

Using a Naturalistic Sport Context to Train Social Skills in Children

by

Bill Ryan Ferguson

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Approved by

Steven K. Shapiro, Chair, Associate Professor of Psychology
Jennifer M. Gillis, Associate Professor of Psychology
Martha C. Escobar, Associate Professor of Psychology
Sacha Pence, Assistant Professor of Psychology

Abstract

Researchers have utilized the positive aspects of sports to deliver social skills training (SST) programs to children in a sport context. Youth participation in sports has been linked to positive benefits across many domains of physical, personal well-being, and psychosocial functioning. Using a multiple-baseline across behaviors design, we examined whether a SST program delivered in the context of a sports camp (i.e., soccer) would increase both social skills and athletic competencies in a short amount of time. We also evaluated the impact of the camp on the participant's self-concept, interest in soccer, and self-perceptions of his social skills functioning. Results suggest that the intervention SST procedure effectively increased the use of the targeted social skills. Further, participants reported a greater interest in soccer and an improved overall sense of self-concept. Our results suggest that similar effects can be achieved in a relatively short, but intense, camp which utilizes both BST and sports-skills training components. Limitations and implications are discussed.

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Table of Contents

Abstract	ii
Acknowledgments.....	iii
List of Tables	vi
List of Figures.....	vii
Introduction	1
Benefits of Sports Participation.....	1
Social Skills Training and Sports.	4
Potential Limitations.....	6
Focus of the Study.....	7
Hypotheses	10
Method	11
Participants and Materials	11
Setting and General Procedure	12
Dependent Measures	14
Paper and Pencil Measures	17
Training Design and Procedure	19
Procedural Integrity and Interobserver Agreement (IOA)	22
Results	23
Target Behavior.....	23
Soccer Skills Competency Performance Tasks... ..	35

Rating Scales	36
Discussion	39
References	50
Appendices	61
Appendix 1. Soccer Self-Concept Scale.....	62
Appendix 2. Basketball Self-Concept Scale.....	63
Appendix 3. SKILS	64
Appendix 4. Schedule for Days 4 and 5	67
Appendix 5. Taking Turns: Individual and Group Means.....	68
Appendix 6. Verbal Compliments: Individual and Group Means	69
Appendix 7. Physical Compliments: Individual and Group Means	70
Appendix 8. Positive Post-Game Comment: Individual and Group Means	71
Appendix 9. Negative Comments: Individual and Group Means	72
Appendix 10. Group Mean and Significance Test for Soccer Skills.....	73
Appendix 11. Parent-Completed SSIS-RS.....	74
Appendix 12. Child-Completed SSIS-RS.....	76
Appendix 13. SPPC Domain Scores.....	78
Appendix 14. Soccer and Basketball Self-Concept Scores.....	79
Appendix 15. Procedural Integrity Worksheet.....	80

List of Tables

1. Participant Characteristics.....	12
2. Target Skill Components	15
3. Sports Skills Descriptions	16
4. Significance Test for Sportsmanship Skills and Negative Comments	34
5. Taking Turns: Individual and Group Means	68
6. Verbal Compliments: Individual and Group Means	69
7. Physical Compliments: Individual and Group Means	70
8. Positive Post-Game Comment: Individual and Group Means	71
9. Negative Comments: Individual and Group Means	72
10. Group Mean and Significance Test for Soccer Skills	73
11. Parent-Completed SSIS-RS	74
12. Child-Completed SSIS-RS	76
13. SPPC Domain Scores.....	78
14. Soccer and Basketball Self-Concept Scores	79

List of Figures

1. Marshall's Observed Target Behavior	25
2. Thomas's Observed Target Behavior	26
3. Shane's Observed Target Behavior	27
4. Brock's Observed Target Behavior	28
5. James's Observed Target Behavior	29
6. Michael's Observed Target Behavior	30

Introduction

A significant number of children participate in sports each year. A study examining a large sample of children estimated that 76 % of children ages 6 through 12 participate in sports, making youth sports one of the most popular activities for children (Hofferth & Sandberg, 2001). Researchers have utilized the positive aspects of sports to deliver social skills training (SST) programs to children in a sport context (e.g., Hupp & Reitman, 1999; Pelham & Hoza, 1996). Youth participation in sports has been linked to many positive benefits, including, but not limited to: increased self-esteem, improved physical health, prosocial peer interactions, and increased self-efficacy in several domains (Hofferth & Sandberg, 2001; Pelham & Hoza, 1996; Smith, 2003; Smoll, Smith, Barnett, & Everett, 1993).

