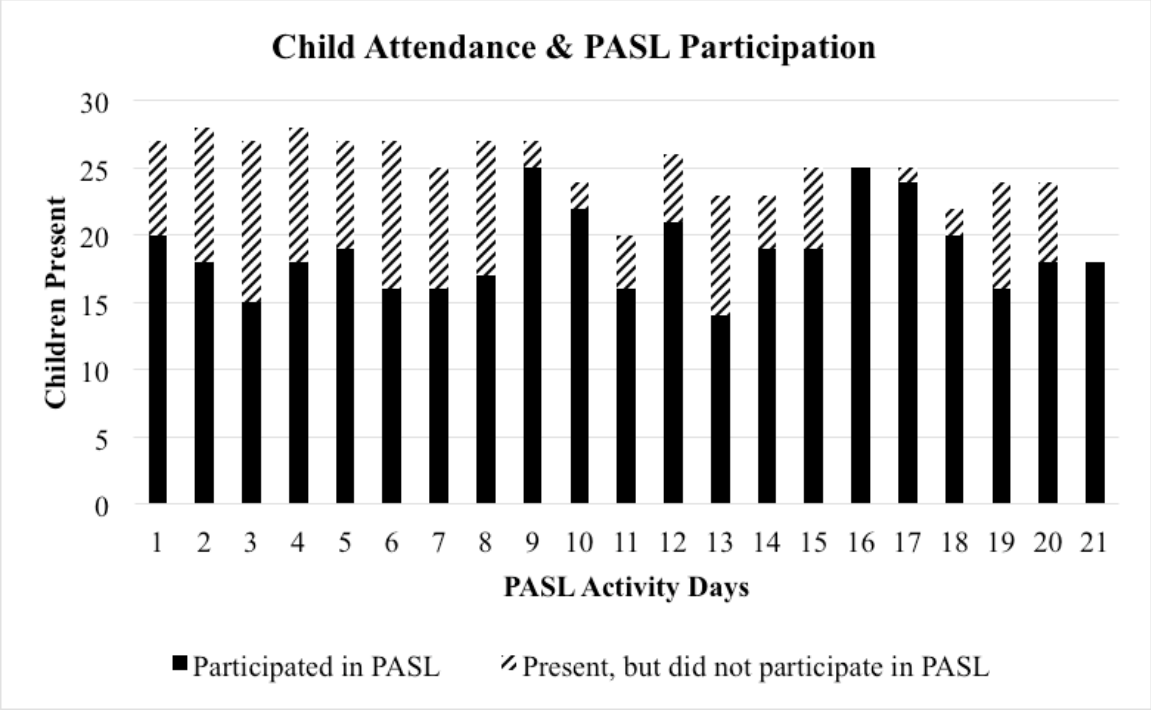
→ How would you do that?

→ What might happen if you do that?

→ Good! How else could you fix it?

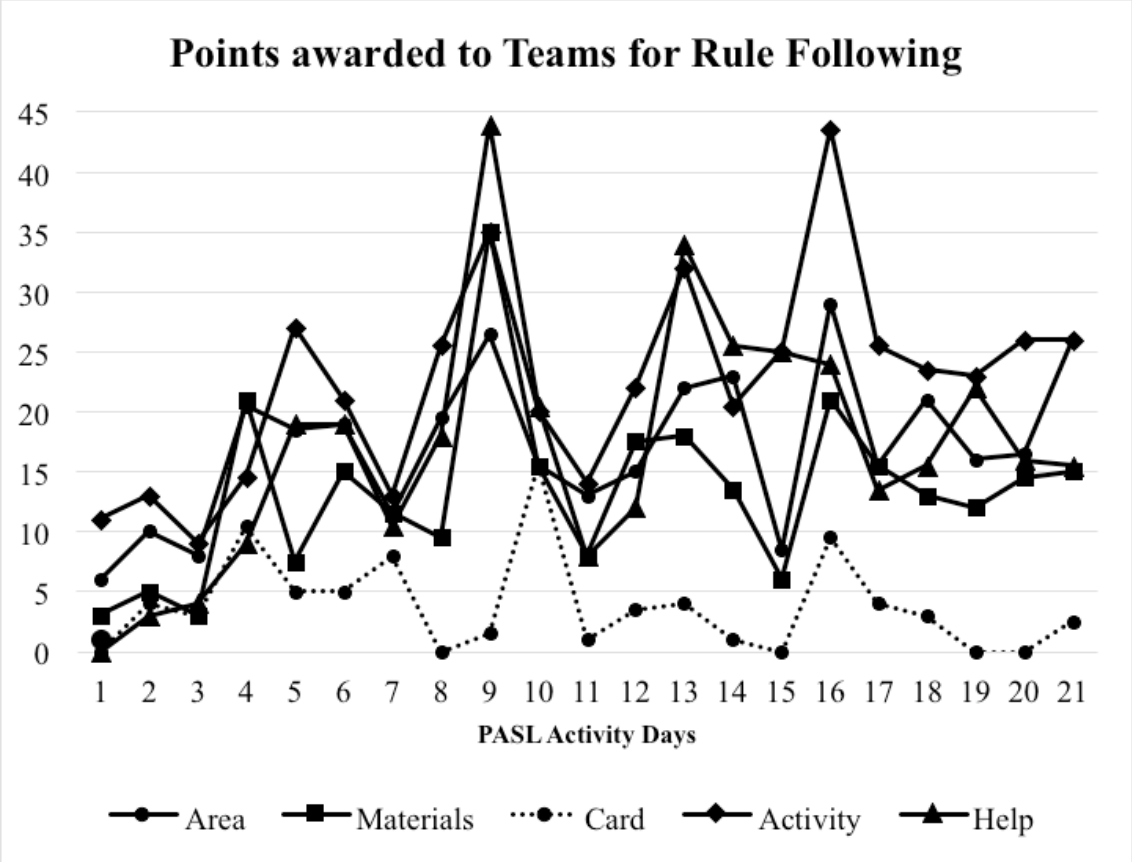
Note. Each pair received a new PASL Cue Card at the beginning of an activity. Staff recorded points for rule-following behavior on the left side of the card. The right side of the card outlined the problem-solving sequence.

Figure 2. Child Attendance and Participation in PASL Activities.



Note. This figure shows the number of child participants who were present during each of the 21 PASL activities.

Figure 3. Points awarded to pairs for following PASL Rules



Note. Staff awarded points on a frequency basis, such that whenever they caught a pair following a PASL activity rule they would award the pair a point and verbally praise the specific behavior. A double-length supervision meeting directly preceded session 9. In session 10, pairs observed using the PASL Cue Card to problem solve were awarded bonus points; the point total for session 10 reflects the actual frequency with which pairs used their Cue Card and does not include any bonus points earned.

III. PEER-ASSISTED SOCIAL LEARNING: LEVERAGING AFTER-SCHOOL RECREATION TO BUILD SOCIAL COMPETENCE FOR DIVERSE AND LOW-INCOME URBAN YOUTH

This manuscript will be submitted to Administration and Policy in Mental Health, and thus adheres to its use of APA 6th Edition formatting guidelines.

Helseth, S. A., & Frazier, S. L. (in preparation). Peer-Assisted Social Learning: Leveraging after-school recreation to build social competence for diverse and low-income urban youth

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Abstract

In collaboration with our community partner after-school program (ASP), we developed a Peer-Assisted Social Learning (PASL) model to promote youth social competence. Thirty children (19 males, primarily African American, age $\bar{X}$=7.6, *SD*=1.8) participated in 21 PASL activities designed to generate natural opportunities for peer-directed problem solving; thirty-one children (11 males, predominantly Haitian, age $\bar{X}$=8.9, *SD*=1.3) at a second site served as an ASP-as-usual comparison group. Outcomes included staff-reported problem behavior and social skills, self-reported problem-solving on hypothetical peer provocation vignettes, peer-reported social networks, and peer ratings. Data were analyzed using a series of ANCOVAs, with age and gender included as covariates and controlling for baseline scores. Among PASL participants, behavior and social skills improved post-PASL, but problem solving, social networks, and peer ratings all declined slightly. Implications for these preliminary findings are discussed within the context of positive youth development in ASPs.

Keywords: Peer-assisted learning, after school, problem solving, & social competence

Literature Review

Social competence in interpersonal interactions often hinges on a youth's ability to efficiently and effectively solve social problems within a specific context: standing up to a bully can and should look very different from asserting oneself with a friend, a teacher, a police officer, or a stranger. Countless retrospective and prospective studies have found compelling evidence linking early difficulty navigating interpersonal interactions to increased risk for many negative long-term outcomes, including academic, criminal, substance abuse, and mental health problems (for review, see Parker, Rubin,

Erath, Wojslawowicz, & Buskirk, 2006). Researchers over several decades have tried to measure the cognitive and behavioral processes that influence social decision-making, called social-information processing (Crick & Dodge, 1994) and social problem solving skills (Goldfried & D'Zurilla, 1969), respectively. However, theorists have long argued that these individual-centered approaches fail to consider the impact of contextual factors, like the circumstances of a situation and the other players involved. Indeed, evidence has shown that the relative competence of a particular individual or behavior can vary across situations (Dodge, McClaskey, & Feldman, 1985; Dodge, Pettit, McClaskey, & Brown, 1986), prompting theorists to re-conceptualize social competence from a developmental, contextual perspective.

Development of Social Interactions: Influence of Age and Gender

Social interactions begin as early as infancy and are thought to develop over the course of a lifetime, with each social experience adjusting an individual's long-term trajectory toward either social competence or incompetence. As such, expectations of normative social competence should be examined within the context of what is considered age appropriate. Observational research on infants suggests our earliest peer interactions are marked by mutual imitation with playmates, including facial expressions and physical gestures (Ross, 1982). Toddlers spend much of their time among peers engaging in observation and parallel play (playing near, but not directly with, a peer; Rubin, Watson, & Jambor, 1978), which some researchers argued could facilitate information gathering to inform future efforts to approach peers and engage in more interactive play. By preschool, language emerges as a central component of peer interactions, allowing children to communicate their ideas, negotiate roles, and decide

rules of the game (Hay, Payne, & Chadwick, 2004). Elementary school attendance coincides with a dramatic increase in the amount of time children spend with peers and jumpstarts a period of intensive social learning and growth. In a series of interviews with school-aged youth, Bigelow (1977) outlined how children's expectations for friendship develop over time. Friendships between younger children (ages 7 to 8) were often formed out of convenience and based on the perceived rewards (both material and social) that accompanied interactions. As children grew, their friendship priorities shifted, first emphasizing shared values and loyalty (ages 10-11), then later emphasizing shared interests and active efforts to build closer bonds through mutual self-disclosure (ages 11 to 13). In many ways, youth social competence is a moving target, with ever shifting norms and expectations for peer interactions.

Though the observational literature on gender and social competence is comparably smaller, several studies have underscored the importance of gender in defining social norms across child development (i.e., social norms vary by age and gender; see Hines, 2015). For example, sex-segregation of the peer group, namely whether a child interacts with same-sex peers over opposite-sex peers, has been shown to increase as children grow older; one study found that preschool-age children interact 3 times more with same-sex peers than opposite-sex peers, and by elementary school, that difference has increased to a factor of 10 (Maccoby & Jacklin, 1987). In other words, the peer context in which children interact and ultimately develop social competence is increasingly and naturally segregated by gender as they age. This is an important point, as researchers have long considered same-sex peer interactions to be qualitatively distinct, with gender-specific social norms and behavioral expectations that can heavily influence

peer perceptions of a youth's social competence (Humphreys & Smith, 1987; Leaper, 1994). Deviation from these age- and gender-specific social mores can have a negative impact on peer acceptance and social status. In one study on gender stereotypes in youth, researchers found that same- and opposite-sex peers generally accepted girls who defied gender norms, but consistently rejected boys who defied gender norms (Berndt & Heller, 1986). What's more, older boys (ages 9 and 12) reported much stronger negative reactions to a hypothetical peer's gender-inconsistent behavior than younger boys (age 5), indicating that the interaction between age and gender may increase in significance over time. This research underscores two crucial points: first, what is considered typical in peer interactions can change across development and can vary between genders, and second, that peers use age- and gender-normative expectations to provide context when making decisions about an individual's relative social competence.

Conceptualizing Youth Social Competence

Contemporary theorists have increasingly sought to account for the influence of these and other contextual factors when assessing children's social competence. At its most broad, social competence is conceptualized to reflect a child's effectiveness in interpersonal situations (Rose-Krasnor, 1997). Beyond that, the field has been plagued by heterogeneous though often overlapping theories, which further complicate and divide empirical pursuits (Dodge, 1985). In their effort to integrate theoretical and empirical findings of the youth social competence literature, Dirks, Treat, & Weersing (2007) proposed a comprehensive framework encompassing four broad predictive domains (child, behavior, judge, and situation) that account for both individual and interpersonal influences as they relate to effectively navigating social situations.

The first domain encompasses characteristics inherent to the child, such as attractiveness or developmental level, that are likely consistent across multiple contexts. The second domain pertains to communication or action enacted by the child – the observed behavior. Historically, one or both of these domains played a central role in early models of youth social competence, including trait-based and skills-based conceptualizations. Critics of these models argued that researchers had relied too heavily on their own judgment when deciding which traits or skills were competent (Gresham & Elliott, 1984), encouraging consideration of other socially valid indicators of social competence (e.g., sociometric status; Cillessen, 2009). Hence, the third domain pertains to the individual(s) judging a child's competency. Inevitably, judgments are subjective and influenced by the judge's own individual-level characteristics (e.g., peer judge's age or gender). The fourth and final domain involves situation-specific factors, or social context.

The fourth domain reflects strong consensus that the judged competence (and effectiveness) of a behavioral response varies across situations (e.g., Dodge, Laird, Lochman, Zelli, & Conduct Problems Prevention Research Group, 2002; Goldfried & D'Zurilla, 1969). For instance, a generically prosocial response (e.g., smiling) is not inherently appropriate (e.g., a peer accuses you of stealing), but rather is judged appropriate under certain conditions (e.g., inviting a friend to join an activity). Researchers have attempted to capture this variability with hypothetical vignettes to assess social competence in key situations (e.g., peer entry, peer provocation); children's responses to hypothetical situations have been linked to independent reports of their actual behavior (Chung & Asher, 1996; Hughes, Meehan, & Cavell, 2004) and important

social outcomes (e.g., friendship quality; Rose & Asher, 1999, 2004), indicating the utility of this method. Evidence suggests that even subtle changes to a single contextual aspect, such as the valence of a peer's intent (positive, negative, ambiguous; Andrade et al., 2012) or intensity of a peer's provocation (Helseth, Waschbusch, King, & Willoughby, 2015), can lead to significant differences in subsequent child behavior. Peers play an undeniably central role in the latter two domains of youth social competence: they define social expectations, judge competence, and influence behavior through their own.

Assessing Youth Social Competence

Due to the elusive and complex nature of social competence as a latent construct, researchers have long struggled to psychometrically capture its essence. Instead, most researchers have relied on proxies of social competence, such as measures of friendship, social standing in the peer group, or social skills knowledge, as arguably children who perform well in these domains are most likely to be judged socially competent. Measures of peer relationships utilize a variety of multi-rater (self, adult, peer) and multi-method approaches (observation, interview, questionnaire), reflecting standard practice in the field (Kazdin, 2003), to assess interpersonal relationships at multiple contextual levels, namely, the child-, the dyad- (i.e., friendship), and the group-levels. Child-level measures typically assess social skills or behaviors, and can include questionnaires completed by parents or teachers, hypothetical peer vignettes (e.g., Kupersmidt, Stelter, & Dodge, 2011), and more recently, interactive tasks with a computerized peer opponent (e.g., Helseth et al., 2015). Dyad-level measures focus more on the quantity, quality, and characteristics of reciprocally endorsed friendships (Berndt & McCandless, 2009). Peer-

level measures are arguably the gold standard of interpersonal assessments of social competence; sociometric nominations ask children to name group members who fit a certain descriptor (e.g., who is most/least popular; Coie, Dodge, & Coppotelli, 1982), while peer ratings ask children to rate how much they like or dislike each peer, usually on a Likert scale of 1 to 5 (Asher & Hymel, 1981).

Several considerations influence how researchers interpret these and other measures of youth social competence. First, individual characteristics of the rater and the rated, such as age (Warnes, Sheridan, Geske, & Warnes, 2005) and social status (Hymel, 1986), can influence both the perceived and actual competence of a child's responses to social problems. In fact, several studies across decades have reported significant interactions between individual characteristics and peer reported measures of social competence, such as social status interacting with age (e.g., Feldman & Dodge, 1987) or gender (e.g., O'Neil, Welsh, Parke, Wang, & Strand, 1997). Second, evidence for the stability of social competence assessments has been mixed, and is largely dependent on the construct of interest. For example, reputational categories that describe children at social extremes, namely the popular and rejected groups, appear to be more stable over time than average, controversial, or neglected categories (Cillessen, Bukowski, & Haselager, 2000), indicating that nominations to these categories can be somewhat fluid. Third, peer-reported measures often show little evidence of intervention effects, in part because they are based on group-level reputations rather than individual perceptions (e.g., "who is popular" versus "how much do you like"; Bierman, 2004); a meta-analysis of social competence interventions found only small but significant effects on sociometric nominations and peer ratings (weighted $d = 0.13$; Beelmann et al., 1994). Finally,

assessments of individual social competence do not occur in isolation—evidence demonstrates they are relative to a particular reference group. Frederickson and Furnham (1998) found that sociometric status classifications differed when same-gender classmates were used as the reference group instead of all classmates. In another classic study, Coie and Kupersmidt (1983) demonstrated that children who were neglected by familiar peers achieved higher social status when evaluated by unfamiliar peers. Typically, researchers utilize different reference groups across development: classmates are used in early childhood, whereas entire grades or schools are used to best capture the nature of adolescent social groups (Cillessen, 2009).

To that end, a number of researchers have incorporated social network mapping techniques (Cairns & Cairns, 1994; Gest, Graham-Bermann, & Hartup, 2001) to help clarify how connected a child is with their peers within a given reference group. Social-cognitive mapping allows researchers to gauge not merely *if*, but *how* people are connected to one another, both as a whole group and as individual members. Within social sciences literature, social networks are most often used to examine either relation-based questions, describing the directionality (unidirectional versus reciprocal) or strength (distance versus proximity) of dyadic ties, or position-based questions, assessing individual influence (centrality) or group connectedness (cohesion) to examine the flow of information or resources within the group (Borgatti, Mehra, Brass, & Labianca, 2009). Social-developmental theories (Selman, 2003) suggest that highly-connected, influential individuals may be more attuned to a group's social norms, positioning them to more effectively (and thus, more competently) navigate the nuances of interacting with that group.

Levers for Change to Improve Social Competence

In contrast to the contemporary advances in assessment, intervention and prevention programs targeting youth social competence have been slower to develop and innovate. Social skills training programs, arguably the most common intervention to target social competence, were designed in the behavioral revolution of the 1970s to improve social problem-solving skills in peer-rejected child clinical populations through contingency management strategies. Programs typically relied on peers to model appropriate skills or rehearse with a target child (see Rubin, Bukowski, & Parker, 2007), while adults delivered intervention content, coached children through rehearsals, and monitored disruptive behavior as needed. Standalone social skills training programs produced moderate effects on social competence (weighted $d = 0.50$; Beelmann et al., 1994), but clinical researchers found them insufficient to address the broader impairments faced by children with more severe deficits. Even when folded into larger, multicomponent interventions, only small effects on social competence emerged (weighted $d = 0.44$; Beelmann et al., 1994); researchers have nevertheless tried to parse apart unique effects of social skills training components, though findings still reveal minimal impact (see Bierman & Powers, 2009 for review). Critics of traditional social skills training approaches have argued that the artificial interpersonal context and contrived situations used by programs undercut any potential for improvement and skill generalization (e.g., Gresham, 1998).