Benefits of Sports Participation

Physical health. The physical activity associated with participation in youth sports can lead to many physical health benefits. Children who participate in moderately strenuous physical activity on a regular basis reduce the risk of cardiovascular disease, high cholesterol, hypertension, metabolic syndrome, obesity, and bone deterioration (Boreham & Riddoch, 2001; Janssen & LeBlanc, 2010). Conversely, a recent national survey indicated that the average school-age child spends an excess of five hours viewing screen media (e.g., television, computer, videogames) each day (Jordan & Robinson, 2008). Experts in pediatric health issues recommend reducing sedentary options and increasing access to activities that require exercise, which studies suggest will have a significant impact on children's current quality of life and their health into adulthood (Boreham & Riddoch, 2001; Jordan & Robinson, 2008). Youth programs that

encourage physical activity or have an exercise component, therefore, are essential for children's physical health.

Mental health. In addition to the physiological benefits of participating in sports, research suggests that physical activity has positive effects on several areas of mental health including self-concept, anxiety, and depression (Strong et al., 2005). In fact, some posit that the psychosocial benefits of physical activity are as strong, if not superior, to the physical benefits (Scully, Kremer, Meade, Graham, & Dudgeon, 1998). To date, the majority of the research examining the relationship between physical activity and mental health has been conducted with adults (Salmon, 2001; Scully et al., 1998; Taylor, Sallis, & Needle, 1985). However, evidence of the psychological benefit of exercise for children exists as well (Annesi, 2005; Folkins & Sime, 1981; Norris, Carroll, & Cochrane, 1992). In a review of the literature on physical activity and youths, Strong and colleagues (2005) suggested that children who engage in consistent physical activity report fewer symptoms of depression and anxiety, and endorse higher ratings of physical self-concept (i.e., sport competence). Furthermore, Dishman et al. (2006) found that increases in physical self-concept were responsible for lower rates of depression in children who engaged in sports-related physical activity. Jeziorski (1994) reported that children who participate in sports earned higher grades, demonstrated superior classroom behavior, had lower drop-out rates, and maintained better school attendance than children who did not participate in sports.

In line with the mental health benefits of sports participation, many studies have documented the positive impact of sports participation on self-concept in children (e.g., Anshel, Muller, & Owens, 1986; Bobbio, 2009; Dishman et al., 2006; Hopper, Guthrie, & Kelly, 1991; Kishton & Dixon, 1994; Maul & Thomas, 1975; Miller, 1989; Puckett & Ford, 1981). Self-concept has been defined as a stable, generalized organization of qualities that one attributes to

oneself (Klinch, 1963; Markus & Wurf, 1987). Improved self-esteem (i.e., overall self-concept) in children is known to ameliorate loneliness, depression, and poor peer relationships (King, Vidourek, Davis, & McClellan, 2002). Further, a lack of athletic skills or sport competence has been perceived as a detriment to developing friendships (Bigelow, Lewko, & Salhani, 1989), when developing friendships may be one of the primary reasons children chose to participate in sports. Additional components of the athletic environment, such as coaching style, may also lead to improved ratings of self-concept.

Smoll, Smith, Barnett, and Everett (1993) trained athletic youth coaches to emphasize effort rather than results and to: (a) provide reinforcement after good plays, (b) provide encouragement and supportive-corrective instruction after mistakes, (c) make technical instruction clear and concise, and (d) establish clear team expectations. Compared to untrained coaches, trained coaches were perceived more positively by their players. Their players also reported higher rates of overall satisfaction and had a more positive impression of their teammates. Most importantly, children who initially reported low self-esteem subsequently endorsed significantly higher levels of self-esteem after a season with a trained coach. Although it is difficult to determine what precise mechanism led to the change in self-esteem, these findings suggest that given the right child-instructor interaction, mental health practitioners can utilize organized sports as an effective vehicle for increasing self-esteem in children. Further, creating a positive and fun environment seems to enhance peer relations, which is paramount to social competence in youths (Boivin & Bégin, 1989). Consequently, even if actual sports-skills competence could not be improved through training, a positive environment that fosters perceptions of increased competence could lead to better emotional well-being for the child

(Donaldson & Ronan, 2006). A social skills intervention that embraces these components would ideally result in positive outcomes for participants.

Social Skills Training and Sports

Children may be motivated to engage in sport activities to have fun, develop new skills, partake in fitness, gain acceptance from peers, or be part of a group (Smith, 2003). The sports environment provides opportunities for children to learn how to interact with their peers, develop persistence, and engage in self-control (Ommundsen, Roberts, Lemyre, & Miller, 2005).

Unfortunately, children with social skills deficits may struggle in sports settings due to difficulties associated with: (a) impaired peer relationships (Piffner & McBurnett, 1997), (b) following the rules of the game (Pelham et al., 1990), (c) accurately assessing their competencies and utilizing performance feedback (i.e., positive illusory bias (PIB); Evangelista, Owens, Golden, & Pelham, 2008; Hoza, Gerdes, Hinshaw, Arnold, Pelham, Molina, et al., 2004), and (d) engaging in self-regulatory behaviors (e.g., forethought, delayed gratification, attentiveness; Ericsson, Krampe, & Tesch-Romer, 1993) required to obtain optimal athletic performance (Cleary & Zimmerman, 2001). Therefore, combining the benefits of improving actual and perceived athletic competencies and increasing prosocial behavior of children with social skills deficits will likely lead to increased peer acceptance and improved self-concept (Lopez-Williams et al., 2003).

Studies utilizing multimodal treatment packages, such as the Summer Treatment Program (STP; Pelham & Hoza, 1996; Pelham et al., 1996), have demonstrated positive treatment gains by combining sports skills and social skills training procedures for children with poor social skills. The STP is an 8-week long day camp that consists of several empirically-supported components, including (a) a highly structured point system for reinforcing target behaviors, (b)

social reinforcement from program counselors, (c) escalating time-out procedure, (d) social skills training, (e) sports skills training, (f) structured academic environment, (g) parent training, and (h) feedback on individualized target behaviors in the form of daily report cards (Pelham & Hoza, 1996; Wells et al., 2000).

Children report enjoying programs like the STP because they enjoy the camp aspect despite the intensity (Wells et al., 2000), and they get to engage in sports -- a peer-accepted activity (O'Callaghan, Reitman, Northup, Hupp, & Murphy, 2003). Parents, counselors, and child participants report improvements in multiple competency domains (e.g., athletic, academic, social). Children show a reduction in the amount of rule violations and an increase in the frequency of game-based prosocial behavior, as well as an improvement in sports skills (Chronis et al., 2004; Wells et al., 2000). Thus, children may be more motivated to participate in programs like the STP, as compared to more traditional treatment programs without the sports camp component.

Hupp and Reitman (1999) also carried out a sports and SST program in the context of sports summer camp. Three children who participated in a basketball skills-training camp received reinforcement for initiating good sportsmanship and basketball skills. Findings from this multiple-baseline across participants design suggest that the sports camp resulted in a reduction in the number of sports-related errors, improved basketball skills, and improved sportsmanship. Further, the children's interest in basketball, as evidenced by their self-report on a study-specific rating scale also improved. Hupp and Reitman suggested that adding a modeling component to the sportsmanship training may prove useful in future studies.

Finally, O'Callaghan et al. (2003) employed the SST and sports skills framework to assess the generalizability of the treatment gains associated with these interventions. Despite

research reporting long-term gains (e.g., Mrug & Hodgens, 2008; Pelham & Hoza, 1996), other studies have demonstrated short-term gains with limited generalization to contexts outside of the treatment setting (Pelham, Wheeler, & Chronis, 1998). O'Callaghan and colleagues (2003) indicated that the relative paucity of research demonstrating generalization of these trained skills is an artifact of studies failing to adopt specific strategies to improve generalization.

Generalizability should be an important focus in studies evaluating the efficacy of SST in a sport context because the ultimate goal is for these children to engage in prosocial behaviors regardless of the environmental context.