In an effort to capitalize on the power of natural peer interactions to facilitate learning, researchers also developed interventions to activate peers as agents of change. Peer-mediated approaches utilize children to intervene directly on targeted behaviors in

peers, though some group contingency programs rely on indirect mechanisms of behavior change (Little et al., 2015). Mental health researchers have successfully implemented peer-mediated treatments to reduce antisocial behavior and increase prosocial behavior in targeted child clinical populations with disorders including autism (Zhang & Wheeler, 2011), internalizing or externalizing problems (Fantuzzo et al., 2005), and intellectual disabilities (i.e., IQ 2 or more standard deviations below average; Mathur & Rutherford, 1991; Odom & Strain, 1984). Peer-mediated mental health interventions are designed to target individual children with measured impairment, and are most often delivered by typically developing peers.

A similar line of research has developed in the education literature, in which academic peer-based interventions are implemented class-wide to maximize student engagement, increase instruction time, provide opportunities for corrective feedback, and ultimately to improve academic performance (e.g., Delquadri, Greenwood, Whorton, Carta, & Hall, 1986; Gerber & Kauffman, 1981). Rather than targeting individual children with specific deficits, peer-mediated academic programs are universally administered, often across entire grades or schools, and can therefore be classified as preventative interventions. Peer-Assisted Learning (PAL; Fuchs, Fuchs, Mathes, & Simmons, 1997), for example, strategically pairs high- and low-achieving students to work together on academic assignments, with the skilled partner modeling and supporting the less-skilled partner. PAL has consistently produced robust improvements in reading (D. Fuchs et al., 1997), writing (Topping, 1996), and math (L. Fuchs et al., 1997) amongst at-risk students; one meta-analysis found PAL participation was most beneficial for young, low-income, urban, minority youth (Rohrbeck et al., 2003). Furthermore,

preliminary evidence indicates that participation in PAL improved measures of social competence in learning disabled (Fuchs, Fuchs, Mathes, & Martinez, 2002) and low social status children (Dion et al., 2005).

Taken together, these findings suggest that something about the PAL implementation model itself promotes social development, perhaps by strategically activating the same learning pathways through which children naturally develop and hone their interpersonal styles. If true, the PAL model could be particularly useful to educators, as government recommendations (e.g., *Children's Mental Health Act of 2006*) and empirical evidence suggest that social-emotional and academic learning are mutually beneficial and equally critical to lifetime achievement (Heckman, 2008). Unfortunately, national priorities on standards of academic achievement have forced educators to focus time and resources on raising test scores, letting social-emotional learning fall to the periphery (Cappella et al., 2008). Peer-mediated prevention models like PAL present an intriguing opportunity to rebuild the bridge between social competence theory and practice, but the very schools for which PAL was designed now lack the means or motivation to adapt the model to more directly target predictors of social competence. Therefore, reflecting recent efforts to capitalize on the untapped potential of non-traditional community-based settings to promote positive youth development, we partnered with a local after-school program to develop a model for Peer-Assisted Social Learning.

After-School Time for Social Development

In an effort to reach out and serve at-risk youth, researchers have argued that community-based after-school programs (ASPs) represent a missed opportunity to infuse

enrichment activities with mental health promoting practices (Frazier et al., 2007). Most local ASPs seek to improve child health, education, and social development through the services they provide, perhaps reflecting the well-documented unmet needs of the communities they serve (Harrison et al., 2004; Kataoka et al., 2002). Indeed, a recent national survey found that Hispanic and African American youth are at least twice as likely to participate in an ASP as Caucasian children; unmet demand for ASP enrollment is 22%-25% higher among minority youth and 16% higher among low-income families, relative to Caucasian children and higher-income families (Afterschool Alliance, 2014). What's more, ASPs seem to be succeeding: recent meta-analyses comparing ASP participants to non-ASP participants found that children who attended an ASP showed improved self-perceptions, connectedness and achievement in school, and higher prosocial and lower antisocial behavior, (Durlak et al., 2010), with specific improvements in academic achievement among at-risk youth (Lauer et al., 2006).

Despite clear evidence of their capacity to directly improve outcomes for at-risk youth and their structural and procedural similarity to evidence-based programs, ASPs are not staffed with mental health trained or licensed service providers equipped to deliver pre-packaged mental health interventions. Programs can face a myriad of constraints that might hinder implementation efforts, including competing priorities, limited space and resources, decreasing federal and state financial support, and staff qualifications ranging from a high school diploma to advanced graduate training (Afterschool Alliance, 2014; Bouffard & Little, 2003). Additionally, staff spend nearly all of their paid hours working directly with children, thereby limiting opportunities for the extensive training and ongoing supervision that accompany many manualized

evidence-based prevention programs. In light of their well-documented strengths, opportunities, and constraints, we assert that implementation science and empirical evidence can be used to inform and infuse everyday ASP activities to better promote positive youth development.

What We Know, What We Don't Know, and The Present Study

Youth social competence is a complex construct to assess and target for change, in part because it exists at the intersection between an individual and their peers and is heavily contingent upon contextual factors. Childhood competence is associated with a host of definitive long-term outcomes, prompting researchers to develop intervention and prevention programs to improve predictors linked to social competence, including problem-solving skills and measures of social relationships. Despite the widely acknowledged value of social competence, mandated academic and behavior change goals in schools have shifted social development to the periphery. ASPs are not constrained by similar mandates and have demonstrated their inherent ability to foster positive youth development, particularly among ethnic minority youth from low-income communities who face the widest need-to-service gap. Most evidence-based practices were not designed for delivery by ASP staff, do not fit the constraints of the setting, and may interfere with the natural opportunities for skill-building that are inherent to ASP routines (e.g., sports and recreational activities). Therefore, any effort to implement within an after-school context should seek to 1) leverage without overextending resources or increasing workforce demands, 2) require minimal staff training and involvement, and 3) fit naturally within the program's infrastructure and stated goals. Peer-mediated

approaches, like PAL, activate peers as agents of change and therefore present an exciting opportunity to fit these unique circumstances of ASPs.

The present study examined a peer-assisted social learning (PASL) model designed to maximize natural opportunities for peer-facilitated social problem solving. We hypothesized that the PASL model would influence a series of proximal and distal factors that facilitate youth social competence (see Figure 1). Specifically, we expected that participation in PASL problem solving activities would directly improve youths' social problem solving skills, as measured with hypothetical vignettes on the Peer Provocation Inventory (Dirks, Treat, & Weersing, 2007b, 2011). Improved problem solving skills would indirectly influence proximal correlates of youth social competence, such as staff-reported social skills and behavior problems on the Social Skills Improvement System (Gresham & Elliott, 2008). Finally, these improvements in social skills and behavior would distally influence youths' social competence among peers, as measured by sociometric nominations, peer likability ratings, and social cognitive mapping, thereby demonstrating the capacity of ASPs to support the development of youth social competence. Based in the literature described above documenting age and gender influences on social expectations and normative behavior that peers use to judge social competence, we explored interactions between children's age and gender with their participation in PASL activities, to determine if and how participant characteristics might moderate the effects of intervention.

Method

Study methods were IRB-approved and adhered to APA Ethical Guidelines for Research.

Setting

We partnered with a non-profit, faith-based organization serving low-income families living in urban communities throughout Miami-Dade County. The organization originally began as a grassroots advocacy program seeking social justice, but in the last twenty years it has offered programs to directly target the immediate and long-term effects of poverty. Programs for children, adolescents, and families are made available free of charge thanks to funding from a mix of foundations, grants, and donations. Our partner operates four after school programs for roughly 300 elementary school students in grades K-5 on weekdays from 2:30 p.m. to 6:30 p.m.; recreation and enrichment activities can vary across sites, but all sites provide 30 to 60 minutes of homework assistance, physical education (i.e., SPARK; Sallis et al., 1997), and group reading time led by a local public school teacher. Sites vary in size and amenities, but all have dedicated classroom and outdoor areas. Staff members are typically college educated, have prior experience working with children, and receive training related to their ASP activities. Key members of our partner organization expressed high enthusiasm for collaboration with our university team, both for the opportunity to receive training related to positive youth development objectives and to fulfill obligations to their primary funder, which mandates that enrichment activities integrate broader life skills. Of note, our partner requested training for non-participating sites upon completion of this study, reflecting long-term interest in sustaining the intervention model.

Research Design. This study represents the culmination of a multi-year collaboration with our ASP partner to develop research objectives, refine our conceptual model, and pilot PASL activities. The preliminary nature of this work, coupled with our

iterative approach to implementation (e.g. Cappella, Frazier, Atkins, Schoenwald, & Glisson, 2008; National Research Council, 2002), prompted our decision to utilize non-random assignment to experimental and comparison conditions. Quasi-experimental designs are appropriate for examining the early stages of university-community collaborations, where site-specific clinical needs are viewed through an empirical lens, to inform the development and refinement of new protocols (Hoagwood, Burns, & Weisz, 2002).

Experimental Site. Thirty-five children attended the ASP and five staff members worked at the site during the enrollment period; two additional children joined the ASP after recruitment ended and therefore were not eligible to provide research data to the study. Though the experimental site exclusively served local low-income families, it bordered a very affluent neighborhood, such that the demographics of the larger community did not represent the families at the site. For example, all children enrolled at the site qualified for free or reduced-price school lunch (in Miami-Dade County, a family of four earning <$44,123 annually; MDCPS Department of Food and Nutrition, 2014) but the median household income for the site's zip code was $93,590 (in 2014 dollars; US Census Bureau, 2016). Similarly, the larger community was predominantly Hispanic and Caucasian, while the ASP served predominantly African American, Hispanic, and Caucasian children who lived within walking distance of the site.

Comparison Site. At the time of enrollment, the comparison ASP employed six full-time staff members and had 36 enrolled children. Families more closely reflected the financial, but not the racial, demographics of their larger community. The median household income for the site's zip code was $38,130 (US Census Bureau, 2016), which

aligns with the site's requirement that children be eligible to receive free or reduced-price lunch. In contrast, ASP families were almost exclusively Haitian immigrants or of Haitian descent, while the surrounding community was predominantly comprised of African American and Hispanic families.

Participants

Experimental Site. Of 35 eligible children, 30 (86%) enrolled in the study, representing 24 families and 6 groups of siblings. Children were mostly male (63%) and averaged 7.6 years of age (SD = 1.8 years; range 5-11). Participants were 63% Black/African American, 16 % multiethnic/multiracial, 10% Haitian, 7% Hispanic/Latino, and 3% Caucasian. The majority of children (75%) exclusively spoke English at home, while others also spoke some Spanish (21%) or some Haitian Creole (4%). An estimated Full Scale IQ score was calculated using children's scores on the Vocabulary and Matrix Reasoning subtests on either the Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II; Wechsler, 2011) or the Wechsler Preschool and Primary Scale of Intelligence – Fourth Edition (WPPSI-IV; Wechsler, 2012), depending on the participant's age. Children's estimated Full Scale IQ scores fell in the Average range (M = 99.03, SD = 12.86). To help characterize mental health problems in the sample, parents completed the Strengths and Difficulties Questionnaire (SDQ; Goodman & Goodman, 2009), a dimensional child psychopathology screener that is widely-used and psychometrically strong (Bourdon, Goodman, Rae, Simpson, & Koretz, 2005; Goodman, 2001). Seventy percent of youth had Total Difficulties scores in the normal range, 23% were Borderline (i.e., ≥ 1 SD above the norm), and 7% were in the Clinical range (i.e., ≥ 2 SD above the norm). The majority of parents who provided child data

were mothers (79%), single (50%), had completed high school (50%) or some college (42%), and were employed full-time (63%). Most children lived in 3 or 4 person households (67%; maximum 8 residents) that reported less than $25,000 annual income (57%; four parents did not report income). The federal government's poverty guidelines determine eligibility for federal assistance programs using a family's household income and total membership (U.S. Department of Health and Human Services, 2014). Under these guidelines, at least 55% of children at the experimental site (i.e., 11 of 20 families who provided an income estimate) were living in poverty at the time of the study.

Comparison Site. Of 36 eligible children, 31 children from 24 families enrolled in the study (86%). Children were predominantly female (65%) and averaged 8.9 years of age (*SD* = 1.3 years, range 7 to 12 years). Participants were 52% Black/African American[3], 35% Haitian, 10% Hispanic/Latino, and 3% Bahamian. Most children spoke English (17%), Haitian Creole (17%), or a combination of the two (50%) at home. On average, children's estimated Full Scale IQ scores on the WASI fell in the lower end of the Average range (M = 90.5, SD = 14.2). On the SDQ, 77% of children had *Total Difficulties* scores within the normal range, while 19% were Borderline and 3% were in the Clinical range. Most parent responders were female (87%), had completed high school (42%) or some college (28%), were employed full-time (52%), and were married (61%). Most homes housed 3 to 5 residents (61%; maximum 8) and more than two-thirds

[3] The true rate of Haitian ethnicity at the Comparison site was likely higher, but most parents checked "Black/African American" rather than checking "Other" and writing in "Haitian". For example, 26 of 31 children (84%) at the Comparison site spoke some Haitian Creole at home, a language exclusively spoken by Haitian families, hinting at a higher rate of Haitian participants.

of parents (70%) reported earning less than $25,000 annually (three parents did not report income); 16 of the 21 families (76%) were living in poverty at the time of the study.

Participant Differences Across Sites. Participants at the Experimental and Comparison sites were significantly different on several variables, in both expected and unexpected ways (see Table 1). One-way ANOVAs indicated that children at the Experimental site were significantly younger than Comparison children, F (1, 59) = 9.46, p = .003, and earned significantly higher estimated Full Scale IQ scores, F (1, 59) = 6.11, p = .016. Chi-squared analyses revealed differences in gender, χ^2 (1, n = 61) = 4.73, p = .030, and child ethnicity/race, χ^2 (5, n = 61) = 12.02, p = .035. Specifically, there were more boys than girls at the Experimental site and notable differences in the racial/ethnic composition of each site (i.e., predominantly male and Black/African American at the Experimental site, versus predominantly female and a combination of Haitian and Black/African American at the Comparison site). Participants at the Experimental and Comparison sites did not differ on parent reported mental health problems (i.e., SDQ, Risk for mental health problems) or the proportion of families living in poverty.

Procedures

Parents received information about the study during meetings hosted at each site; research staff were on-site during afternoon pick-up times to answer questions and enroll families. All parent materials were available in English, Spanish, and Haitian Creole. Once a family decided to enroll, a member of the research team conversant in the parent's chosen language completed written informed consent procedures and collected baseline parent measures. A member of the research team then pulled children individually from non-academic activities to complete written informed assent and baseline measures.

Following standard ethical practice for collecting peer-reported social relationship outcomes (i.e., sociometric ratings and nominations, social cognitive mapping data; Mayeux, Underwood, & Risser, 2007) child participants were free to nominate any ASP peer, independent of the peer's enrollment in the study; nominations referencing non-consented children were immediately destroyed. All ASP children participated in two 30-minute PASL activities per week for 10 weeks, as these were delivered as part of the regular ASP routine, but only consented participants provided data.

Peer Assisted Social Learning Program (PASL). A detailed description of the development and procedures of PASL is available elsewhere, including program implementation outcomes (omitted for blind review). Briefly, following Fuchs and colleagues' academic PAL model (Fuchs, Fuchs, Simmons, & Mathes, 2008; Fuchs, Fuchs, Karns, & Phillips, 2009), PASL was conceptualized as a series of enrichment activities intended to generate opportunities for peer supervised problem-solving with minimal adult involvement. Site staff participated in a 2-hour training on the PASL model that included didactic and role-playing components, as is standard for training in evidence-based interventions (Beidas & Kendall, 2010; Salas et al., 2012). Specifically, staff learned to monitor child behavior by awarding PASL points to pairs for cooperative behavior and rule following (McMaster et al., 2006), and facilitate child participation in a non-directive manner, only intervening to model appropriate problem-solving for pairs that experience difficulty during the activity. Initial activities were facilitated by an advanced doctoral student and co-facilitated by site staff, with staff later assuming the role of primary facilitators. Researchers and site staff held weekly supervision meetings,

to problem-solve barriers to PASL implementation and promote a bi-directional flow of information used to improve the PASL model throughout implementation.

Consistent with PAL pairing procedures (McMaster et al., 2006), ASP staff ranked children by their social skills, as measured on the *Social Skills Improvement System –Teacher Report* (described below; Gresham & Elliott, 2008); the list was cut in half and children on the top of the list were partnered with children on the bottom half of the list. Pairs were rotated every two weeks, to ensure that children experienced activities with a variety of partners. The socially skilled partner always led the activity first, to serve as an appropriate peer model of problem-solving for their less-skilled partner (Fuchs, Fuchs, & Burish, 2000), with pairs switching roles and repeating the activity so that each child had the opportunity to serve as and observe a peer model. Child behavior was managed with activity rules for which pairs could earn points they later exchanged for small rewards. All children participated in PASL activities, but only consented participants provided data. In total, staff and children at the experimental site completed 21 PASL sessions, including an introductory session and 12 different problem-solving activities, some of which were repeated a second time due to their successful implementation.

Measures

Social Skills Improvement System - Teacher Version (SSIS). The SSIS asks teachers to describe a variety of socially desirable and undesirable behaviors exhibited by children (Gresham & Elliott, 2008). It is comprised of 83 items and uses a 4-point Likert scale (0 = never to 3 = almost always) to rate the frequency of a child's social behavior (Gresham, Elliott, Vance, & Cook, 2011). The SSIS generates a Social Skills composite

score, which assess domains of social competence including cooperation, assertion, responsibility, self-control, communication, empathy, and engagement, and a Problem Behavior composite score, which assesses symptoms associated with externalizing, internalizing, hyperactivity/inattention, and bullying. This measure has demonstrated strong psychometric properties (Social Skills $\alpha = .95$ and Problem Behavior $\alpha = .97$, Gresham et al., 2011; convergent validity $r = .21$, Gresham, Elliott, Cook, Vance, & Kettler, 2010) and is widely used. Rather than asking each staff member to complete the SSIS for every child at their site, ASP staff determined who among them was best positioned to evaluate each child participant; staff typically rated 6 to 8 children. This procedure was chosen because it reduces response burden for individual staff and leverages closer staff-student relationships for the highest quality data. The same staff member completed the SSIS at baseline and post-PASL to control for inter-rater differences. Internal consistency for items on the Social Skills composite and Problem Behavior composite scales were strong, with Chronbach's $\alpha = 0.96$ and $\alpha = 0.93$, respectively.

Peer Provocation Inventory (PPI). The PPI (Dirks et al., 2007b, 2011) was used to evaluate the social competence of children's responses to hypothetical peer conflict scenarios. The measure includes 11 peer provocation vignettes involving physical, verbal, and relational acts of aggression committed by an unfamiliar, same gender acquaintance. Participants received a list of 8 verbal and behavioral responses, all previously generated by youth (Dirks et al., 2007b), and were asked to indicate which responses they would actually do. Responses that indicated an aggressive strategy (physical or verbal aggression, or damaging the aggressor's other friendships) or assertive

strategy (seeking an explanation, telling the aggressor they crossed a line, and responses that combines seeking an explanation with verbal aggression) were aggregated into two total subscales, based on previous factor analytic work (Dirks, Suor, Rusch, & Frazier, 2014; Dirks et al., 2011). The PPI was developed with and for lower-income youth and has demonstrated good test-retest reliability (Dirks, Cuttini, Mott, & Henry, under review), indicating it may more accurately reflect peer interactions in the sample population.

Peer Nominations. Children completed sociometric nominations of their peers to assess their social relationships. Children received a list of 39 personal and behavioral descriptions and were asked to nominate three ASP peers who fit each description (e.g., "helps others who are hurt, sick or sad"; see Lease et al., 2002); researchers have previously used only a handful of these items in their examinations of children's social constructs, such as perceived versus actual popularity or peer status (e.g. Kwon, Lease, & Hoffman, 2012; Lease, McFall, Treat, & Viken, 2003). The number of nominations received on each item were summed then standardized within site, to account for differences in sample size and thus differences in the number of opportunities to be nominated, between sites (Cillessen, 2009).