Potential Limitations

Although there are many benefits of participating in sports activities (Smoll et al., 1993), there may be several limitations or disadvantages of delivering social skills training in a sport setting. Researchers have documented several negative consequences of team sport participation. Increased risk for injuries has been associated with participation in sports involving vigorous exercise (Mattila, Parkkari, Kannus, & Rimpela, 2004). Competition can also lead to added stress and conflict between peers and, if not addressed correctly, can lead to negative outcomes. For example, when systematically compared to other organized youth activities (e.g., religious groups, academic clubs, fine arts, community organizations), high school students have reported mixed experiences with team sports. While youth endorsed improving self-knowledge, emotional regulation, and physical skills, they also reported experiencing adverse interactions with peers and adults (Hansen, Larson, & Dworkin, 2003). This finding highlights the importance of monitoring the athletic environment and activities surrounding their participation. Therefore, careful planning and consideration should go into designing and implementing any intervention within a sport context.

With regards to the STP, these multi-method interventions are costly for both researchers and participants, require an extensive amount of preparation to conduct, and are time-consuming. The STP typically costs around \$3,000 per participant (Wells et al., 2000). Even though this price may be comparable to other summer camps, the cost conceivably limits access for low-income families who may be in greater need of a comprehensive, or at least effective, intervention (Wells et al., 2000). Lastly, the typical STP is eight weeks long, which may not be feasible for many families.

Focus of the Study

As discussed, programs that deliver SST in a sport setting have proven to be an effective means of improving many aspects of functioning. Successful programs have integrated multiple treatment components into one package. Although children with poor social skills may show limited interest in sports, providing specific instruction in a supportive environment will provide them with the guidance necessary to be successful in sports, rather than being excluded because of their skill deficits (Armstrong & Drabman, 1994). Consequently, it seems worthwhile for researchers to utilize the positive qualities associated with sports programs to supplement the delivery of SST to children.

This study trained specific soccer skills in combination with sportsmanship skills to children with social skills deficits. A soccer skills training camp was selected for several reasons. First, soccer is a team sport, and features of the team sport setting may be linked to psychological benefits independent of physical benefits. Team sports may provide support networks, positive relationships, and increased competence in several domains (Smith, 2003). Specifically, Boone and Leadbeater (2006) suggest that children who participate in team sports have an increased opportunity for peer acceptance relative to non-team sports participants. Second, soccer

continues to increase in popularity and there is an abundance of youth soccer camps available in the United States (McShane, 2002). It is estimated that 18 million Americans play soccer, roughly 14 million being children (Sports in America: Soccer, 2009). Furthermore, soccer is a relatively inexpensive sport that requires very little equipment in order to participate, compared to other organized sports (Wilcox, 2009), making soccer more accessible. Finally, children who participate in soccer engage in intense physical effort over substantial periods of time, which increases the likelihood that children are receiving the desired physical health benefits associated with sport participation. Other sports (e.g., baseball, softball, volleyball) do not provide ample opportunity for children to engage in rigorous activity for a sustained period of time (Bergeron, 2007). With this in mind, youth soccer players may receive desired health benefits even if their sports skills competence is low. To our knowledge, no published intervention program has utilized a soccer camp, and these features make soccer an attractive option for this study.

Perhaps the most unique aspects of this study is the brevity of the camp and the population involved. Many group interventions combining sports and social skills training are typically conducted over the course of 6 to 10 weeks and only include children with a particular diagnosis such as Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), or a learning disability (LD; e.g., Ferguson, Gillis, & Sevlever, 2011; O'Callaghan et al., 2003; Pelham & Hoza, 1996). This camp was conducted over the course of two consecutive weeks, making it more similar to traditional youth soccer camps, which tend to last one to two weeks. Readdick and Schaller (2005) suggest that gains in self-concept can be established in a short amount of time, potentially precluding the need for longer programs. Offering a relatively brief intervention would ideally help to keep costs down for families and potentially ameliorate some of the factors that are typically associated with attrition and/or deterring camp enrollment

(Hansen, Nangle, & Meyer, 1998). Further, study participants were not required to meet diagnostic criteria for a formal psychological disorder. Participants in this training program needed only to experience difficulties in social interactions as reported by the child's primary caregiver, and verified via rating scale. If achieved, these findings may suggest that both sport and social skills training gains can be acquired in a shorter amount of time and may be applicable to children with multiple disorders.