Given the absence of previous factor analytic work on these peer nomination items, we used principal component analysis (PCA) to guide data reduction. PCA was chosen over exploratory factor analysis because it retains a greater portion of the original variance and is widely considered to be the most appropriate means of reducing the number of items to a smaller, and thus more manageable, set of representative components (Costello & Osborne, 2005). The unrotated model met sample adequacy

criteria (Bartlett, 1950; Kaiser, 1970) and the six components generated did not correlate with one another, prompting employment of an orthogonal rotation (i.e., varimax) in the final model. The number of components was not constrained in the final model; component retention was determined by visual inspection of the scree plot and Eigenvalues ≥ 1. The six components retained in the final model accounted for 74.5% of the total variance (see Table 2); fourteen items cross-loaded onto two or more factors. Negative descriptions and the inverse of several positive descriptions overwhelmingly loaded onto the first component, which we labeled Negative Friendship (20 items), while positive nominations generally loaded onto the second component, labeled Positive Friendship (16 items). Items loading onto the third component related to self-isolation and symptoms of internalizing disorders, which was labeled Withdrawn Friendship (4 items), while items loading onto the fourth component described unusual individuals, thus labeled Odd Friendship (7 items). The remaining two factors were exclusively composed of cross-loaded items. As our primary goal for the PCA was data reduction, those components were not examined as outcome measures. Although these nomination items have yet to be examined by researchers as a unified peer nomination measure or as subscales, several of the components extracted by our PCA mirror the factor structures of traditional peer nomination measures (i.e., prosocial, antisocial, and socially withdrawn scales; Masten, Morison, & Pellegrini, 1985).

Peer Likability Ratings. Though likability ratings and nominations tap into overlapping constructs, they are distinct: likability ratings demonstrate how each child is viewed by all of their peers, whereas peer nominations highlight the children at social extremes (e.g., popular vs. rejected; Asher, Parker, & Walker, 1996). Therefore, to ensure

that every child was represented via peer-report, children also rated how much they liked each peer in their ASP on a 5 point Likert scale (1= really like, 5= really do not like; Asher & McDonald, 2009). Scores were averaged to obtain individual average likability scores (Oden & Asher, 1977; Rubin et al., 2009).

Social Cognitive Mapping (SCM). Social cognitive mapping is an established peer-report procedure that allows for complete representations of a social network from a subset of respondents, even in the event of consent rates below 50% (Cairns & Cairns, 1994). Following standard SCM procedures (Cappella, Kim, Neal, & Jackson, 2013), children received a list with the names of their ASP peers. Researchers asked participants to describe groups of children who hung out together. If a participant was not aware of the peers with whom a specific child associated, they were listed as children who did not have a group; researchers queried about each child at the site to ensure equal opportunity at representation in the peer network. Primary outcomes included a child's degree centrality (each child's level of activity or involvement in the network) and reciprocity of connections (number of classmates to whom a child is reciprocally connected: "I like you and you like me"). Importantly, degree centrality considers all endorsed ties equally, regardless of whether a specific child endorsed a tie or whether a tie was unidirectional or reciprocal; reciprocity only considers unidirectional ties reported by a child and whether their peers similarly endorsed a tie with them.

Analytic Plan

Data were analyzed using SPSS version 22 (IBM Corp., 2015). Prior to analysis, social cognitive mapping data were entered into UCINET 6 software (Borgatti, Everett, & Freeman, 2002) to aggregate and symmetrize the perceived social networks at each

site, pre- and post-PASL (see Figure 2). A Freeman's degree centrality score was then calculated for each participant, to determine the total number of ties between individuals in the network, as reported by all children at the ASP (Freeman, 1978). Continuous variables were evaluated for multivariate outliers by examining leverage indices for each individual and defining an outlier as a leverage score four times greater than the mean leverage (Judd, McClelland, & Ryan, 2009); no outliers were identified. The sample had a very small amount of missing data (0.58% across study variables) which appeared to be missing completely at random (Little's MCAR test: $\chi^2(116) = 3.92$, $p = 1.00$); therefore, listwise deletion was employed for staff- and child-reported outcomes (Peugh & Enders, 2004). Examination of univariate indices of skewness and kurtosis revealed non-normality on multiple variables (i.e., skewness and/or kurtosis values > 2.0); therefore, all analyses were evaluated using bootstrapping with 2000 bootstrap replicates. Due to planned, exploratory hypotheses involving age and gender coupled with our small sample size, we limited the number of additional moderators (i.e., main effect models with all baseline differences were over-identified). Ultimately, we did not account for participant IQ because sample means at both PASL and Comparison sites fell within the functionally Average range (i.e., ± 1 SD from the mean of 100). We did not account for participant race/ethnicity because we did not have the theoretical or empirically-driven rationale, nor the subgroup samples needed to justify such between-site comparisons. Finally, given our small sample size and the number of variables included in each model, we chose to describe interaction effects that approached and met traditional significance boundaries (i.e., $p > .05$ to $p < .10$).

A series of univariate analyses of covariance (ANCOVAs) were conducted, with PASL (Experimental versus Comparison site), Age, and Gender included as fixed effects, with baseline scores included as covariates (see Table 3 for summary of findings, and Tables 4 and 5 for relationships between continuous and categorical variables in the model). After main effects models were examined, we reran all models with two-way interaction terms for PASL, Age and Gender effects, as well as a three-way interaction, again included as fixed effects. These analyses were exploratory, intended to examine the influence of children's age and gender on outcomes; only significant interactions and those approaching significance are described. Significant effects involving PASL (e.g., PASL, PASL X Age, PASL X Gender) were then followed up post hoc, using Bonferroni adjustment procedures to control for family wise Type I error (Bland & Altman, 1995). Hedges' *g* effect sizes (Hedges, 1982) are included in tables to provide further insight into the magnitude and direction of pairwise effects.

Results

Social Skills Inventory System

Social Skills. No significant main effects on social skills were detected for PASL, F (1, 57) = 0.06, p = .804, or Age, F (7, 57) = 0.62, p = .737, in the initial main effects model, though the effect of Gender approached significance, F (1, 57) = 3.10, p = .085. Inclusion of the interaction terms did not alter the main effects. Analyses again revealed no significant main effects of PASL, F (1, 57) = 0.18, p = .677, or Age, F (7, 57) = 0.68, p = .689, on children's SSIS Social Skills composite score, though the main effect of Gender continued to approach significance, F (1, 57) = 2.87, p = .099. However, there was a significant two-way interaction of Age X Gender, F (4, 57) = 3.94, p = .016, and

the three-way PASL X Age X Gender interaction approached significance, F (3, 57) = 2.84, p = .052. Pairwise comparisons for trending PASL X Age X Gender interaction showed a crossover effect between age and gender: of those who participated in PASL, younger girls and older boys improved their social skills relative to their age- and gender-mates at the Comparison site. In contrast, younger boys and older girls at the Experimental site received lower social skills scores than their Comparison site counterparts (see Table 6).

Problem Behaviors. There was a significant main effect of Age, F (7, 57) = 2.62, p = .023, and a trending effect of PASL, F (1, 57) = 3.44, p = .070, on problem behavior; the main effect of Gender on problem behavior was not significant, F (1, 57) = 0.02, p = .884. The interaction model was generally consistent with the main effects model, again revealing a significant main effect of Age, F (7, 57) = 2.43, p = .038 and a non-significant trend of PASL, F (1, 57) = 2.96, p = .093, on children's SSIS Problem Behavior composite score. No effect of Gender, F (1, 57) = .21, p = .648, was found. A two-way interaction between PASL X Gender, F (1, 57) = 4.04, p = .052, approached significance but was qualified by a significant three-way interaction, PASL X Age X Gender, F (3, 57) = 3.48, p = .026. Pairwise comparisons for the significant PASL X Age X Gender interaction showed that staff at the experimental site generally reported fewer behavior problems post-PASL than did staff at the comparison site, with the greatest mean differences found between older boys at each site (Table 7).

Peer Provocation Inventory

Assertive Strategies. A significant main effect of Age, F (7, 57) = 3.74, p = .003, on the assertiveness of children's response strategies was detected; the effects of PASL, F

(1, 57) = 1.46, p = .233, and Gender, F (1, 57) = 0.98, p = .327, on assertiveness were not significant. The interaction model again revealed a significant main effect of Age, F (7, 57) = 0.76, p = .627, on the assertiveness of children's response strategies; older participants generally endorsed more assertive strategies than younger participants, though the differences between most ages were relatively small. No effects of PASL, F (1, 57) = 0.02, p = .878, or Gender, F (1, 57) = 0.01, p = .921, were found in the interaction model. Furthermore, none of the two- or three-way interaction terms for assertiveness approached significance (ps .702 to .902).

Aggressive Strategies. The initial main effects model for aggressive strategies was not significant, with PASL, F (1, 57) = 0.44, p = .509, Age, F (7, 57) = 1.80, p = .110, and Gender, F (1, 57) = 1.23, p = .273. Inclusion of the interaction terms brought the main effect of Age, F (7, 57) = 3.31, p = .008, into significance; the main effects of PASL, F (1, 57) = 0.06, p = .805, and Gender, F (1, 57) =2.25, p = .142, remained non-significant. The main effect of Age was qualified by two significant two-way interactions, including PASL X Age, F (3, 57) =3.35, p = .030, and Age X Gender, F (3, 57) = 3.65, p = .022. Pairwise comparisons for the significant PASL X Age interaction indicated that younger children who participated in PASL endorsed slightly fewer aggressive strategies than their Comparison age mates; older children who participated in PASL, particularly 9 and 11-year-olds, endorsed more aggressive strategies than same-age Comparison children (Table 8).

Peer Likability Ratings

The initial model revealed a significant main effect of PASL, F (1, 57) = 10.72, p = .002, on peer likability ratings, though the effects of Age, F (7, 57) = 1.07, p = .395,

and Gender, F (1, 57) = 0.66, p = .421, were not significant. Subsequent inclusion of the interaction terms did not influence main effects; the main effect of PASL F (1, 57) = 9.71, p = .004, on children's peer likability ratings maintained significance while the main effects of Age, F (7, 57) = 0.91, p = .508, and Gender, F (1, 57) = 1.72, p = .198, remained non-significant. None of the two- or three-way interaction terms for assertiveness approached significance (ps .133 to .838). Pairwise comparisons for the main effect of PASL in the final model showed that children at the Comparison site were rated 0.19 points more likable than participants at the Experimental site (SE = 0.12, p = .188, 95% CI: -0.03 – 0.46) post-PASL.

Peer Nominations

Positive Nominations. The initial model for positive nominations did not reveal any significant main effects of PASL, F (1, 57) = 0.89, p = .767, Age, F (7, 57) = 1.05, p = .412, or Gender, F (1, 57) = 0.57, p = .453. Inclusion of the interaction terms did not reveal any significant one, two, or three-way effects (ps .369 to .842 for main effects, .180 to .507 for interactions).

Negative Nominations. There was no effect of PASL, F (1, 57) = 0.65, p = .424, Age, F (7, 57) = 0.35, p = .929, or Gender, F (1, 57) = 1.63, p = .208, on negative peer nominations. The interaction model similarly revealed no significant main effects of PASL, F (1, 57) = 0.40, p = .534, or Age F (7, 57) = 0.23, p = .975, on negative peer nominations, though the effect of Gender F (1, 57) = 2.94, p = .095, approached significance. A non-significant trend for the interaction of Age X Gender, F (3, 57) = 2.47, p = .078, was detected.

Withdrawn Nominations. There was no effect of PASL, F (1, 57) = 0.33, p = .571, Age, F (7, 57) = 1.73, p = .127, or Gender, F (1, 57) = 0.23, p = .634, on withdrawn nominations. Inclusion of the interaction terms did not reveal any significant main, two-way, or three-way effects (*p*s .162 to .797 for main effects, .111 to .799 for interactions).

Odd Nominations. There was no effect of PASL, F (1, 57) = 1.79, p = .187, Age, F (7, 57) = 1.29, p = .275, or Gender, F (1, 57) = 0.09, p = .771, on odd nominations. Introduction of the interaction terms did not reveal any significant main effects of PASL F (1, 57) = 0.46, p = .501, Age F (7, 57) = 0.99, p = .451, or Gender F (1, 57) = 0.01, p = .974. However, all two-way interactions were significant, with PASL X Age, F (3, 57) = 3.97, p = .016, PASL X Gender F (1, 57) = 11.5, p = .002, and Age X Gender, F (3, 57) = 4.52, p = .009. Pairwise comparisons for the significant two-way interactions involving PASL showed that Experimental children received fewer odd nominations post-PASL than Comparison children, particularly among the oldest and youngest participants in the sample. With regards to gender, Experimental boys received fewer odd nominations than Comparison boys post-PASL, while Experimental girls received more odd nominations than Comparison girls (Table 9).

Social Cognitive Mapping

Degree Centrality. The main effects model for degree centrality revealed significant main effects of PASL, F (1, 57) = 8.74, p = .005, and Gender, F (1, 57) = 7.33, p = .009, but no main effect of Age, F (7, 57) = 0.69, p = .680. The interaction model similarly revealed significant main effects of PASL, F (1, 57) = 4.35, p = .044, and Gender, F (1, 57) = 4.92, p = .033 on children's degree centrality within their peer network; there was no effect of Age, F (7, 57) = 1.15, p = .359. These main effects were

qualified by a significant Age X Gender two-way interaction, F (3, 57) = 4.63, p = .008. Pairwise comparisons for the main effects of PASL and Gender in the final model indicated that Comparison children had significantly higher degree centrality scores, averaging 21.8 points (SE = 7.23, p = .005, 95% CI: 7.07 – 36.4) more than Experimental participants; across both sites, girls scored 20.3 points higher (SE = 6.23, p = .021, 95% CI: 8.69 – 33.1), than boys, on average.

Reciprocity. The main effects of PASL, F (1, 57) = 3.95, p = .053, and Gender, F (1, 57) = 2.99, p = .090, on reciprocity within the social network both approached significance, but the effect of Age, F (7, 57) = 0.64, p = .721, did not. Introduction of the interaction terms resulted in the loss of significance for all main effects, including PASL, F (1, 57) = 2.24, p = .144, Age, F (7, 57) = 0.79, p = .603, and Gender, F (1, 57) = 2.20 p = .147. However, a significant effect was found for the two-way interaction between PASL X Age, F (3, 57) = 5.14, p = .005, on participants' total of reciprocal ties. Pairwise comparisons showed that 7 year-olds who participated in PASL had more reciprocal relationships than Comparison children; among all other age groups, PASL participant had fewer reciprocal ties than Comparison children (see Table 10).

Discussion

The present study examined an after-school Peer Assisted Social Learning (PASL) model to support evidence-based problem solving and positive youth development among low-income, minority youth. Socially skilled and less-skilled children were partnered to complete a series of recreational activities designed to generate natural opportunities for peer facilitated problem-solving. Direct effects, as well as indirect proximal and distal effects of the program were mixed, and several significant

interactions suggest that participants' age and gender may have moderated the effects of PASL.

We hypothesized that PASL participants would demonstrate significant improvements on outcomes measuring social problem solving skills. Direct changes in problem solving strategy were detected on the PPI and varied with age. The most notable and unexpected finding was that older children at the Experimental site endorsed a higher number of aggressive responses to hypothetical peer provocation scenarios than did older Comparison children, post-PASL. ASP staff nonetheless reported strong benefits of PASL participation on the SSIS, supporting our conceptualization that PASL would have an indirect effect on proximal correlates of youth social competence. Specifically, children who participated in PASL activities exhibited significant decreases in staff-reported problem behaviors, with the largest differences detected among older boys. There was also evidence of a trending 3-way interaction for improved social skills post-PASL: younger Experimental boys were rated less socially skilled, while older Experimental boys were more socially skilled, relative to Comparison participants post-PASL; the opposite was true among girls, such that older Experimental girls were less socially skilled and younger Experimental girls were more socially skilled, relative to Comparison girls post-PASL. Finally, participation PASL was indirectly associated with a mix of more distal outcomes on peer-reported measures of youth social competence. Participation in PASL was associated with diminished degree centrality and reciprocity, both quantifications of social standing within the peer network, and a small but significant decrease in peer likability ratings. However, children at the Experimental site received fewer Odd peer nominations post-PASL, particularly boys and children at the

age extremes of the sample, relative to Comparison children. Taken together, these results suggest that ASPs may indeed have the capacity to influence social competence development among low-income, minority youth.

Changes in Children's Applied Problem-Solving

PASL appeared to influence children's endorsement of aggressive – but not assertive – responses to hypothetical peer provocation. Relative to their same-age Comparison site peers, older children who completed PASL were more inclined to select aggressive strategies, while younger children similarly endorsed aggression regardless of their PASL participation. Though preliminary, this suggests that PASL may have increased older children's utilization of aggressive strategies in interpersonal conflict situations. Across both sites, older boys endorsed more aggressive strategies than older girls, indicating that gender may play a role in social problem solving more broadly. The normality of social aggression is very much tied to age and gender; overt physical aggression is well-known to be more common among males than females (Anderson & Bushman, 2002), and though typical in early childhood, over time it is replaced by verbal or relationally aggressive strategies (e.g., damaging a peer's relationships; Rubin et al., 2007). Individual competence is in the eye of the beholder (i.e., the peer judge; Dirks et al., 2007a), and it may be that PASL pairing procedures exposed children to a broader range of peers, which in turn prompted them to adhere more closely to age- and gender-normative aggression.

We can only speculate as to why participation in PASL, a program intended to promote social problem solving skill development, was not associated with changes in children's use of assertive problem-solving strategies. First, the PPI was chosen

specifically for its contextualized development: researchers generated every aspect of the measure, from the peer provocation scenarios to the response options, from a sample of low-income minority youth (Dirks et al., 2007b), indicating that the measure could be more applicable to the study's population. However, the PPI is typically used to classify children's response to provocation patterns and has never been used as a treatment outcome measure in any previous study. Furthermore, while implementation of the present study was under way, the developers of the PPI completed a three-year longitudinal study to determine the stability of the measure and its subscales over time (Dirks, Cuttini, Mott, & Henry, under review). Researchers found strong evidence of stability, indicating that the PPI may lack the sensitivity needed to detect small changes over a short period of time, or alternatively, that children's problem solving strategies are fairly consistent across time. While our results showed that children did in fact solve problems during PASL activities (see staff-awarded point data; omitted for blind review), we did not evaluate and thus cannot describe the nature of the problems that children encountered during activities and what, if any, solutions they developed. The PASL model was designed to generate natural, low-stakes opportunities for peer-assisted problem solving in an adult monitored setting; activities were not exclusively of an interpersonal nature (e.g., artificially create opportunities where a child might be bullied so they can problem-solve that social situation). Rather, PASL activities closely resembled common ASP recreational activities that emphasize teamwork in which all sorts of problems might arise, including problems specific to the activity itself (e.g., how to build a toothpick tower) as well as interpersonal problems (e.g., your partner is not helping). The PPI only assesses children's responses to peer provocation scenarios and

may lack the breadth to capture other types of problem-solving skill development. Future studies may consider using more socially relevant activities, or alternatively, include measures that better capture problem-solving skill development in a broad manner.

Staff-Reported Changes in Social Competence

Staff reported improvements in children's social skills and problem behavior provide strong evidence for distal effects of PASL. Overall, children at the Experimental site showed larger decreases in staff-reported problem behaviors than children at the Comparison site, post-PASL, with the greatest differences detected between older boys at each site. This finding is particularly encouraging because our community partner initially reached out to our research team looking for help managing the disruptive behavior among the ASP's older elementary school-age boys. The PASL model directed staff to award pairs points for following activity rules and cooperating with their partner during activities, similar to a positive-only variation of the Good Behavior Game (Wright & McCurdy, 2012). Incentivizing participation and rule following appeared to not only keep children on-task during activities, but measurably reduced disruptive behavior exhibited during after-school time among the population of greatest concern to our community partners.