This study aims to improve participants' overall self-concept. However, researchers have found that increases in self-concept are only gained in aspects that are related to sports training (e.g., physical appearance, sports-ability self-knowledge, sports-ability self-esteem, sports-specific self-concept). These findings support the multidimensional theory of self-concept and suggest that increases in self-concept are only likely to be seen in areas that are associated with the treatment program and not other areas of self-concept (e.g., social, behavioral). Further, increased competence in soccer ability is not likely to lead to increased ratings of competence in other sports (Hopper et al., 1991). Therefore, introducing a social skills training component will hopefully lead to overall increased self-concept following the intervention.

Additionally, this study evaluated both the generalization and the maintenance of the skills learned during the camp. Research has called for more studies examining both the length and breadth of treatment gains attained during social skills training interventions (O'Callaghan et al., 2003). Therefore we examined whether treatment gains are maintained following the camp. Similarly, we evaluated the generalization of the soccer and social skills. One- and three-month follow-up maintenance sessions were included, since we believed it would improve the chances of long-term skill acquisition following the termination of camp (Bry & Krinsley, 1992; Whishman, 1990). Lastly, since children with social skills deficits have poor self-monitoring

skills, self-monitoring strategies and the fact that youth value sports (i.e., high social validity) should enhance the treatment effectiveness and increase the likelihood that maintenance occurs (Hansen, Nangle, & Meyer, 1998; Timler, Vogler-Elias, & McGill, 2007).

The ultimate goal of the proposed study was to create a training package that can be disseminated to a variety of mental health professionals and utilized with a wider variety of children with social skills deficits.

Hypotheses

In sum, the present study had five specific hypotheses. First, we expected to see improvements on soccer-specific skills in participants following the camp. Second, we expected to see increases in the use of the target social skills throughout the camp. Third, since we targeted both soccer skills and interpersonal skills, we anticipated increases in ratings of overall self-concept and in specific domains of self-concept (e.g., athletic, physical, social, academic). However, consistent with the multidimensional theory of self-concept, we anticipated that sports-specific ratings of self-concept would not extend to other sports (e.g., basketball-specific self-concept measure). That is, with regards to generalization, we did not expect participants to rate themselves as better basketball players after participating in the camp. We did, however, expect to see the participants engage in social skills in the basketball setting. Fourth, we anticipated that the skills acquired during the two-week camp would be observed again at follow-up. Finally, we expected to observe a decline in any disruptive behavior during the camp.

Method

Participants and Materials

Participants were recruited from East Central Alabama by publicizing through local businesses, health clubs, medical and mental health offices/clinics, and local school systems. Boys ages 8-12 were targeted in order to control somewhat for developmental and school context differences. Previous research suggests that children ages 8-12 have similar motivations (e.g., enjoying group activities) for participating in sports (Miller, 1989).

Eleven children were screened for inclusion into the study after their parents returned the completed demographic questionnaire and social skills rating form. Inclusion criteria were: (a) parent-reported difficulty in general social skills (via score on Social Skills Improvement System – Rating Scale; Gresham & Elliot, 2008), and (b) parent consent and child assent to participate in the soccer camp. A formal diagnosis was not required for inclusion as the focus of the study was enhancing sports skills and social skills in children with social skills deficits. Children were excluded from the study if the parents reported any developmental disabilities or medical conditions that would preclude them from engaging in sustained physical activity. Eight children met study criteria; six children participated in the camp. Three children were excluded from the study because their parents did not report below average social skills on the rating scale. Two children that met study criteria did not participate due to scheduling conflicts with the soccer camp. Table 1 provides a brief description of each participant. Marshall, Shane, and James were diagnosed by a licensed clinical psychologist; Brock and Michael were diagnosed by a

psychiatrist. Marshall, Thomas, Shane, Brock, and James were White Non-Hispanic and Michael was White Mixed-Hispanic.