Findings also hinted at an apparent dual crossover effect between age and gender, indicating they may have moderated PASL outcomes. Specifically, participation in PASL was associated with increased social skills in younger girls and older boys, while younger boys and older girls who participated in PASL exhibited lower social skills than their comparison age- and gender-mates. This effect is intriguing, given that children's SSIS scores were standardized by age and gender within each subscale (i.e., problem

behaviors, social skills). Standardization provides a developmental context to raw scores, comparing an individual child's performance to a nationally representative sample of same-age, same-gender youth, such that an 8-year-old girl and an 11-year-old girl with equal scores can be considered equally skilled. Even within a developmental context, ASP staff at both sites rated older children and girls as more socially skilled than younger children and boys. One possible explanation for this effect may relate to the context in which the adult rater interacts with and observes the child. Teachers, for whom the present version of the SSIS was developed, interact with children in an age-constrained setting (i.e., academic grades), positioning them well to compare one child's social competence to that of their developmental equal. In contrast, ASP staff often interact with children who span the developmental spectrum from early to middle childhood. As such, ASP staff may be more likely to compare children at different developmental levels when judging social skills, effectively holding younger girls to a social competence standard more appropriate for older girls. Given the difference in context between school and after-school environments, it may be helpful for researchers to adapt measures like the SSIS for non-familial adults who interact with youth in non-academic settings, to allow for the input of coaches, youth group leaders, or ASP staff. School is arguably the most structured environment in which children interact with non-family members, and though it is where they spend the bulk of their time, it may not reflect how children interact and solve problems when adults aren't around. If replicable, these staff-reported improvements in children's social skills and behavior could indicate that PASL may be most beneficial for older boys, whose participation was associated with the desired

combination of increased social skills and decreased behavior problems in the present study.

Peer-Reported Changes in Social Competence

Contrary to staff-reported improvements, peer-report measures seem to demonstrate minimal positive effects and in some cases, potentially negative effects. Positive effects of PASL were constrained to small and somewhat inconsistent reductions in Odd peer nominations, with the oldest and youngest PASL participants receiving fewer Odd Nominations than their same-aged Comparison peers. It is difficult to discern why children at the experimental site rated the oldest and youngest among them as less odd post-PASL. Children often choose to associate with peers of a similar age and gender to themselves (i.e., homophily), such that many of the children at the site may have had limited interactions with their oldest and youngest peers. Perhaps after gaining increased exposure to them during PASL activities, children at the age extremes of the sample were perceived as more normal and thus less odd. Due to the inconsistent pattern of results (see Table 9), this explanation is highly speculative and requires future corroboration.

In contrast, PASL participation seemed linked to diminished, and at times unfavorable, peer reported distal outcome measures of social competence. First, children at the Experimental site were rated as less liked by their peers at the post-PASL assessment, while children at the comparison site were rated as better liked. At the beginning of the study, Comparison children somewhat disliked one another (average 2.0/5.0 likability) while Experimental participants rated one another relatively neutrally (average 2.6/5.0 likability); post-PASL, Comparison children were still disliked (average 2.2/5.0 likability) and Experimental children still viewed one another neutrally (average

2.4/5.0 likability). Overall, changes from pre-to-post in peer-reported likability were relatively small (i.e., both groups' means changed by .20 points, or a 4% change in likability, with the comparison site increasing and the experimental site decreasing), such that statistically significant differences may not translate to meaningful, real-world differences.

Although children at both sites saw an increase in their degree centrality, children who participated in PASL saw much smaller gains than their comparison group peers. Despite this general increase in network connectivity, children at the Experimental site endorsed fewer reciprocal ties post-PASL, while children at the Comparison site reported more reciprocal ties. Upon visual inspection, the network maps for each site appeared to show some changes in connections between individuals, but relatively little change in new connections across subgroups (see Figure 2). At the Experimental site, children who were not initially connected with peers in another subgroup (particularly across gender lines) appeared to have developed some new, unique connections post-PASL. This could reflect an increase in unidirectional ties rather than reciprocal ties, which decreased post-PASL. In contrast, the network maps for the Comparison site show that individuals within the same subgroup who were not directly connected pre-PASL ultimately developed relationships at the post-PASL assessment; connections between comparison subgroups appeared largely unchanged.

Why then, might participation in PASL be associated with a loss in social connectedness and likeability? PASL activities paired skilled children with less skilled children, and oftentimes participants were displeased with their assigned partners. Children rotated partners every two weeks, pairing them with multiple children with

whom they might not typically socialize and forced them to work together to solve problems in social activities, which may have soured their view of their partners. Indeed, PASL pairing procedures received more criticism from child participants during their exit interviews than any other component of the implementation model. Almost every child stated that they would have much rather completed the activities with a friend than a child with whom they did not typically associate. However, when PASL participants then were asked how they would form pairs if they were in charge of pairing, many argued the need for some balance between exposure to friends and foes, acknowledging the value in learning to work with children they disliked or didn't know well. Taken together, the slight reduction in peer likability and diminished degree centrality and reciprocity scores, along with participant complaints about the pairing procedures, may indicate a need to adapt the original PAL pairing procedures (i.e., ranking and pairing based on teacher-rated skill level) to follow a more socially relevant approach. Perhaps pairing children based on other indices of social competence, such as popularity, social influence, or perhaps even peer-rated social skill, would improve the impact of a peer-mediated approach like PASL on individual peer-reported outcomes associated with social competence.

Limitations, Lessons Learned, and Future Directions

Though encouraging, the present results must be considered in light of several important limitations. First, the study utilized non-random assignment to the experimental and comparison conditions, which increased the likelihood that groups were different at baseline. In addition to several anticipated group differences (i.e., gender, age, racial/ethnic composition between sites), participants also differed significantly on peer

likability ratings at baseline. We sought to address these between-group baseline differences analytically, by including age, gender, and pre-PASL scores in the model. Our small sample sizes suited the pilot nature of this implementation model, though it often meant only a few children of particular gender and age were present at each site. We used bootstrapping to help normalize our distributions and dampen the influence of individual children on group-level analyses, but may have nonetheless lacked sufficient statistical power to detect smaller between-group differences. Similarly, though our principal component analysis was only intended to guide data reduction on the peer nomination items, we recognize that our small sample size increases the likelihood that our factors may not be replicable. We therefore strongly encourage any researchers looking to develop this collection of peer nomination items into a peer nomination measure to conduct an independent factor analysis with the necessary sample size. While both sites were members of the same parent organization and therefore utilized similar activities, we did not assess the extent to which the rest of the afternoon programming looked similar or different. As such, we cannot rule out the possibility that differences in outcomes reflect other differences in routine and activities across the two sites. Finally, staff at the Experimental site were not blind to their implementation of PASL, which may have introduced an expectancy bias on staff-reported competence measures.

Despite these limitations, the present findings shed light on heretofore missed opportunities within recreational activities to support the natural development of youth social competence during after-school time. Traditional social skills training interventions and social problem-solving interventions have both demonstrated moderate improvements in proximal predictors of social competence (i.e., improvements in social

skills or problem solving skills; Beelmann et al., 1994; Lösel & Beelmann, 2003), but did so among children with documented social deficits. By simply partnering children with socially skilled peers over the course of twenty-one 30-minute activities that closely resembled recreational activities typical at ASPs, staff were able to detect measureable improvements in children's social skills and problem behavior. What's more, the present study was not a targeted intervention for children with clinically significant social functioning deficits, but rather was a universal prevention program implemented within a naturally occurring sample of youth. At a time when access to mental health services is limited and schools' focus is entirely academic, ASPs can provide natural opportunities to promote the development of critical life skills, like social competence, that have broad reaching and long-term implications. At the very least, ASPs merit careful consideration by researchers, particularly those disseminating evidence-based practices for at-risk and underserved youth, as an untapped opportunity for prevention and intervention efforts.

Tables and Figures

Table 1. Means, SDs, and Percentages for Participant Characteristics, by Site

Participants	Experimental n = 30	Comparison n = 31	ANOVA or χ^2	*p*-value
Age	7.6 (1.8)	8.9 (1.3)	$F = 9.46$	.003*
Gender (males)	19 (63%)	11 (35%)	$\chi^2 = 4.73$	.030*
Race (Black/AA)	19 (63%)	16 (52%)	$\chi^2 = 12.02$	.035*
Estimated IQ	99.0 (12.9)	90.5 (14.2)	$F = 6.11$	.016*
SDQ				
Total Difficulties	9.2 (6.2)	8.5 (5.0)	$F = 0.29$	.590
Enrolled Families	n = 24	n = 21		
Living in Poverty	11 (55%)	16 (76%)	$\chi^2 = 2.05$	.136

Note. Values in the table are means with standard deviations in parentheses, or frequency counts with percentages of the sample in parentheses. Race describes the proportion of the sample that was Black/African American. Estimated IQ = Estimated Full Scale IQ on the WASI-II (Wechsler, 2011) or the WPPSI-IV (Wechsler, 2012). SDQ = Strengths and Difficulties Questionnaire (Goodman & Goodman, 2009). Living in Poverty = Families who met the federal 2014 Poverty Guidelines (U.S. Department of Health and Human Services, 2014).

*In rows with significant ANOVA F statistic (df = 1, 59) or Pearson Chi-Square values, $p < 0.05$.

Table 2. Rotated six-component structure generated to reduce peer nomination items

	Components					
Items	**1**	**2**	**3**	**4**	**5**	**6**
1. Agreeable, cooperates, pitches in, shares, and gives everyone a turn	*-.347*	*.689*				
2. Upsets everything, doesn't share, and tries to control group	.775					
3. This person is very good at many outdoor games and sports	*.323*				*.720*	
4. Hits, shoves, pushes, or threatens others to get what they want	.913					
5. Really cool, everybody knows them	*.370*	*.446*		*-.314*	*.468*	
6. Seems odd, says things that don't make sense				.792		
7. Feelings get easily hurt			.807			
8. Dependable, someone you can trust		.753				
9. Gets out of seat, makes noise, and bothers others trying to work	*.669*			*.482*		
10. Makes good grades, smart, and usually knows the right answer		.816				
11. Says mean things, calls names, and teases others in a mean way	.897					
12. The leader, others like to have this person in charge		.737				
13. Seems odd or weird				.794		
14. Seems sad or unhappy			.886			
15. Easy to talk to, happy and cheerful, and a good listener		.716				
16. Strange, different from other kids your age	*.303*			*.670*		*.332*
17. Acts bossy and like a know-it-all	*.586*					*.627*
18. Tries hard to do good schoolwork		.800				
19. Interrupts others, can't wait for turn, and barges in	.767					
20. Plays fair		.673				
21. Tries to make others stop interacting with a peer	.832					
22. Fun, good sense of humor, and good ideas for things to do		.756				
23. Worries a lot and is scared of lots of things			.819			
24. Looks down on others, snobby, and acts as if better than others	*.756*					*.353*
25. Admired by others, others want to be around		*.652*			*.416*	
26. Loses things, in trouble for not working or following directions	.815					
27. Easily loses temper when teased or treated meanly	.821					

28. Good at solving problems when kids have trouble getting along		.830			
29. Doesn't want to pay attention, mind wanders, seems "spacey"	*.622*		*.644*		
30. Doesn't follow the rules, talks back to teacher	.901				
31. Helps others who are hurt, sick, or sad, show concern for others		*.689*		*-.590*	
32. Untrustworthy, lies, destroys and takes others' belongings	*.753*			*.351*	
33. Bullies and picks on others	.897				
34. Influential, others listen to them		.817			
35. Overreacts, easily angered	.872				
36. Self-confident, believes in self		.780			
37. Can playfully tease others without hurting feelings or angering		*.728*		*.376*	
38. In control, decides the "in-crowd" or popular group	*.643*	*.333*	*-.342*		
39. Would rather play alone?		*.778*			*-.328*

Note. Principal component analysis based on total standardized peer nominations for each of 38 items. Cross-loaded items are italicized. The 5th and 6th components were not included as outcome measures because all of their items were accounted for by one of the previous components.

Table 3. Means, standard deviations, and effects for Experimental and Comparison children

	Experimental Site N = 27		Comparison Site N = 30		Effects ($p < .05$)
	Pre	**Post**	**Pre**	**Post**	
Social Skills Inventory System					
Social Skills	97 (15)	95 (16)	89 (19)	91 (18)	f
Problem Behavior	112 (16)	109 (15)	108 (21)	107 (21)	b, g
Peer Provocation Inventory					
Assertive Strategies	27 (5.6)	27 (6.2)	25 (6.0)	28 (3.8)	b
Aggressive Strategies	13 (9.6)	11.7 (9.5)	9 (6.8)	11.1 (9.2)	b, d, f
Social Cognitive Mapping					
Degree Centrality	94 (24)	106 (23)	128 (25)	152 (26)	a, c, f
Reciprocity	3.5 (2.2)	2.7 (1.6)	3.1 (2.1)	4.2 (2.2)	d
Sociometric Nominations					
Positive	1.4 (0.8)	1.4 (1.0)	1.4 (0.9)	1.5 (0.8)	
Negative	1.5 (1.3)	1.6 (0.7)	1.5 (1.1)	1.6 (1.2)	
Withdrawn	0.3 (0.2)	0.4 (0.1)	0.3 (0.3)	0.4 (0.3)	
Odd	0.4 (0.3)	0.4 (0.2)	0.4 (0.2)	0.4 (0.3)	d, e, f
Peer Ratings	2.6 (.50)	2.4 (.43)	2.0 (.36)	2.2 (.41)	a

Note. Social Skills Improvement System scores are standardized with national norms (Gresham & Elliott, 2008). Peer Provocation Inventory scores are total aggressive and assertive items endorsed (Dirks et al., 2011). Social Cognitive Mapping scores are a standardized proportion of individual ties versus total social connections in the network and the total number of reciprocal ties (Borgatti et al., 2002; Freeman, 1978). Sociometric Nominations are standardized within site (Rubin et al., 2009). Peer Ratings are on a 5-point Likert scale (1= *really like*, 5= *really do not like*; Asher & McDonald, 2009).

Significant effect at $p < .05$: a = PASL, b = Age, c= Gender, d = PASL*Age, e = PASL*Gender, f = Age*Gender, g = PASL*Age*Gender.

Table 4. Correlations between continuous demographic variables and post-PASL outcome variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	1												
2. FSIQ	-0.27*	1											
SSIS													
3. Social Skills	-0.11	0.35**	1										
4. Problem Behavior	-0.02	-0.13	-0.71**	1									
PPI													
5. Assertive	0.2	-0.17	-0.01	-0.01	1								
6. Aggressive	0.1	-0.17	-0.23	0.31*	0.07	1							
SCM													
7. Degree Centrality	0.37**	-0.17	-0.08	-0.14	0.15	-0.01	1						
8. Reciprocity	0.14**	-0.01	0.08	0.01	0.1	0.15	0.51**	1					
SN													
9. Positive	0.21	-0.03	0.07	-0.19	-0.01	-0.09	0.31*	0.02	1				
10. Negative	0.11	-0.12	-0.34*	0.45**	-0.14	0.14	0.11	0.1	0	1			
11. Withdrawn	-0.15	0.03	0.08	-0.21	-0.2	-0.16	-0.08	-0.28*	-0.08	0.11	1		
12. Odd	-0.23	0	-0.09	0.19	-0.25	0.06	-0.36**	-0.33*	-0.06	0.1	0.28*	1	
13. Peer Ratings	-0.24	-0.11	-0.26	0.29*	-0.05	0.09	-0.34**	-0.35**	-0.04	0.21	0.26	0.39**	1

Note. This table provides Pearson correlations between study outcome variables and all continuous demographic variables on which the Experimental and Comparison participants differed. FSIQ = Full Scale IQ, SSIS = Social Skills Inventory System, PPI = Peer Provocation Inventory, SCM = Social Cognitive Mapping, SN = Sociometric Nominations.

* $p < .05$, ** $p < .01$ (two tailed).

Table 5. T-tests between categorical demographic variables and post-PASL outcome variables.

Post-PASL Outcome	Gender (Male = 29)	Gender (Male = 29)	Race (African American = 32)	
Social Skills Inventory System				
Social Skills	t = -0.32	p = .752	t = 0.62,	p = .541
Problem Behavior	t = 0.30	p = .762	t = -2.10	p = .041
Peer Provocation Inventory				
Assertive Strategies	t = -0.85	p = .400	t = -1.08	p = .288
Aggressive Strategies	t = 0.47	p = .686	t = 0.50	p = .621
Social Cognitive Mapping				
Degree Centrality	t = -2.91	p = .006	t = -1.01	p = .315
Reciprocity	t = 1.95	p = .057	t = -0.60	p = .551
Sociometric Nominations				
Positive	t = 0.10	p = .919	t = -1.18	p = .243
Negative	t = -0.31	p = .758	t = -0.61	p = .548
Withdrawn	t = -1.19	p = .242	t = 0.83	p = .412
Odd	t = 1.61	p = .115	t = 2.76	p = .009
Peer Ratings	t = 2.59	p = .012	t = 0.34	p = .738

Note. T-scores represent equal variances between categories not assumed. In total, 57 participants completed post-PASL outcome measures. Racial/ethnic categories represent comparisons between the stated group and all other participants (e.g., Haitian versus all other races/ethnicities). One Comparison participant reported their race/ethnicity as Bahamian and one Experimental participant reported their race/ethnicity as Caucasian; these racial categories were too small to conduct independent samples t-tests and thus were excluded from the table

Table 6. Pairwise comparisons for the SSIS Social Skills Composite to follow up the trending PASL X Age X Gender interaction

		Experimental vs. Comparison Site				
Age	**Gender**	**Mean Difference**	**Std. Error**	***p***	**95% CI**	**Hedges' *g***
7	Male	-1.95	5.96	.820	-13.1 – 7.39	0.59
	Female	8.58	12.9	.619	-11.6 – 36.9	-0.69
8	Male	-22.1	6.74	.028*	-33.3 – -4.71	-0.42
	Female	5.01	4.34	.329	-3.76 – 13.3	0.53
9	Male	8.69	3.56	.048*	1.63 – 15.3	1.33
	Female	-4.96	2.99	.248	-9.80 – 1.17	0.01
10	Male	10.1	7.25	.243	-3.79 – 24.3	0.68
	Female	-15.4	17.7	.570	-45.8 – 14.0	0.26

Note. Some comparisons or effects were not reported due sample limitations at one or both sites.

* $p < .05$, with Bonferroni adjustment for multiple comparisons.

Table 7. Pairwise comparisons for the SSIS Problem Behavior Composite to follow up the significant PASL X Age X Gender interaction

		Experimental vs. Comparison Site				
Age	**Gender**	**Mean Difference**	**Std. Error**	***p***	**95% CI**	**Hedges' *g***
7	Male	-16.3	6.73	.024*	-30.8 – -4.77	-0.23
	Female	-0.99	10.4	.922	-22.0 – 18.5	1.59
8	Male	18.5	7.18	.078	4.60 – 33.7	0.52
	Female	-3.47	6.46	.601	-17.7 – 8.84	1.37
9	Male	-29.5	7.90	.001*	-43.1 – -16.6	-0.89
	Female	10.3	8.49	.416	-7.54 – 22.4	0.49
10	Male	-22.4	5.46	.001*	-32.9 – -12.2	-1.71
	Female	-3.01	6.38	.699	-16.0 – 9.16	-0.57

Note. Comparisons are evaluated at pre-PASL SSIS Problem Behaviors Score = 109.68. Some comparisons were not reported due sample limitations at one or both sites.

* $p < .05$, with Bonferroni adjustment for multiple comparisons.

Table 8. Pairwise comparisons for the PPI Aggressive Strategies total endorsements to follow up the significant PASL X Age interaction

Age	PASL	Mean Difference	Std. Error	*p*	95% CI	Hedges' *g*
7	PASL vs. Comparison	-1.02	2.91	.746	-7.36 – 4.81	0.45
8	PASL vs. Comparison	-0.61	7.60	.947	-22.4 – 9.01	0.14
9	PASL vs. Comparison	10.5	5.17	.100	3.42 – 23.9	0.78
10	PASL vs. Comparison	-6.97	2.03	.014*	-11.1 – -3.16	-0.42
11	PASL vs. Comparison	3.71	0.94	.029*	1.85 – 5.34	NA

Note. Some comparisons or effects were not reported due sample limitations at one or both sites.

* $p < .05$, with Bonferroni adjustment for multiple comparisons.

Table 9. Pairwise comparisons for Odd Nominations to follow-up significant PASL X Age & PASL X Gender interactions.

	Experimental vs. Comparison Site				
Age	**Mean Difference**	**Std. Error**	***p***	**95% CI**	**Hedges' *g***
7	-0.11	0.16	.477	-0.52 – 0.18	-0.71
8	0.09	0.09	.417	-0.05 – 0.30	0.31
9	-0.03	0.08	.658	-0.21 – 0.11	-0.57
10	0.32	0.13	.047	-0.05 – 0.54	1.62
11	-0.12	0.01	.001	-0.13 – 0.10	NA
Gender					
Male	-0.16	0.09	.109	-0.32 – 0.01	-0.68
Female	0.26	0.06	.001	0.15 – 0.37	1.54

Note. Some comparisons or effects were not reported due sample limitations at one or both sites.

* $p < .05$, with Bonferroni adjustment for multiple comparisons.

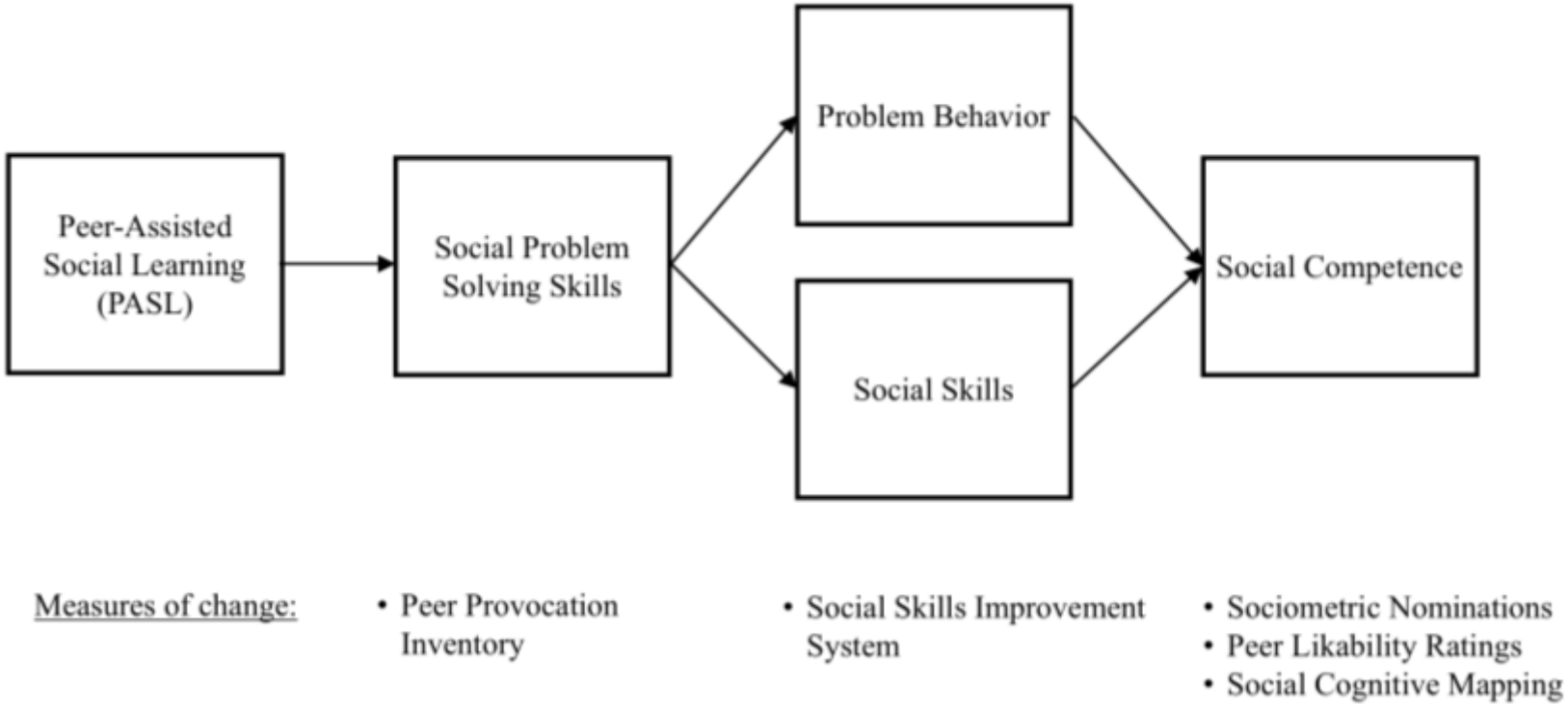
Table 10. Pairwise comparisons for Reciprocity to follow-up significant PASL X Age interaction.

	Experimental vs. Comparison Site				
Age	**Mean Difference**	**Std. Error**	***p***	**95% CI**	**Hedges' *g***
7	1.91	0.71	.017	0.35 – 3.33	1.79
8	-1.23	1.30	.405	-3.63 – 1.71	-0.39
9	-0.31	1.48	.839	-3.45 – 2.38	-0.09
10	-3.89	1.11	.008	-6.25 – -1.88	-1.98
11	-3.32	1.14	.059	-5.91 – -1.25	NA

Note. Some comparisons or effects were not reported due sample limitations at one or both sites.

* $p < .05$, with Bonferroni adjustment for multiple comparison.

Figure 1. Conceptual model of Peer-Assisted Social Learning program on measured outcomes.



Note. Figure 1 illustrates how Peer-Assisted Social Learning (PASL) is expected to indirectly improve both proximal and distal measures associated with youth social competence. Specifically, we expect PASL activities to directly improve children's social problem-solving skills (i.e., response to hypothetical peer provocation) and indirectly improve several proximal (i.e., skills-based ratings of social skills, problem behavior) and distal (i.e., perceived social standing) measures of youth social competence.

Figure 2. Social Cognitive Maps of the experimental and comparison sites, pre- and post-PASL

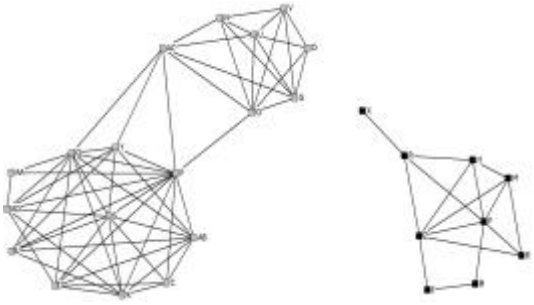


Figure 2a. Experimental Site, Pre-PASL

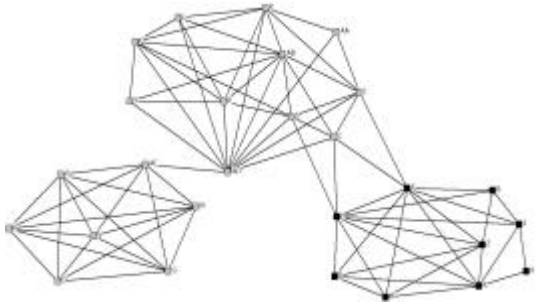


Figure 2b. Experimental Site, Post-PASL

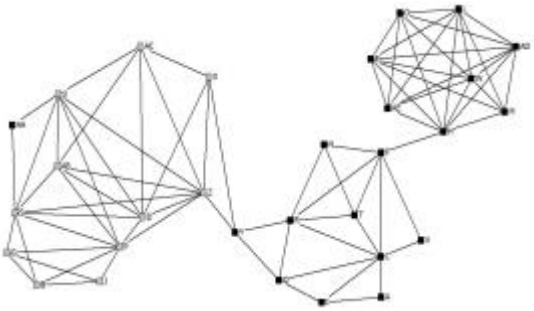


Figure 2c. Comparison Site, Pre PASL

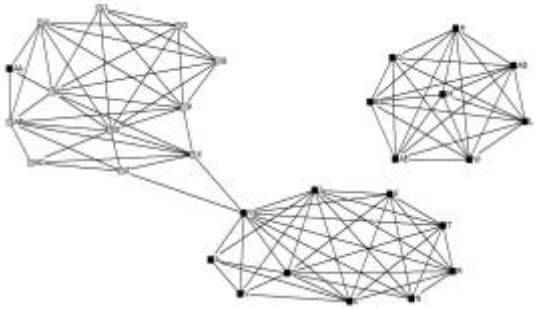


Figure 2d. Comparison Site, Post-PASL

Note. Social networks at each site were symmetrized and dichotomized to reflect the presence or absence of a relationship between children, regardless of the strength or directionality of connections. Individual participants are marked by a circle, with female participants in black and male participants in gray.

IV. FIELD STATEMENT

Childhood poverty is one of the greatest risk factors for lifetime mental health problems; living in poverty predicts many cognitive and academic problems, is associated with increased risky behavior, and social-emotional deficits (Brooks-Gunn & Duncan, 1997; Korenman, Miller, & Sjaastad, 1995; Wadsworth & Achenbach, 2005). National surveys estimate that roughly 80% of low-income children are in need of, but not receiving, mental health services each year (Kataoka et al., 2002). In recent years, public schools have become the largest de facto providers of children's mental health services, reaching an estimated 70%-80% of children in need (Rones & Hoagwood, 2000). Unfortunately, national priorities on standards of academic achievement have forced educators to devote greater time and resources to raising test scores, letting mental health services and social-emotional learning goals fall to the periphery (Cappella et al., 2008). The combined impact of increasingly unmet mental health burden and achievement expectations schools face have likely widened the already substantial need-to-service gap prevalent within communities of urban poverty (Fixsen, Blase, Naoom, & Wallace, 2009; US Department of Health and Human Services, 1999).

There exists a growing movement in the field of children's mental health services to think innovatively about how to reach those who fall into the need-to-service gap by thinking beyond the conventions of traditional intervention development and evaluation (e.g., Hoagwood et al., 2002). Specifically, contemporary researchers have sought to infuse evidence-based mental health practices into everyday non-academic settings where children spend time, particularly in community-based organizations that do not provide mental health services (Frazier et al., 2007; Rusch, Frazier, & Atkins, 2014). In other

words, the introduction of evidence-based models or practices into non-mental health service settings, like after-school programs or summer camps, may be sufficient to reduce some risk for future mental health problems. However, researchers often face significant challenges transitioning efficacious practices from university laboratory to community settings (Kazdin & Blase, 2011). If the goal is to maximize the impact on unmet mental health needs and minimize costs to already resource-limited settings, proposed adaptations should consider several guidelines for innovative approaches to community-based implementation.

First, whether clinical or research-focused, efforts to infuse mental health promotion into existing services must be informed by an empirical literature, to ensure that implementation efforts are likely to result in a positive change—essentially, demonstrate a promise of effectiveness. Second, care must be taken when selecting which evidence-based practices to incorporate into everyday activities, to ensure that an innovation will maximize benefits across a broad population—essentially, address a specific but universal unmet mental health or developmental need. Third, it is essential that implementers collaborate with members of the community organization throughout the entire process, from inception to execution of the innovation. Open communication and mutually informative feedback are cornerstones of university-community partnerships, allowing team members identify and respond to implementation barriers in real-time. A united approach will also help balance potential benefits with the delivery costs to the non-specialty setting, thereby avoiding unnecessary burdens that might collapse the site's existing infrastructure—essentially, develop a practice that is feasible to implement. In short, efforts to innovate by disseminating evidence-based practices in

high-need, low-resource communities must demonstrate that a proposed practice is both feasible and promising.

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APPENDIX

Note. The following research measures were excluded from the appendix due to copyrights: Strength and Difficulties Questionnaire, Social Skills Improvement System Teacher Rating Scale, and the Peer Provocation Inventory.

Appendix A: Research Measures

Participant Demographics & Information Form

Date: _____ Participant ID #: _____

Completed by: _____ Site: _____

How many children are YOU a legal guardian to in this study? _____

***********Please be sure to <u>fill out one section for each child in this study</u>***********

<u>Section 1. ABOUT YOU</u>

What is YOUR ethnicity? (Check ONE)

__ African American __ American Indian __ Asian/Pacific Islander __ Hispanic

__ White __ Other (Please specify: _____)

What is YOUR age range? (Check ONE)

__ 16 – 17 years __ 18 – 64 years __ Over 65 years

What is YOUR gender? (Check ONE) ____ Male ____ Female

How much school have YOU completed? (Check ONE)

__ Less than 9th Grade

__ Some high school (did not graduate)

__ High school or GED

__ Some college

__ Graduated from a 2-year college (junior or community college)

__ 4-year college degree or other advanced degree

Do YOU currently have a paid job? (Check ONE)

__ No, I am not currently working for pay

__ Yes, I have a full -time job

__ Yes, I have a part-time job

What is YOUR marital status? (Check ONE)

__ Single __ Unmarried, living with partner

__ Married __ Separated/Divorced

__ Widowed (loss of spouse) __ Other (Please specify: _____)

Do you have a SPOUSE or PARTNER living in the home? (If answer is no, skip to Section 3, ABOUT YOUR FAMILY): __ Yes __ No

Section 2. ABOUT YOUR SPOUSE OR PARTNER

What is your SPOUSE OR PARTNER'S ethnicity? (Check ONE)

__ African American __ American Indian __ Asian/Pacific Islander __ Hispanic

__ White __ Other (Please specify: _____)

What is your SPOUSE OR PARTNER'S age range? (Check ONE)

__ 16 – 17 years __ 18 – 64 years __ Over 65 years

What is your SPOUSE OR PARTNER'S gender? ____ Male ____ Female

How much school has your SPOUSE or PARTNER completed? (Check ONE)

__ Less than 9th Grade

__ Some high school (did not graduate)

__ High school or GED

__ Some college

__ Graduated from a 2-year college (junior or community college)

__ 4-year college degree or other advanced degree

Does your SPOUSE OR PARTNER currently have a job? (Check ONE)

__ No, not currently working for pay

__ Yes, full-time job

__ Yes, part-time job

Section 3. ABOUT YOUR FAMILY

How long have you lived in the U.S.? _____ years, or ____ always

Are there any members of your household that were born outside of the U.S.? (If no, please skip to next question) □ Yes □ No

Please check all that apply and indicate where each person was born.

	Where?
□ mother/stepmother/father's partner	
□ father/stepfather/mother's partner	

□ grandmother _____

□ grandfather _____

□ uncle _____

□ aunt _____

□ other adult (specify:_____) _____

□ child #1 _____

□ child #2 _____

□ child #3 _____

□ child #4 _____

□ child #5 _____

Is there any language, other than English, spoken in the home? (If no, please skip to next question) □ Yes □ No

Language(s): _____

Is this YOUR native language? □ Yes □ No

Section 4. ABOUT CHILD #1

Name: _____

Child's Age: _____ **Child's DOB (MM/DD/YYYY):** _____

Child's Gender (Check ONE): __ Male __ Female

Child's school: _____

Child's grade (Check ONE): __ Kindergarten __ First Grade __ Second Grade

__ Third Grade __ Fourth Grade __ Fifth Grade __ Sixth Grade __ Seventh Grade

What is YOUR relationship to the child? (Check ONE)

__ Mother/Stepmother __ Father/Stepfather __ Grandmother __ Grandfather __

__ Aunt __ Uncle __ Other adult (Specify: _____)

Do YOU live with the child? (Check ONE) __ Yes __ No

What is this child's ethnicity? (Check ONE)

__ African American __ American Indian __ Asian/Pacific Islander __ Hispanic

__ White __ Other (Please specify: _____)

Was this child born outside of the U.S.? (If no, please skip to the next question)

__ No __ Yes Where? _____

How long has your child lived in the U.S.? _____

How many years of school did your child complete in the country of origin? _____

How many years of school has your child completed in the U.S.? _____

Select each person that lives in this child's home (Check ALL that apply):

__ Mother/Stepmother/Father's partner

__ Father/Stepfather/Mother's partner

__ Grandmother

__ Grandfather

__ Aunt

__ Uncle

__ Other adult's (Please specify relationship:_____)

Please indicate how many sisters, brothers, or cousins live in the child's home (Circle ONE):

0 1 2 3 4 5 6 More than 6

What is the total number of people that live in this child's home, including the child? (Enter total number): _____

Does the child receive free or reduced price lunch at school? (Check ONE)

__ Yes __ No

How much total income, before taxes, did everyone in this child's household receive in 2013? Please add up all the money adults received in 2013 and choose the number that is nearest to the correct income range. (Check ONE)

__ $0-$4,999

__ $5,000-$7,999

__ $8,000-$10,999

__ $11,000-$14, 999

__ $15,000-$19,999

__ $20,000-$24,999

__ $25,000-$29,999

__ $30,000-$39,999

__ $40,000-$49,000

__ $50,000-$59,000

__ $60,000 or more

PASL Attendance Sheet

Child Name	Monday (Date)	Staff Initials	Tuesday (Date)	Staff Initials	Wednesday (Date)	Staff Initials	Thursday (Date)	Staff Initials	Friday (Date)	Staff Initials
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										
Name										

PASL Adherence Worksheet – Staff

Your Name: _____ *Date:* _____

INSTRUCTIONS: We are interested in your experiences with Peer Assisted Social Learning (PASL), as a way to understand the degree to which the activities are acceptable, feasible, useful, and sustainable at Site. Please respond to the following questions in regard to your use of strategies during *today's session only.*

How often did each of the following take place during THIS WEEK'S Peer Assisted Social Learning Activities?

	1 Rarely	**2 Sometimes**	**3 Often**	**4 Always**
a. Students worked in pairs				
b. Rules for PASL were reviewed				
c. Problem solving steps were reviewed				
d. Both teammates led the activity				
e. Teams went through the problem –solving sequence				
f. Staff gave points for rule following				
g. Staff gave bonus points for using problem-solving				
i. Points were posted for each student pair.				
j. Points were exchanged for rewards				

PASL Adherence Worksheet – Observer

Session: _____ *Date:* _____

Staff Present: _____

_____

Observer Initials: _____

How often did YOU OBSERVE each of the following take place during THIS WEEK'S Peer Assisted Social Learning Activities?

	1 Rarely	**2 Sometimes**	**3 Often**	**4 Always**
a. Students worked in pairs				
b. Rules for PASL were reviewed				
c. Problem solving steps were reviewed				
d. Both teammates led the activity				
e. Teams went through the problem –solving sequence				
f. Staff gave points for rule following				
g. Staff gave bonus points for using problem-solving				
i. Points were posted for each student pair.				
j. Points were exchanged for rewards				

PASL Engagement Measure – Child Weekly

Name: _____ Date: _____

Hated it! Didn't like it Liked it OK Loved it!

1) **How much did you like THIS ACTIVITY?**

Hated it! Didn't like it Liked it OK Loved it!

2) **How much did you like working with your pal on THIS ACTIVITY?**

Hated it! Didn't like it Liked it OK Loved it!

3) **How much did the Turnaround Cue Card help you and your pal with THIS ACTIVITY?**

NO I don't think so Maybe YES

4) **Did THIS ACTIVITY help make *you* a better problem-solver?**

NO I don't think so Maybe YES

5) **Did THIS ACTIVITY help make *your partner* a better problem-solver?**

NO I don't think so Maybe YES

6) **Would you use the skills you learned in THIS ACTIVITY the next time you have a problem?**

NO I don't think so Maybe YES

PASL Engagement Measure – Staff Post-PASL

Date: _____ Completed by: _____

Please read the following questions about each PASL Activity, and respond by rating each item as:

Grab Bag Problem Solving

Activity 1 (Feb. 13th, led by Sarah): In this activity kids pulled a situation out of a bag, read it, then talked with their partner about how they would solve that problem. We were outside for this one re: funeral.