The following materials were used to conduct the sports camp: two stopwatches, four MotiveAiders, two 4-foot portable soccer goals (Pugg goals), six colored practice jerseys (green and orange), 24 cones for boundary markers and drills, six size-4 soccer balls, two first aid kits, prizes for token-economy (e.g., Legos, Small action figures, Nerf guns), one camcorder, eight clipboards, one dry-erase board, a concrete wall, and a water cooler. Water and snacks (e.g., baked chips, crackers) were provided during breaks.

Table 1.

Participant Characteristics

<i>Name</i>	<i>Age (years)</i>	<i>Diagnosis</i>
Marshall	12	PDD-NOS
Thomas	10	None
Shane	10	ADHD
Brock	8	ADHD, ODD, Tourette's
James	11	ADHD
Michael	12	ADHD, Asperger's, GAD

Setting and General Procedure

The present study was slated to take place at the city soccer complex; however, due to the presence of a tropical storm, seven of the camp days were conducted inside a local gymnasium, while the remaining five days took place at the city soccer complex. The primary camp was ten days long, spanning over two consecutive weeks (Mon-Fri) during the school year. Group sessions were from 4:00 PM to 7:00 PM CST.

The lead clinician and a range of three to six support clinicians were present during each session. The lead clinician provided both sports-skills and social-skills instruction, as well as praise and feedback to the participants. The support clinicians recorded the presence or absence of the target behaviors and negative comments of the participants. The support clinicians also maintained the token-economy system during the camp. A licensed (clinical child) psychologist supervised all activities.

The first day of the camp consisted of an orientation to the entire camp. Following orientation, the participants completed the paper and pencil measures. After the six participants completed the measures they engaged in the soccer skills test; no systematic training occurred. Support clinicians recorded baseline data on the four target social skills and negative comments during each sport skill session (e.g., dribbling, passing, throw-in, wall volley). Participants finished the first day of camp with three mini-scrimmages, which consisted of the participants being randomly placed on two separate teams (i.e., 2 teams of 3). Players would play against each other on a 15 by 30 yard field with 2 4-foot portable soccer goals. One player from each team would take turns sitting out during the scrimmage in order to simulate an actual game in which players would be required to sit on the team bench. Players rotated playing time during the course of the scrimmage so that each participant had relatively equal time playing in the game and observing from the sideline. The lead clinician was responsible for refereeing and coaching the players during the mini-scrimmages.

The behavioral skills training (BST) intervention was introduced during the second day of camp. The BST consisted of an introduction of the sportsmanship skill, rationale for the use of each skill, cues, and demonstration by the lead clinician. For days 2 through 9, each three hour session consisted of a warm-up game, orientation, the BST, and two scrimmages. The BST

procedure consisted of a teaching session, three skill sessions, two mini-scrimmage sessions, and free play (i.e., approximately 10-15 minutes of free time at the end of each day). Each participant received the same BST intervention. An example of one of the training days (i.e., days two through nine) is presented in *Appendix 4*. The final day of camp included the following: completion of the paper and pencil measures, soccer skills test sessions (i.e., post measure), mini-scrimmage session, and basketball session (i.e., in order to assess social skill generalization to other sports). Parents also completed the paper and pencil measures.

Participants reported back to camp for two follow-up sessions at one month and three months after the completion of camp. A brief review of each sportsmanship skill was provided at the outset of both follow-up sessions. Similar to the last day of camp, participants and their parents completed the paper and pencil measures. The participants then engaged in the soccer skills sessions, soccer scrimmage session, and basketball scrimmage session.

A token economy system for points was utilized to reinforce the participants who followed instructions, engaged in the targeted social skills, and responded to questions. Participants also earned points for desired performance during the role-plays. The points were exchanged for prizes at the end of each session. Participants could choose to save points to obtain larger prizes. The token economy system was introduced to the participants and covered in detail during the first day of camp and reviewed at the beginning of Days 2 and 3. Points were displayed next to each participant's name on a portable dry-erase board at all times.

Dependent Measures

Sportsmanship skills. Four social skills were taught: taking turns, giving verbal compliments, giving physical compliments, and making a positive post-game comment. These skills were selected because similar skills have been utilized in other SST studies focusing on

sportsmanship skills (Ferguson et al., 2011; Pfiffner & McBurnett, 1997). Consistent with the BST procedure employed by Leaf et al. (2010), target skills were operationally defined and reduced to basic steps to promote participant comprehension of the requirements of each skill. Participants were required to correctly perform each component of the sportsmanship skill in order to receive credit for the skill. Table 2 lists the four social skills along with a brief description of each component.

Table 2.

Target Skill Components

Target Skill	Component 1	Component 2	Component 3
Taking Turns	Wait patiently in designated area	Engage in game as soon as it's your turn	Return to designated area when turn is up
Giving Verbal Compliments	Look at the person	Use teammate's name	Give a compliment (e.g., "That was a great pass Messi!") with enthusiasm.
Giving Physical Compliments	Look at teammate making eye contact	Give a hi-five, thumbs up, fist pump, etc.	Use a friendly face (i.e., smile)
Make a positive post-activity/game comment	Look at teammate making eye contact	Use teammate's name	Give positive post-game comment (e.g., "Messi you played amazing today!")

Soccer Skills Competency Measures. Adapted from Heath and Rogers (1932), four tasks were included in the soccer skills assessment -- throw-ins, dribbling, passing, and wall volley. These items were selected because they have been trained successfully in previous studies and are thought to represent a broad range of fundamental soccer skills (Feltz & Brown; Hopper et al., 1991). These skills were assessed during the first day of camp, at the end of camp, and at both follow-up sessions. Percent correct scores were computed scores for the throw-in and

Table 3.

Sport Skill Descriptions

Skill	Description
<i>Throw-in Test</i>	<ol style="list-style-type: none"> 1. Participant must hold ball in both hands near waist 2. Bring ball over head with both hands and throw ball forward 3. Both feet must remain on ground and behind the boundary line 4. Participant has 5 chances to hit a 10 ft target and 20 ft target
<i>Dribbling Test</i>	<ol style="list-style-type: none"> 1. Participant is required to move from one target cone to the next 2. The ball must remain within 5 yards of him at all times to be controlled 3. Participant should use instep or top of the foot 4. Participant should use both feet to control the ball. 5. Participant's performance is be timed
<i>Passing Test</i>	<ol style="list-style-type: none"> 1. Participant must kick the ball using his instep 2. Participant should not use his toe 3. Ball must travel through target gate (5 attempts per foot at 10 yards) 4. Participant is required to use dominant and non-dominant foot
<i>Wall volley Test</i>	<ol style="list-style-type: none"> 1. Participant stands approximately 5 ft from wall 2. Participant kicks the ball at target area using instep or laces 3. Ball must strike the wall inside 2 x 2 ft target area in order to be accurate 4. Participant has 60 seconds to complete as many successful passes

passing tests by dividing the number of successful executions on each respective task by five. Individual scores for the dribbling test were calculated by averaging the time to complete the dribbling task. Finally, the score on the wall volley test is simply the number of times the participant successfully stuck the ball into the target area using his feet. Operational definitions of each skill are presented above in Table 3.

Paper and Pencil Measures

Social Skills Improvement System – Rating Scale (SSIS-RS; Gresham & Elliot, 2008).

The SSIS-RS are norm-referenced multi-informant rating scales that provide a multi-dimensional assessment of the child's social functioning. Only the parent and child rating scales were used for this study, measuring Social Skills and Competing Problem Behaviors. The Social Skills composite and its components have high internal consistency ($\geq .90$) and adequate test-retest reliability ($\geq .80$). The Competing Problem Behaviors have similarly strong reliability estimates ($> .90, > .77$, respectively). Evidence of construct and measurement validity is provided by the SSIS association with other well-established measures, including the SSRS (Gresham & Elliot, 1990), the Behavior Assessment System for Children (2nd ed.; BASC-2; Reynolds & Kamphaus, 2004), and the Vineland Adaptive Behavior Scales (2nd ed.; Sparrow, Cichetti, & Balla, 2005, 2006). For the current study, children whose parents rated them in the *Below Average* range on the Social Skills composite were eligible to participate in the study. The parent form of the SSIS-RS was administered to parents in the screening packet, on the first day of camp intervention, the final day of camp, and at both follow-up sessions. Child participants completed their respective SSIS-RS on the first and last day of camp, as well as at both follow-up sessions.