7) **How much did <u>YOU</u> like GRAB BAG PROBLEM SOLVING overall?**

Not at all A little Some Very Much

8) **How much do you think <u>THE KIDS</u> enjoyed GRAB BAG PROBLEM SOLVING overall?**

Not at all A little Some Very Much

9) **To what extent do you think GRAB BAG PROBLEM SOLVING helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

10) **How likely would <u>YOU</u> be to do GRAB BAG PROBLEM SOLVING again in the future?**

Not at all A little Somewhat Very Much

11) **How comfortable would <u>YOU</u> feel leading GRAB BAG PROBLEM SOLVING in the future?**

Not at all A little Some Very Much

Additional comments about GRAB BAG PROBLEM SOLVING?

Drawn Together

Activity 2 (Feb. 20th, led by Sarah): In this activity, Yellow partners held a picture and their goal was to get their partner to draw a similar version without saying what the picture was. We were outside for this one re: funeral.

1) **How much did <u>YOU</u> like DRAWN TOGETHER overall?**

Not at all A little Some Very Much

2) **How much do you think <u>THE KIDS</u> enjoyed DRAWN TOGETHER overall?**

Not at all A little Some Very Much

3) **To what extent do you think DRAWN TOGETHER helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

4) **How likely would <u>YOU</u> be to do DRAWN TOGETHER again in the future?**

Not at all A little Somewhat Very Much

5) **How comfortable would <u>YOU</u> feel leading DRAWN TOGETHER in the future?**

Not at all A little Some Very Much

Additional comments about DRAWN TOGETHER?

Please read the following questions about each PASL Activity, and respond by rating each item as:

House of Cards

Activity 3 (Feb. 24th, led by Sarah; March 17th, led by XXXXXX): In this activity kids' hands were tied together and they were asked to try and build a house of cards.

1) **How much did <u>YOU</u> like HOUSE OF CARDS overall?**

Not at all A little Some Very Much

2) **How much do you think <u>THE KIDS</u> enjoyed HOUSE OF CARDS overall?**

Not at all A little Some Very Much

3) **To what extent do you think HOUSE OF CARDS helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

4) **How likely would <u>YOU</u> be to do HOUSE OF CARDS again in the future?**

Not at all A little Somewhat Very Much

5) **How comfortable would <u>YOU</u> feel leading HOUSE OF CARDS in the future?**

Not at all A little Some Very Much

Additional comments about HOUSE OF CARDS:

Charades

Activity 4 (Feb. 27th, led by Sarah): In this activity kids acted out a word to try and get their partner to correctly guess the word. Feb 27th was also the first time we started giving bonus points for using the cue card.

1) **How much did <u>YOU</u> like CHARADES overall?**

Not at all A little Some Very Much

2) **How much do you think <u>THE KIDS</u> enjoyed CHARADES overall?**

Not at all A little Some Very Much

3) **To what extent do you think CHARADES helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

4) **How likely would <u>YOU</u> be to do CHARADES again in the future?**

Not at all A little Somewhat Very Much

5) **How comfortable would <u>YOU</u> feel leading CHARADES in the future?**

Not at all A little Some Very Much

Additional comments about CHARADES:

Crazy Maze-y

Activity 5 (March 3rd, led by Sarah): In this activity the Orange Partner was blindfolded and the Yellow partner had to talk them through the completion of the maze. March 3rd marks the first time we began using pens to award points, to avoid cheating.

1) **How much did <u>YOU</u> like CRAZY MAZE-Y overall?**

Not at all A little Some Very Much

2) **How much do you think <u>THE KIDS</u> enjoyed CRAZY MAZE-Y overall?**

Not at all A little Some Very Much

3) **To what extent do you think CRAZY MAZE-Y helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

4) **How likely would <u>YOU</u> be to do CRAZY MAZE-Y again in the future?**

Not at all A little Somewhat Very Much

5) **How comfortable would <u>YOU</u> feel leading CRAZY MAZE-Y in the future?**

Not at all A little Some Very Much

Additional comments about CRAZY MAZE-Y:

Crash Landing

Activity 6 (March. 6th & 19th, led by Sarah & XXXXXX): In this activity kids pretended they crashed on an island—one had no eyes, one had no hands—and they had to build something that could collect water.

6) **How much did <u>YOU</u> like CRASH LANDING overall?**

Not at all A little Some Very Much

7) **How much do you think <u>THE KIDS</u> enjoyed CRASH LANDING overall?**

Not at all A little Some Very Much

8) **To what extent do you think CRASH LANDING helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

9) **How likely would <u>YOU</u> be to do CRASH LANDING again in the future?**

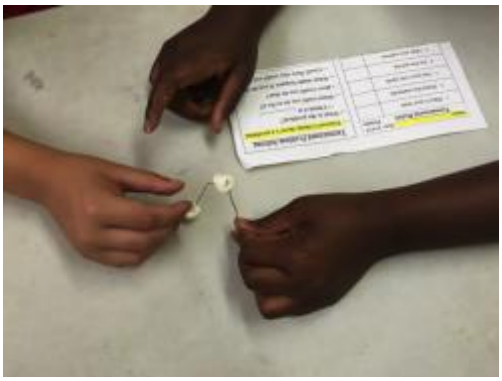
Not at all A little Somewhat Very Much

10) **How comfortable would <u>YOU</u> feel leading CRASH LANDING in the future?**

Not at all A little Some Very Much

Additional comments about CRASH LANDING:

Marshmallow Towers



Activity 7 (March 12th & April 7th, led by Sarah & XXXXXX): In this activity, Kids used toothpicks and marshmallows to build towers.

11) **How much did <u>YOU</u> like MARSHMALLOW TOWER overall?**

Not at all A little Some Very Much

12) **How much do you think <u>THE KIDS</u> enjoyed MARSHMALLOW TOWER overall?**

Not at all A little Some Very Much

13) **To what extent do you think MARSHMALLOW TOWER helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

14) **How likely would <u>YOU</u> be to do MARSHMALLOW TOWER again in the future?**

Not at all A little Somewhat Very Much

15) **How comfortable would <u>YOU</u> feel leading MARSHMALLOW TOWER in the future?**

Not at all A little Some Very Much

Additional comments about MARSHMALLOW TOWER:

Pictionary

Activity 8 (March 31st & April 14th, led by Sarah & XXXXXX): In this activity, kids painted pictures of clues to help their partners guess the secret word.

16) **How much did <u>YOU</u> like PICTIONARY overall?**

Not at all A little Some Very Much

17) **How much do you think <u>THE KIDS</u> enjoyed PICTIONARY overall?**

Not at all A little Some Very Much

18) **To what extent do you think PICTIONARY helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

19) **How likely would <u>YOU</u> be to do PICTIONARY again in the future?**

Not at all A little Somewhat Very Much

20) **How comfortable would <u>YOU</u> feel leading PICTIONARY in the future?**

Not at all A little Some Very Much

Additional comments about PICTIONARY:

Water Buckets

Activity 9 (April 1st & 28th, led by Sarah & XXXXXX?): In this activity kids used sponges to transport water from the buckets into their water bottles. The second time we did it, there were holes in the bottles.

21) **How much did <u>YOU</u> like WATER BUCKETS overall?**

Not at all A little Some Very Much

22) **How much do you think <u>THE KIDS</u> enjoyed WATER BUCKETS overall?**

Not at all A little Some Very Much

23) **To what extent do you think WATER BUCKETS helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

24) **How likely would <u>YOU</u> be to do WATER BUCKETS again in the future?**

Not at all A little Somewhat Very Much

25) **How comfortable would <u>YOU</u> feel leading WATER BUCKETS in the future?**

Not at all A little Some Very Much

Additional comments about WATER BUCKETS:

Shoe Search

Activity 10 (April 9th & 23rd, led by Sarah & XXXXXX): In this activity kids pulled a situation out of a bag, read it, then talked with their partner about how they would solve that problem. We were outside for this one re: funeral.

26) **How much did <u>YOU</u> like SHOE SEARCH overall?**

Not at all A little Some Very Much

27) **How much do you think <u>THE KIDS</u> enjoyed SHOE SEARCH overall?**

Not at all A little Some Very Much

28) **To what extent do you think SHOE SEARCH helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

29) **How likely would <u>YOU</u> be to do SHOE SEARCH again in the future?**

Not at all A little Somewhat Very Much

30) **How comfortable would <u>YOU</u> feel leading SHOE SEARCH in the future?**

Not at all A little Some Very Much

Additional comments about SHOE SEARCH:

Don't Spill the Beans

Activity 11 (April 16th, led by Sarah): In this activity kids used a straw to carry beans from one side of the room to another.

31) **How much did <u>YOU</u> like DON'T SPILL THE BEANS overall?**

Not at all A little Some Very Much

32) **How much do you think <u>THE KIDS</u> enjoyed DON'T SPILL THE BEANS overall?**

Not at all A little Some Very Much

33) **To what extent do you think DON'T SPILL THE BEANS helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

34) **How likely would <u>YOU</u> be to do DON'T SPILL THE BEANS again in the future?**

Not at all A little Somewhat Very Much

35) **How comfortable would <u>YOU</u> feel leading DON'T SPILL THE BEANS in the future?**

Not at all A little Some Very Much

Additional comments about DON'T SPILL THE BEANS:

Who Am I?

Activity 12 (April 21st & 28th, led by Sarah & XXXXXX): In this activity kids asked their partners Y/N questions to figure out whose picture they were holding up.

36) **How much did <u>YOU</u> like WHO AM I overall?**

Not at all A little Some Very Much

37) **How much do you think <u>THE KIDS</u> enjoyed WHO AM I overall?**

Not at all A little Some Very Much

38) **To what extent do you think WHO AM I helped <u>THE KIDS</u> practice problem-solving?**

Not at all A little Some Very Much

39) **How likely would <u>YOU</u> be to do WHO AM I again in the future?**

Not at all A little Some Very Much

40) **How comfortable would <u>YOU</u> feel leading WHO AM I in the future?**

Not at all A little Some Very Much

Additional comments about WHO AM I:

PASL Engagement Measure – Child Post-PASL

Date: _____ Participant ID #:_____

Completed by: _____ Site: _____

I'd like to get your thoughts about PASL and how you think we can make it better. Here are pictures of all the activities we did during PASL. I'm going to show each one to you and describe what we did in that activity, to help remind you.

Put these cards in order from BEST activity to WORST activity. BEST could mean whatever you want it to mean—it could mean you liked that activity the most, it was easiest to win, it made you a better problem-solver. WORST can mean whatever you want it to mean—it could mean the activity wasn't fun, you didn't understand the directions, it made you get angry or upset.

Rankings, with BEST starting at 1 and WORST ending at 12:

1) _____ 7) _____

2) _____ 8) _____

3) _____ 9) _____

4) _____ 10) _____

5) _____ 11) _____

6) _____ 12) _____

1) Tell me about the BEST activities (point to top 4). What made them the BEST for you?

2) Tell me about the WORST activities (point to bottom 4). What made them the WORST for you?

3) Lets talk about the Problem-Solving Cue Cards [show one]. Why do you think kids didn't really use the Cue Card when a problem came up?

4) Let's talk about the STOP-GO Card. Tell me about a time you used this card, and if it helped you and your partner solve the problem. If you never used it, why do you think you didn't use it?

5) Some weeks you liked your partner, some weeks you didn't. Tell me why you think you were sometimes paired with kids who weren't your friend?

How can we make the pairs work better?

6) Ok last question: My goal for PASL was to help kids learn to solve problems together. How much do you think PASL helped you learn to problem-solve?

Would you recommend PASL to other kids like you? Why?

Social Network Mapping Measure

Participant ID #: _____

CHILD'S NAME: _____

DATE: _____

ADMINISTERED BY: _____

DATA ENTERED BY: _____

INSTRUCTIONS for RESEARCHERS

Materials:

- Site participant list
- Pencil with eraser

Interviewer

Now, I am going to ask you about the other kids at Site. Remember, there are no right or wrong answers to these questions. Just say what you think.

Look at this piece of paper. You see a list of the names of all the kids at Site. I will read the list aloud. After I am done, I will ask you some questions.

[Read list of names of children on the Site participant list.]

I want you to think about the kids at Site who hang around together a lot. These groups can be all girls, all boys, or mixed girls and boys. Tell me the names of kids who spend time together a lot and I will write their names in box 1. Then, you'll tell me the names of another group of kids that hang around together a lot, and I'll write the names in box 2.

- *You can put the same name in as many boxes as you need.*
- *We can use as many boxes as you need, but we do not need to use all of the boxes.*
- *Some kids may not hang out with any other kids at Site, so it is okay if you do not use all of the names. I can write the names of the children who do not have a group on the final two lines at the bottom of the page.*
- *You can put your name in as many boxes as you need.*

FRIENDSHIP SURVEY

Researcher: Use child numbers not names! Separate each by a comma

GROUP 1	**GROUP 2**	**GROUP 3**
GROUP 4	**GROUP 5**	**GROUP 6**
GROUP 7	**GROUP 8**	**GROUP 9**

Children who do <u>not</u> have a group: _____

_____

Sociometric Nominations Measure

"CASTING THE PLAY" RESEARCHER INSTRUCTIONS:

~Each child has a number in front of their name on the list of children at the site—record that number instead of writing children's names.

~Hand the list of children to the participant. Read the description of each role and record their nominations.

Say to the child: *Pretend that you are assigning roles in the upcoming class play. We would like for you to nominate three children who fit each role as listed below. You can nominate a person for more than one role.*

Here are the names of all the kids at XXXX <<read list aloud and give child a copy>>.

"Pretend that you are assigning roles in the upcoming class play. We would like for you to nominate three children who fit each role as listed below. You can nominate a person for more than one role."

1. Somebody who is really good to have as part of your group, because this person is agreeable and cooperates - he or she pitches in, shares, and gives everyone a turn.

   _____ _____ _____

2. This person has a way of upsetting everything when he or she gets into a group – he or she doesn't share and tries to get everyone to do things their way.

   _____ _____ _____

3. This person is very good at many outdoor games and sports.

   _____ _____ _____

4. Somebody who tries to get what he or she wants by hitting, shoving, pushing, or threatening others.

   _____ _____ _____

5. This person is really cool. Just about everybody in school knows this person.

   _____ _____ _____

6. Somebody who just seems odd, because they say things that don't make sense.

_____ _____ _____

7. This person gets his or her feelings *easily* hurt.

_____ _____ _____

8. This person is dependable and someone you can trust.

_____ _____ _____

9. Somebody who gets out of his/her seat a lot, makes a lot of noise, and bothers other people who are trying to do their work.

_____ _____ _____

10. This person makes good grades, is smart, and usually knows the right answer.

_____ _____ _____

11. This person says mean things to people, calls names, and teases others in a mean way.

_____ _____ _____

12. This person gets chosen by the others as the leader. Other people like to have this person in charge.

_____ _____ _____

13. This person seems odd or weird.

_____ _____ _____

14. This person often seems sad or unhappy.

_____ _____ _____

15. Somebody who is easy to talk to – this person is usually happy and cheerful, talks easily with others, and is a good listener.

_____ _____ _____

16. This is a person who seems strange and different from other kids your age.

_____ _____ _____

17. This person acts bossy and like a know-it-all.

_____ _____ _____

18. This is a person who *tries hard* to do good schoolwork.

_____ _____ _____

19. This person interrupts others, can't wait for his/her turn, and barges in when others are playing or talking.

_____ _____ _____

20. This is a person who plays fair.

_____ _____ _____

21. Some children tell others that they will stop liking them unless the friends do what they say, try to keep certain people from being in their group during activities, and when they are mad at someone, they get even by keeping the person from being in a group of friends.

_____ _____ _____

22. Somebody who is fun to hang around, because this person has a good sense of humor and has good ideas for things to do.

_____ _____ _____

23. This person worries a lot and is scared of lots of things.

_____ _____ _____

24. Somebody who looks down on others, is snobby, and acts like he or she is better than others.

_____ _____ _____

25. This is a person who others in class admire. Other children want to be like this person and to be around him/her.

_____ _____ _____

26. This person loses things, gets in trouble for not doing their work, and does not follow directions.

_____ _____ _____

27. This person gets angry and loses his/her temper *easily* when teased or treated meanly.

_____ _____ _____

28. This is the type of person who is good at solving problems: when kids are arguing and having trouble getting along, this person can help them solve the problem.

_____ _____ _____

29. This person doesn't want to pay attention to what is going on – somebody whose mind seems to wander a lot or who seems "spacey."

_____ _____ _____

30. This person doesn't follow the rules and talks back to the teacher.

_____ _____ _____

31. This is the type of person who helps others who are hurt, sick, or sad: they show a lot of concern for others.

_____ _____ _____

32. Somebody you can't trust – this person takes others' belongings without asking, lies, and destroys other people's things.

_____ _____ _____

33. This is a person who bullies and picks on other kids.

_____ _____ _____

34. Somebody who others listen to – this person has a lot of influence.

_____ _____ _____

35. Even when others *don't mean* to make them mad, this type of person overreacts and is easily pushed to anger.

_____ _____ _____

36. This is a person who seems to have a lot of self-confidence (belief in himself/herself).

_____ _____ _____

37. This is the type of person who can playfully tease other kids *without* hurting their feelings or making them mad.

_____ _____ _____

38. This type of person has a lot of control – they decide who gets to be in the "in-crowd" or popular group.

_____ _____ _____

Peer Ratings Measure

PEER RATING" INSTRUCTIONS:
~Have the child complete the sample item, then record their ratings.
~Say, *"Now I would like to know how much you like the kids at XXX. Each kid's name is listed, followed by a scale with the numbers 1-5, where 1 means you really like that kid, and 5 means you really don't like that kid."*

EXAMPLE

	☺		😐		☹
How much do you like apples?	1	2	3	4	5

If you really like to apples, circle the 1.
If you like to apples, but they are not your favorite, circle the 2.
If you do not like or dislike apples, circle the 3.
If you do not like apples very much, circle the 4.
If you really do not like apples, circle the 5.

	☺		😐		☹
How much do you like NAME?	1	2	3	4	5
How much do you like NAME?	1	2	3	4	5
How much do you like NAME?	1	2	3	4	5
How much do you like NAME?	1	2	3	4	5
How much do you like NAME?	1	2	3	4	5

Appendix B: Staff Training and Supervision Materials

B.1 – Peer-Assisted Social Learning (PASL) Staff Training Outline

1. Partnering with Community Sites for Research
    a. Capitalize on what happens at after-school programs like Site
    b. Short-term goal: Don't overburden site staff
    c. Long-term goals: Want PASL model to be self-sustaining & generalizable
        i. SS: Can't rely on outside people to run activities—if they leave, the activities would go away too!
        ii. G: Want PASL to work at other ASPs, so other Sites can try it
2. Why do we think Peer-learning might work?
    a. PAL model successful for reading, writing, math in K-6 schools and ASPs
        i. Biggest effects have been found in settings similar to Site
    b. Benefits to Kids
        i. They naturally learn from each other
        ii. They can develop ties with their "buddy", giving less-skilled kids someone to look up to
    c. Benefits to Site
        i. Kids can complete activities independently, staff just monitor behavior
    d. What you'll do
        i. Introduce the PASL rules (e.g., Stay in assigned area, Use cue cards, Share materials)
        ii. Read the activity's directions out loud
    e. Role of adults

i. Staff will walk around and monitor behavior, awarding pairs a point whenever you see them following the rules.

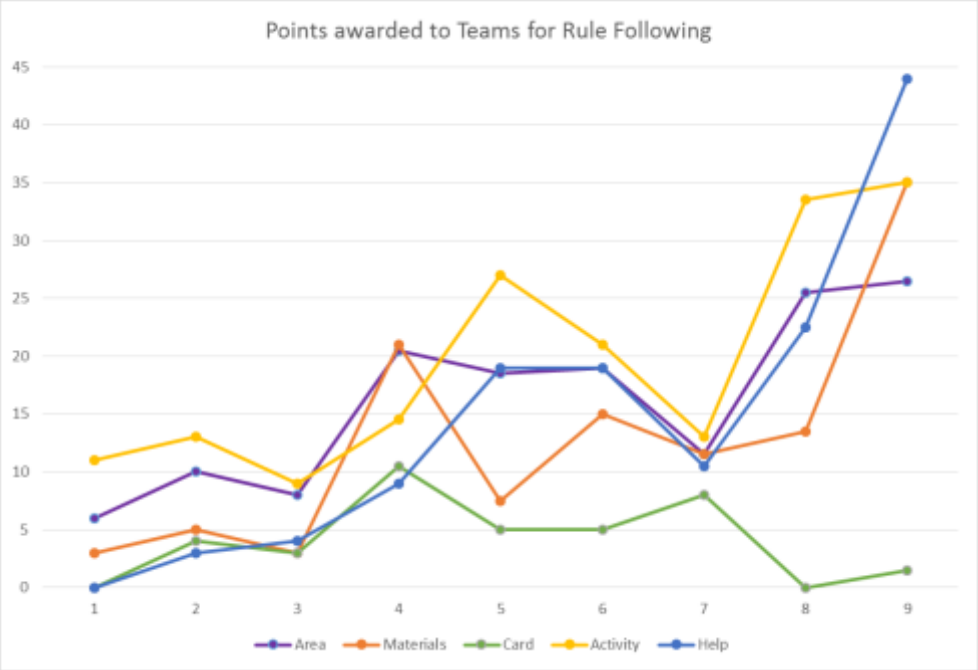
1. Point totals will be calculated at the end of each week and exchanged for small prizes, with a bonus prize for teams that get 7 of the week's 10 points.

ii. Awarding points for pairs

1. Maybe I can make a point-tracking poster board?

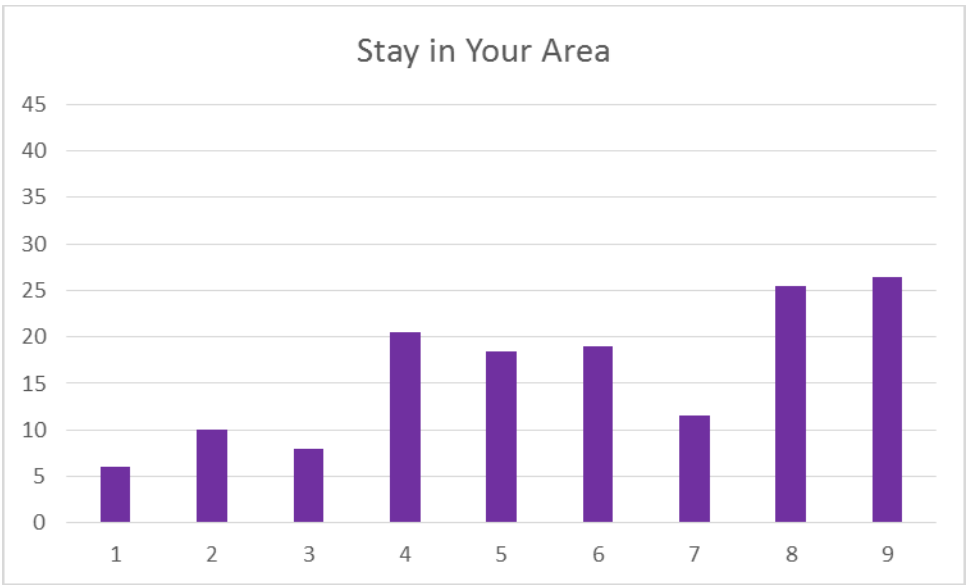
3. Demonstrate traditional PALs with Dr. Frazier's book
4. We're replacing reading skills to do problem-solving activities instead.
    a. Show PASL cue card
    b. Hand out sample activities
    c. Depending on how the intervention goes, we may set a PASL Alarm, so that 3 minutes into the activity the pair is cued to go through the problem solving seq.
5. Let's role play/practice!

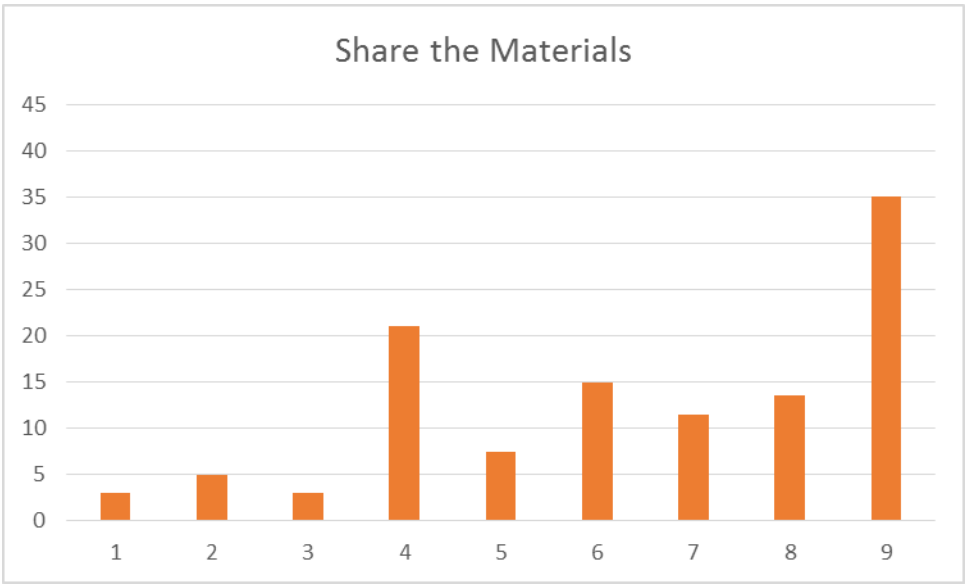
PASL Half-way Point Supervision & Feedback Session 3/17/15



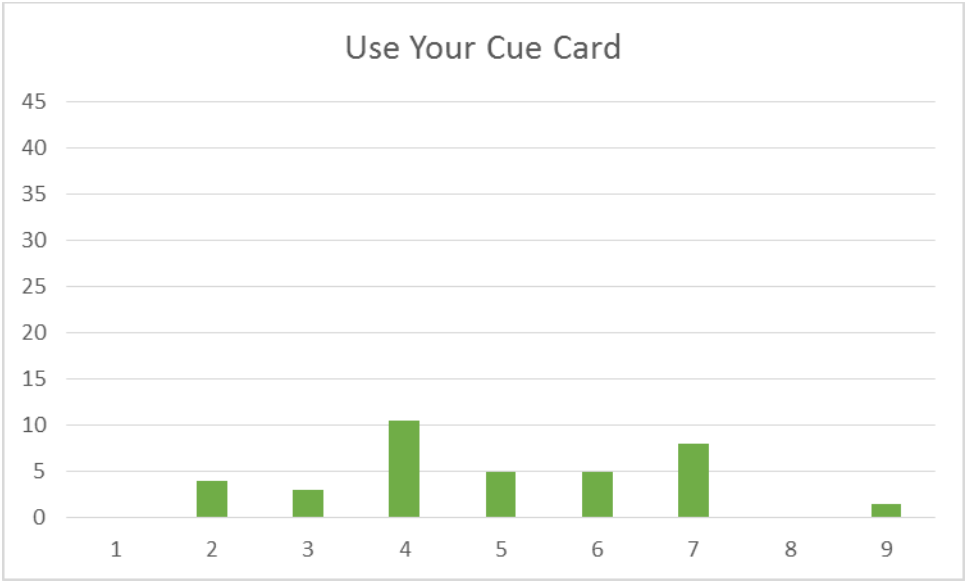
Day	Activity	Site Staff Present	Location & Time	Total Kids	Total Pairs	Accurate Pairs
1	Introduction to Turnaround	5	Indoors, 5:30-6	26/37	12	8
2	Grab Bag Prob-Solving	3	Outdoors, 5:30-6	22/37	11	7
3	Drawing Together	3	Outdoors, 5:30-6	18-20/37	10	5
4	House of Cards	4	Indoors, 5:30-6	24/36	12	9
5	Charades	5	Indoors, 5:30-6	22/36	11	5
6	Follow the Maze	5	Indoors, 5:30-6	22/36	11	5
7	Crash Landing	3	Outdoors, 5:30-6	20/36	10	5
8	Grab Bag (2nd time)	4	Indoors, 4:45-5:15	29/36	13	9
9	Marshmallow Tower	4	Indoors, 4:30-5	30/36	14	11

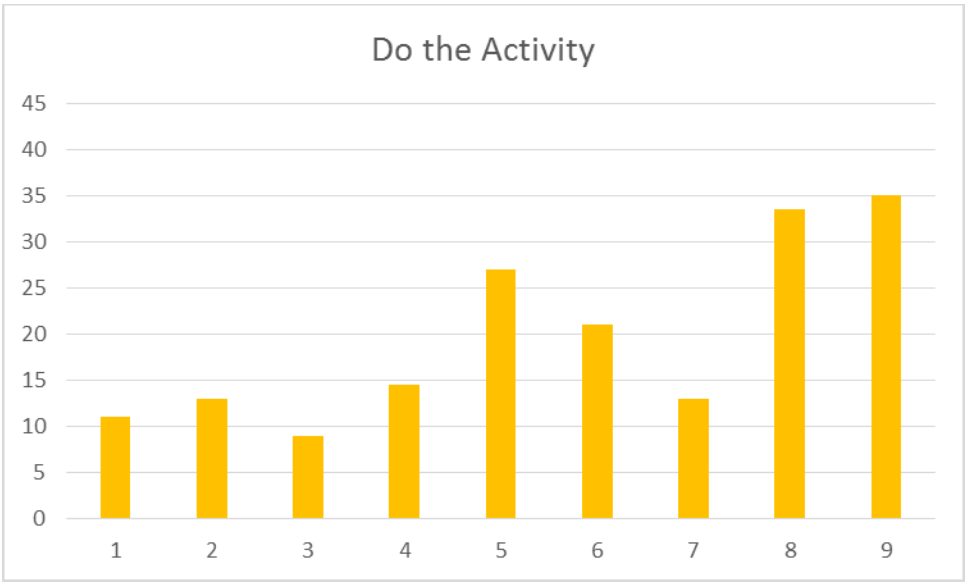
PASL Half-way Point Supervision & Feedback Session 3/17/15



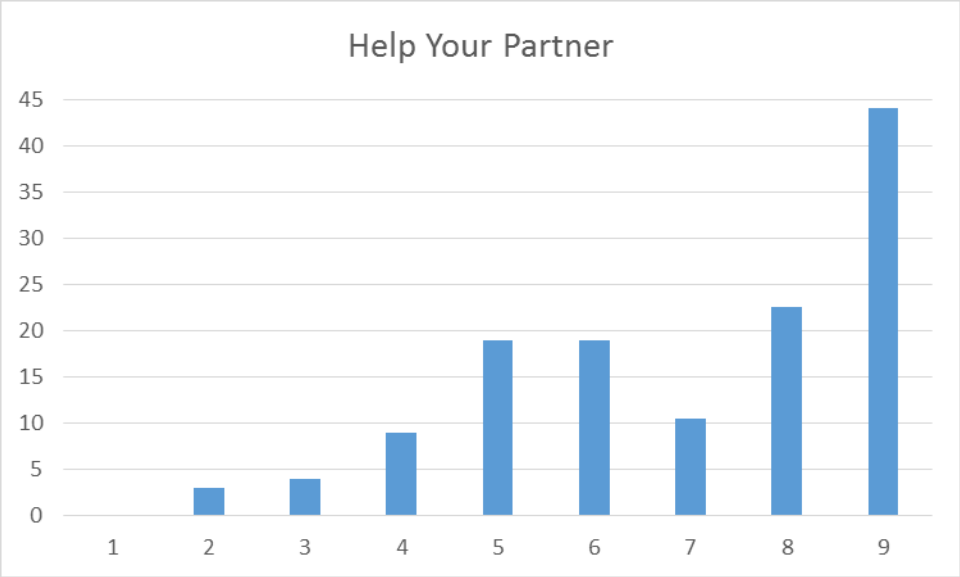


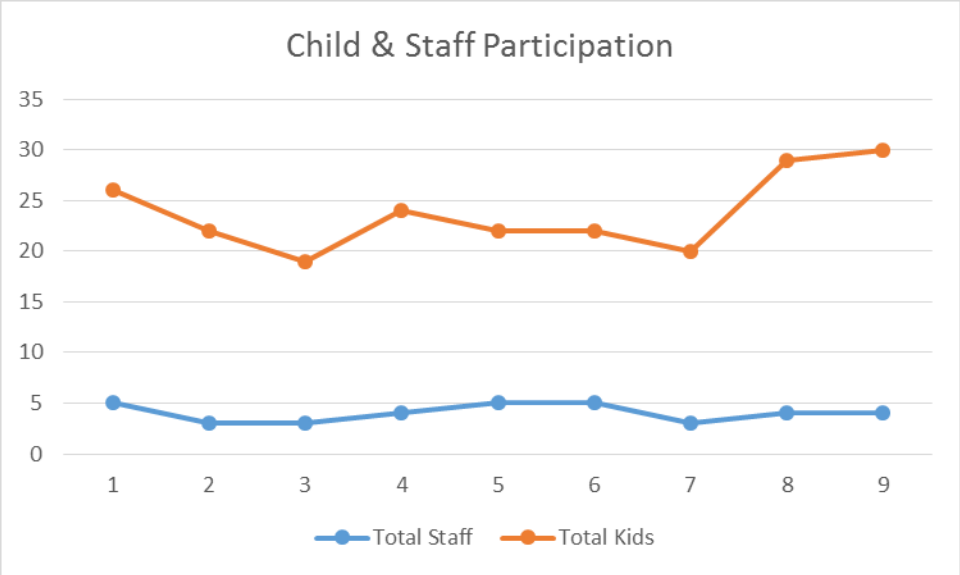
PASL Half-way Point Supervision & Feedback Session 3/17/15





PASL Half-way Point Supervision & Feedback Session 3/17/15





Appendix C: Peer-Assisted Social Learning (PASL) Activities

Session 1: Introduction to PASL

1. What is PASL?
    a. You guys have been doing "Turnaround Tuesdays" for some time now—what are the kinds of things you talk about?
    b. The work we will be doing together will add to that.
        i. We want to give you chances to **help each other learn how to solve problems when they happen**, so that you can become better problem-solvers.
2. Turnaround Structure
    a. On **Tuesdays** and **Fridays** from **5:30-6:00PM** everyone at Site will play a game or do an activity.
    b. Sometimes the activities will have you work as a team to build things or asking questions, while other activities will be games you already play at Site, like board games.
        i. Are there any games that you guys really like to play and want to do?
    c. You and your partner will earn points for following the Turnaround rules and helping each other solve problems that come up during the day's activity.
        i. Points = Prizes!
            1. What kinds of prizes would you like?
    d. Ask for a volunteer to help you solve a problem.
        i. Model using the card with another kid.
    e. Any questions?
3. PASL Rules

a. Stay in your area

b. Share the materials

c. Use your cue Cards

d. Do today's activity

e. Support your teammate

i. Ask kids for a positive and negative example of each rule

4. Children will be introduced to their partners.

a. Pairs will design a name card together.

5. They will then practice transitioning into pairs, using their PASL Activity & Rules Cue Cards, and receive an introduction to the problem-solving sequence.

Session 2: Grab Bag Problem-solving Practice

Goal: Familiarize participants with using the problem solving cue cards and guiding their partner through the problem-solving sequence.

For this activity, each Turnaround Team will need:

- 1 baggie with pieces of paper, with different problems written on each
- 3-5 blank slips of paper on which they will write solutions

1. **Pair up with your Teammate! (2 minutes)**
    a. Check to see that children have paired up appropriately.
    b. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
2. **Discussion of PASL Rules & Incentives (2 minutes)**
    a. Solicit the rules of PASL from children
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Review procedures for earning PASL Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Grab Bag Problem-Solving Practice**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to practice solving problems today, so you're ready to go when we start next week. Orange teammates will reach into the grab bag and pull out a piece of paper, then read the problem aloud. As a team, you will try to think up all the possible ways you could respond to the problem,

including good options and bad options. Yellow teammates will hold the cue card and help guide the Orange teammate through the problem-solving steps."

a. After two minutes, ring the bell. Ask pairs to put their choices in order from best to worst idea.
    - Which solution will get you what you want?
    - Which solution will get you in trouble?
    - Finally, which one would you probably do?

b. Every minute or so, ring the bell and have the kids rearrange their pieces to respond to a new question.

4. Monitor the activity (5 minutes)

a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.

5. Switch it up! (2 minutes)

a. Stop the activity, and have children switch roles.

b. This time, Yellow Teammates pick the problem and Orange Teammates will help their partner come up with new solutions.

c. Ring the bell at 2 minutes and prompt with the questions again.
    - Which solution will get you what you want?
    - Which solution will get you in trouble?
    - Finally, which one would you probably do?

6. Clean up time! (3 minutes)

a. Stop the activity and have children clean up their materials.

7. Discuss the activity and tally up points

a. Sample questions

    i. “What were some problems you and your pal faced?”

    ii. “What kinds of strategies did you and your pal use to work together?”

b. Collect cue cards and tally points; add activity points to their accumulating total

c. Announce the Activity Top Team (most points in the activity).

Session 3: Drawn Together

Goal: Kids learn how specific they have to be about giving directions. They need to learn to communication well and be specific about what they ask for.

For this activity, each Turnaround Team will need:

- Simple pictures kids will use to direct their partners
    - Samples at end of this activity (print enough for each child to have 2 pics)
- Art supplies
    - Blank sheets of scrap paper
    - Crayons/markers/colored pencils

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Drawn Together**

This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to practice drawing as a team today. The Yellow Partner [more skilled] *will pick one of the pictures and look at it—DO NOT SHOW IT TO YOUR PARTNER! The Yellow Partner will then use their words to help the Orange Partner create a new version of their original picture. Use easy words to describe what the picture looks like, but you cannot tell your partner what the picture looks like.*

Get another staff member to model the activity with you, to show kids how the activity should look. *For example, if your picture is of a house, you can't tell your partner to "Draw a house."*

If the Orange Partner draws a part of the picture that does not look like it should, your team must get a new piece of paper and start your drawing over.

Yellow teammates—keep an eye out for signs that your partner may need to work through a problem will hold the cue card and help guide the Orange teammate through the problem-solving steps.

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.
5. **Switch it up! (2 minutes)**
    a. Stop the activity, and have children switch roles.
    b. This time, Orange Teammates pick the picture and use their words to get their Yellow Teammate to recreate their picture.

6. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials
7. **Discuss the activity and tally up points**
    a. Sample questions
        i. "What were some problems you and your teammate had during the activity faced?"
        ii. "What kinds of strategies did you and your pal use to work together?"
    b. Collect cue cards and tally points; add activity points to their accumulating total

Session 4: House of Cards

Goal: Kids learn to communicate and complete simple activities while attached to their teammate.

For this activity, each Turnaround Team will need:

- Pieces of fabric/bandannas
    - Enough for each pair to be tied at the elbow to their teammate
- Decks of playing cards
    - Enough decks for every two pairs (split the deck)

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
        i. Remember you can't earn points if we don't have your name!
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Sticking Together**

This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to get a little tied up today!

- *Yellow partners* [more-skilled], *take your piece of fabric and use it to tie your wrist to your partner's wrist (one right and, one left hand per pair).*

You will work to build a house of cards. You take cards like this and try to make little tents. Start out simple and make it bigger and bigger. If you house falls down, start again.

Yellow teammates—you are in charge of the design of the house. Tell your teammate what you need them to do. Be sure to keep an eye out for signs that your team runs into a problem. If you do, use the PASLOUT Sign and the cue card to guide your teammate through the problem-solving steps.

Orange teammates—you'll be in charge next so pay attention to how your partner talks and plans, so you can do even better!

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.
5. **Switch it up! (2 minutes)**
    a. Stop the activity, and have children switch roles.
    b. This time, Orange Teammates will hold the cue card and help their teammate work through a problem.
6. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials

7. Discuss the activity and tally up points

a. Sample questions

   i. "What were some problems you and your teammate faced?"

   ii. "What kinds of strategies did you and your pal use to work together?"

b. Collect cue cards and tally points; add activity points to their accumulating total

Session 5: Charades

Goal: Communicating information and dealing with frustration.

For this activity, each Turnaround Team will need:

- Enough bags for each group
- Pieces of paper with things they have to act out for their partner.

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Title**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to play Charades today. In this game you will act out a word or phrase without speaking. Your team earns a point for each word/phrase your partner guesses successfully.

If you see your partner starting to get upset, pause the game and go through the Problem Solving Steps. During this pause, please do not tell your partner the word/phrase they're trying to guess!

- *The Rules of Charades are*
    1. *No speaking when you're acting*
    2. *You can act out clues about the word/phrase (show them how to do the signs for Movie, Song, TV Show, Book) or about the specific words (# of words, 1st word, Sounds like, little word, close, keep guessing!)*

Orange teammates will reach into the grab bag and pull out a piece of paper, then keep the phrase a secret. Act out the words for your partner to help them guess the phrase. The yellow partner will be guessing. Yellow teammates will hold the cue card and help guide the Orange teammate through the problem-solving steps."

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.
5. **Switch it up! (2 minutes)**
    a. Stop the activity, and have children switch roles.
    b. This time, Yellow Teammates will act things out and Orange Teammates will try to guess the answers.
6. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials.

7. Discuss the activity and tally up points

a. Sample questions

   i. “What were some problems you and your pal faced?”

   ii. “What kinds of strategies did you and your pal use to work together?”

   iii. “Who thinks their team solved the most phrases?”

b. Collect cue cards and tally points; add activity points to their accumulating total

c. Announce the Activity Top Team (most points in the activity).

Session 6: Crazy Maze-y

Goal: Learning communication by talking their partner though the maze

For this activity, each Turnaround Team will need:

- 5-10 mazes per pair of increasing difficulty
- 1 blindfold pair
- 1 pencil per pair

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Title**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to work through some puzzles today. Orange teammates will be blindfolded and holding the pencil. Yellow teammates will talk their partner through the mazes. Your team earns 1 point for every maze you complete.

Remember, if you see your partner starting to get upset, TIMEOUT the activity and go through the Problem Solving Steps. During this Timeout, do not peek at the maze!

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.
5. **Switch it up! (2 minutes)**
    a. Stop the activity, and have children switch roles.
    b. This time, Yellow Teammates will act things out and Orange Teammates will try to guess the answers.
6. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials.
7. **Discuss the activity and tally up points**
    a. Sample questions
        i. "What were some problems you and your pal faced?"
        ii. "What kinds of strategies did you and your pal use to work together?"
        iii. "Who thinks their team solved the most phrases?"
    b. Collect cue cards and tally points; add activity points to their total
    c. Announce the Activity Top Team (most points in the activity).

Session 7: Crash Landing

For this activity, each Pal Pair will need:

- 2 pieces of fabric/bandanas
- 8 -12 "aircraft pieces" (paper or plastic, cut up into a variety of medium to large shapes)
- 1 roll of tape

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; help your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (3 minutes): Crash Landing**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are the crew for a new type of test aircraft. The aircraft crashed on a tiny island in the ocean! The island has no clean, fresh water

source. You and your partner survived, <u>but</u> one of you lost your sight while the other lost the use of their arms.

All that is left from the aircraft is one radio transmitter, one weather machine, pieces of the aircraft, and some tape.

The weather machine just indicated that it is going to rain in 4 minutes and you and your partner need to ***use the tape and aircraft pieces to create cups that can catch the rainwater****. If you and your partner are not able to catch enough rain water, you may not survive until the rescue team arrives."*

a. Within each pair, blindfold the Orange Teammate (the "blind" one) and tie the arms of the Yellow Teammate behind their back (the one who "lost use of their arms").
b. Lay half of the "aircraft" pieces and the role of tape in front of the blindfolded child.
c. Instruct students that they have 4 minutes to use the materials provided to work together and build something that will be able to collect rainwater.

4. Monitor the activity (5 minutes)

a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.

5. Switch it up! (2 minutes)

a. Stop the activity, and have children switch roles.
b. This time, Yellow Teammates will act things out and Orange Teammates will try to guess the answers.

6. Clean up time! (3 minutes)

a. Stop the activity and have children clean up their materials.

7. Discuss the activity and tally up points

a. Sample questions

i. "What were some problems you and your pal faced?"

ii. "What kinds of strategies did you and your pal use to work together?"

iii. "Who thinks their team solved the most phrases?"

b. Collect cue cards and tally points; add activity points to their accumulating total

c. Announce the Activity Top Team (most points in the activity).

Session 8: Marshmallow Tower

Goal: Learn to adapt your plan when the chosen strategy isn't working, to learn the iterative process of problem solving.

For this activity, each Turnaround Team will need:

- 2 brown paper bags per team, each filled with
    - 50 toothpicks
    - 25 mini marshmallows (10oz was enough for 15 baggies of 25 marshmallows)
        - Recommended: staple the bags shut before handing them out
        - Tell the kids some of the marshmallows fell on the ground, to discourage eating the activity supplies!
- 1 piece of paper
- 1 pencil

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their teammates on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their teammates together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; help your teammate

b. Remind kids how they earn Turnaround Points

c. Review the current points for each pair on the point tracker

3. Explain the Activity (5 minutes): Marshmallow Tower Challenge

This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your teammate are going to build two towers using toothpicks and marshmallows. Each bag has the exact same number of supplies, so don't eat any marshmallows or your team will have fewer supplies and won't win!

Yellow teammates will be in charge first; your job will be to come up with a plan to build the tallest tower you can, and then work with your teammate to build it.

In 5 minutes, you will stop working on your tower and look at the design you chose. Spend two minutes talking with your teammate about your decisions—

What you think worked? What didn't work?

Orange teammates will be in charge of designing the second tower and building it with the help of your teammate second tower. Your goal is to work as a team to build a new tower that is taller than your first tower.

Remember, if you have a problem or you start to argue, use the TIMEOUT hand signal and try to problem solve it on your own."

4. Monitor the activity (5 minutes)

a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.

5. Stop the activity (2 minutes)

a. After 5 minutes tell all teams to stop working and say,

Spend two minutes talking with your teammate about your decisions—What you think worked? What didn't work?

6. **Switch it up! (5 minutes)**
    a. Instruct children to switch roles and open their second bag of supplies.

    Ok, now Orange teammates are in charge. Remember, your goal is to build a new tower that is taller than your first tower. Design a second tower and work with your teammate to build it.

7. **Discuss the activity and tally up points**
    a. Sample questions
        i. "What were some problems you and your pal faced?"
        ii. "What kinds of strategies did you and your pal use to work together?"
        iii. "Who thinks their team built the tallest tower?"
    b. Collect cue cards and tally points; add activity points to their total
    c. Announce the Activity Top Team (most points in the activity).

8. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials.

Session 9: Pictionary

For this activity, each Turnaround Team will need:

- Paper & pens (or mini-white boards?)
- Words on slips of paper for the kids to draw (see additional pages)
    - May want to make age-appropriate sets for younger pairs of kids
- Optional Materials: Timers, "Score card" for each group of 4

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Title**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to play Pictionary. Yellow teammates will reach into the grab bag and pull out a piece of paper—their job will be to draw

pictures to help their teammate guess the word before time runs out! When the Orange Teammate correctly guesses the word, your team wins 1 point.

Your team will be playing against another pair. Teams will take turns having their Yellow Teammate draw and their Orange Teammate guess.

In 5 minutes we will stop the activity and ask your group to talk about what worked and what didn't work. Did any problems come up? After that, the Orange Teammates will draw and the Yellow Teammates will guess.

Keep an eye out for signs that your team has a problem. If you do, flip the PASLOUT Sign and use the cue card to guide your teammate through the problem-solving steps. Remember, you'll earn 3 bonus points!"

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.
5. **STOP THE ACTIVITY (2 minutes)**
    a. *Ask your Groups to talk about what worked and what didn't work.*
        i. *Did any problems come up?*
        ii. *How were you able to help your partner guess the word?*
6. **Switch it up!**
    a. Have children switch roles. Now Orange Teammates will draw and Yellow Teammates will try to guess the answers.
7. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points and encouraging pairs to use their cue cards. Re-task or prompt children as needed.

8. **Clean up time! (3 minutes)**
    a. Stop the activity and have children clean up their materials.
9. **Discuss the activity and tally up points**
    a. Sample questions
        i. "What were some problems you and your pal faced?"
        ii. "What kinds of strategies did you and your pal use to work together?"
        iii. "Who thinks their team solved the most phrases?"
    b. Collect cue cards and tally points; add activity points to their accumulating total
    c. Announce the Activity Top Team (most points in the activity).

Session 10: Water Buckets

For this activity, each Turnaround Team will need:

- Pencils & printed out plans (see page 3)
- 2 large buckets/coolers filled with water
- Sharpies, to mark the water level (to measure progress between rounds 1 and 2)
- Plastic shopping bags will the following supplies, 1 for each team:
    - 1 or 2 Sponges
    - 1 Empty water bottle or other bottle with a narrow top
    - Optional things to include in the buckets: funnels for younger kids, laminated sheets of paper for big kids to engineer funnels, plastic bags/sheeting

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker

3. **Explain the Activity (5 minutes): Water Buckets**

This activity is designed to help students practice their problem solving skills. Read the following scenario:

"You and your partner are going to play Water Buckets. The goal of the game is to get as much water as you can into your team's bottle in 3 minutes. If your team gets more water in Round 2 than you did in Round 1, you will win a prize!

Water Bucket Rules:

1. *You can ONLY use ONE item from your bag at a time*
2. *Only one teammate can be away from the bottle at any time*
3. *If you do anything that stops other kids from playing the game, your team is automatically out of that round.*
    a. *This means NO blocking, pushing, shoving, tripping, or knocking over others' bottles.*
4. ***If an adult notices your team is having a problem, they can stop your team.***
    a. ***In order to rejoin the game, you have to tell the adult what the problem was and how your team decided to fix it.***

Yellow teammates will make the plan this time and they will decide who goes to get the water.

Keep an eye out for signs that your team has a problem. If you do, flip the PASLOUT Sign and use the cue card to guide your teammate through the problem-solving steps. Remember, you'll earn 3 bonus points!"

4. **Monitor the activity (2 minutes planning time, 3 minutes on the clock)**

a. Re-task or prompt kids to use their planning time (2 minutes)

b. Start the clock!

5. **STOP THE ACTIVITY & RESET (2 minutes)**

    a. Yellow Teammates will bring their bottle back to the big bucket. Staff will draw a line on their bottle to show how much they got in Round 1 (Write "1" by the line!)

    b. Kids pour water back into bucket and return to their partner

    c. Have Teams talk about what worked and what didn't work.

        i. How their plans work??

        ii. Did any problems come up?

6. **Switch it up!**

    a. Have children switch roles. Now Orange Teammates will make the plan and Yellow Teammates will implement the plan.

7. **Monitor the activity (2 minutes planning time, 3 minutes on the clock)**

    a. Re-task or prompt kids to use their planning time (2 minutes)

    b. Start the clock!

8. **Clean up time! (3 minutes)**

    a. Stop the activity and have children clean up their materials.

9. **Discuss the activity and tally up points**

    a. Sample questions

        i. "What were some problems you and your pal faced?"

        ii. "What kinds of strategies did you and your pal use to work together?"

        iii. "Who thinks their team solved the most phrases?"

b. Collect cue cards and tally points; add activity points to their accumulating total

c. Announce the Activity Top Team (most points in the activity).

Additional Materials Below: Flow chart to help kids plan if they want to. Print it out double sided so they can do one for round 1 and another plan for Round 2.

Session 11: Shoe Search

For this activity, each Turnaround Team will need:

- Pieces of fabric to tie kids' legs to their teammate (tie tightly and above the knee!)

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Shoe Search**

    This activity is designed to help students practice their problem solving skills. Read the following scenario:

"OK, everyone take off their shoes and give them to an adult. Adults are going to take these shoes and scatter them around the room [Hint: do not put a shoe near its pair]. *The goal of this game is to work with your partner to find each other's shoes and put them on your teammate.*

Here are the rules of the Shoe Search Game:

1. *You and your partner must be close enough to touch at all times.*
2. *Each team can only touch one shoe at a time.*
3. *When you find a shoe, your team must bring it back to home base*
4. *Each teammate will put their teammate's shoes on for them. This means you cannot put on your own shoes!*

Orange partners, put on the blindfold. Yellow partners, you are your team's eyes! You will have to talk your partner through finding each of your team's 4 shoes in the room, and guide them to and from home base.

Questions? Ready, set, go!"

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points & encourage pairs to use their cue cards.
    b. Re-task or prompt children as needed.
    c. If you see a pair breaking a rule:
        i. Not close enough: Tell them to freeze and try to touch their teammate—if they can't touch, walk them back to the home base to do it correctly.
        ii. Team carrying >1 shoe: Return all shoes to the pile and walk the team back to home base.
        iii. Putting on their own shoe: Unless you feel their partner is not able to put the shoe on the teammate (i.e., doesn't know how to tie shoes), take that shoe and return it to the pile.

5. **Switch it up! (2 minutes)**
    a. Remove blindfolds
    b. Teams returns to the home base
    c. Staff recollect all shoes and scatter them again

"In round two you both can see but your team will have only 3 legs! Take your blindfold and use it to tie your leg to your teammate's leg. Be sure you're facing the same way, with your inside legs tied, like you have only 3 legs.

This time the Orange teammate will be in charge. It's their job to decide where your team goes for shoes and which legs you use to walk. Once again the goal is to find each of your team's shoes and put them on your partner. Ready, set, go!"

6. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points & encourage pairs to use cue cards.
    b. Re-task or prompt children as needed.
7. **Clean up time! (3 minutes)**
    a. Stop the activity and have children put on any missing shoes.
8. **Discuss the activity and tally up points**
    a. Ask these questions:
        i. "What were some problems you and your pal faced?"
        ii. "What kinds of strategies did you and your pal use to work together?"
        iii. "Which was harder, one person blindfolded or having only 3 legs? Why?"
    b. Collect cue cards
    c. Administer child engagement measure

Session 12: Don't Spill the Beans

For this activity, each Turnaround Team will need:

- 1 or 2 Bags of dried beans
- 3 straws per team
- 2 sets of chopsticks per team (plastic forks for younger kids)
- 3 bowls or cup for each team to deposit their beans
- 2 long pieces of masking tape to mark off the neutral zone (where no kid can step!)

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Don't Spill the Beans!**

    This activity is designed to help students practice their problem solving skills. Read the following scenario (**see final page for diagrams of set up**):

"OK, the goal of this game is for your team to move as many beans as you can from this side of the room and into your team's cup. As you can see, the room is divided by tape. This marks the neutral zone, where no kid is allowed to touch! Orange teammates will pick up one bean, drop it off in the neutral zone, and return to touch their wall. One the Orange teammates touch the wall, Yellow teammates pick up the bean and drop it in their team's cup. The team with the most beans after 2 rounds wins!

If a staff member sees you break one of these rules, they will take a bean from your team's cup, or make you start over.

Here are the rules of the Game:

5. *One partner must be touching the wall at all times.*
6. *You can only move one bean at a time.*
7. *Don't touch the beans with your hands.*
8. *Do not block other teams or take their beans.*

Remember, if there's a problem you and your teammate can {STOP} the activity to meet in the neutral zone and problem solve a better strategy for your team. You'll earn 3 bonus points!

OK Orange teammates, stand on this side of the room (where the bags of beans are) and Yellow teammates go stand on that side of the room (by the teams' cups).

[Staff them hand out the straws to the players]. *Ready, set, go!"*

4. Monitor the activity (5 minutes)

a. Move around the room, awarding points & encourage pairs to use their cue cards.

b. Re-task or prompt children as needed.

5. **Stop the activity! (2 minutes)**

   a. Collect the straws and have players switch sides

   b. Return any beans from the Neutral Zone to the beans' starting point

   c. Hand out chopsticks/forks to the little kids

"In Round 2, you can carry as many beans as you want to the Neutral Zone BUT…teams will use chopsticks instead of straws to carry the beans (Kindergarten and First Graders will use a fork and one hand).

You can use the chopsticks however you'd like, but this is how most people use chopsticks [demonstrate how to use chopsticks]. *Take a minute to practice holding them and moving your hands, and talk to your teammate about how to make it work for your team.*

Ready, set, go!"

6. **Monitor the activity (5 minutes)**

   a. Move around the room, awarding points & encourage pairs to use cue cards.

   b. Re-task or prompt children as needed.

7. **Clean up time! (3 minutes)**

   a. Stop the activity and have children put on any missing shoes.

8. **Discuss the activity and tally up points**

   a. Ask these questions:

      i. **"What were some problems you and your pal faced?"**

      ii. **"What kinds of strategies did you and your pal use to work together?"**

iii. **"Which was harder, using straws to move ONE bean at a time, or using chopsticks (or a fork) to move as MANY beans as you wanted? Why?"**

b. Collect cue cards & STOP/GO cards

9. Administer child engagement measure

Session 13: Guess Who (or What)

For this activity, each Turnaround Team will need:

- 30 or 50 Pictures of characters, movie stars, animals, or objects
- 1 Bag/envelope

1. **Pair up with your Teammate! (2 minutes)**
    a. Have children team up with their partners on their own.
    b. Check to see that children have paired up appropriately.
        i. If a child is absent, form a group of 3. If two children are absent, pair their partners together.
    c. Have children write both their names on their team cue card.
2. **Discussion of Turnaround Rules & Incentives (2 minutes)**
    a. Ask kids to name the rules
        i. Stay in your area; share the materials; use your cue cards; do the activity; encourage your partner
    b. Remind kids how they earn Turnaround Points
    c. Review the current points for each pair on the point tracker
3. **Explain the Activity (5 minutes): Guess Who (or What)**

    This activity is designed to help students practice their problem solving skills.

    Read the following scenario (**see final page for diagrams of set up**):

"The goal of Guess Who (or What) is to figure out what picture you're holding up to your forehead. You ask your partner a series of Yes or No questions to help you figure it out.

*Both Teammates will take one picture out of the envelope/bag and hold it at their forehead, **without looking**. Your partner will be able to see your picture but you should not. Yellow teammates ask the first question, and then you will alternate turns. If your partner asks a question that cannot be answered with Yes or NO, they lose that turn. Whichever teammate guesses first wins that round and gets to go first in the next round.*

Here are some examples of Yes/No Questions:

1. *Am I alive?*
2. *Am I a human?*
3. *Am I old?*
4. *Is my hair blue?*
5. *Am I a cat?*

See, the answer to all of these questions can only be Yes or No.

Remember, if there's a problem you and your teammate can {STOP} the activity to problem solve. You'll earn 3 bonus points!

4. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points & encourage pairs to use their cue cards.
    b. Re-task or prompt children as needed.
5. **Stop the activity! (2 minutes)**

*"In Round 2, you can only ask a total of **5 questions**, so you need to think really carefully about what you want to ask. If neither teammate guesses who or what they are, then no one wins that round. You can use this piece of paper to mark a*

tally for each question you ask. This time, Orange Teammates will get to ask the first question."

6. **Monitor the activity (5 minutes)**
    a. Move around the room, awarding points & encourage pairs to use their cue cards.
    b. Re-task or prompt children as needed.
7. **Clean up time! (3 minutes)**
    a. Stop the activity and have children put on any missing shoes.
8. **Discuss the activity and tally up points**
    a. Ask these questions:
        i. **"What were some problems you and your teammate faced?"**
        ii. **"Did you and your teammate work together as a team, or were you against each other?"**
        iii. **"What was one question you heard your teammate ask that you also decided to ask?**
        iv. **Did listening and learning from your teammate ever help you win?"**
    b. Collect cue cards & STOP/GO cards
9. Administer child engagement measure

VITA

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