Self-Perception Profile for Children (SPPC; Harter, 1985). The SPPC is a 36-item scale that consists of five six-item domain-specific subscales (Scholastic Competence, Social

Acceptance, Athletic Competence, Physical Appearance, Behavioral Conduct) and one scale measuring global self-worth. Each SPPC item consists of two opposite descriptions, for example “Some kids do very well at all kinds of sports” but “Other kids don’t feel that they are very good when it comes to sports.” Children have to choose the description they perceive fits them best and then indicate whether the description is “somewhat true” or “very true” for them. Each item is scored on a four-point scale. Higher scores indicate a more positive view of one’s self. Cronbach’s alphas reported by Harter are as follows: Scholastic Competence (.80), Social Acceptance (.75), Athletic Competence (.75), Physical Appearance (.82), Behavioral Conduct (.75), and global self-worth (.80). Hagborg (1996) performed a concurrent validity study, in which scores from the SPPC were compared with scores on the Rosenberg Self-esteem Scale (RSE). Results indicated that the two measures were closely measuring the same construct ($r = .72$). The SPPC is considered to possess several unique and innovative features and has been widely used in research (Merrell, 2008). Children completed the SPPC at the beginning and end of the two-week camp and at both follow-up sessions.

Soccer Self-Concept Scale (Feltz & Brown, 1984). The soccer self-concept scale was administered to the child participants at the beginning and end of the two-week camp and at both follow-up sessions. The soccer scale was adapted from the SPPC and used by Feltz and Brown (1984) to derive a sport-specific measure of perceived competence. Hopper et al. (1991) reported adequate internal consistency (.82) and moderate Pearson correlations with the Athletic (.61) and global (.49) scales on the SSPC. Children rate their competence on the skills of passing, trapping, dribbling, kicking, and juggling. The items on this measure are presented in Appendix 1.

Basketball Self-Concept Scale. Children also completed this measure, which was constructed for this study to measure participants’ basketball-specific self-concept. Therefore,

there is no psychometric data available for this measure at this time. Items are similar to those on the soccer self-concept scale and include competencies on the skills of passing, dribbling, catching, and shooting. Children completed the basketball self-concept scale at the beginning of the last camp day and at both follow-up sessions. Responses were utilized to evaluate whether increases in perceived athletic competencies appeared specific to the sport trained during the intervention. The items on this measure are presented in Appendix 2.

Soccer Knowledge and Interest Likert-Scale (SKILS). The SKILS is an 18-item inventory that was developed for the purpose of this study. The SKILS was modified from Hupp and Reitman's BII and designed to assess both the child's interest in and knowledge of soccer prior to participating in the camp. Items are rated on a 7-point Likert scale. No psychometric data are available for this measure at this time. This measure was administered to child participants at the beginning and end of the camp, and at both follow-up sessions. The SKILS is in Appendix 3.

Training Design and Procedure

A multiple-baseline design across skills (Kazdin, 2011) was utilized to examine the effectiveness of the BST procedure on the acquisition of sportsmanship skills. Data were collected during each trial. A trial is considered to be the window of time, or interval, in which the participant is given the opportunity to engage in a/the target behavior(s). Each 5-minute sports skills session consisted of 10 consecutive 30 second intervals. The scrimmage sessions, on the other hand, were 10 minutes long and were comprised of 20 consecutive 30 second intervals. Occurrence or nonoccurrence (i.e., event recording) of the target behavior(s) was recorded during each interval. One data point represented one session consisting of either 10 or 20 trials (i.e., skills session or scrimmage session respectively). Data from each session (e.g., sports skills training, mini-scrimmage) were combined to create one data point by computing a

percentage of correct performance of sportsmanship skills. Training days typically consisted of four sports skills sessions and two scrimmage sessions (one of those being a basketball scrimmage during the final day of camp and both follow-up days) per day, which resulted in an average of six data points per participant, per camp day. Both visual analysis and mean comparisons were used to examine the impact of the intervention on the behavior.

Baseline. As discussed above, baseline probes were conducted during the first day of camp while participants completed the soccer skills tasks. Baseline probes for scrimmage data were also completed. Baseline probes allowed clinicians to define each participant's pre-treatment performance for the social skills prior to them being introduced or discussed in the camp. These probes were conducted independent of any instruction, modeling, or feedback.

Teaching. After baseline for each skill was established, the teaching procedure was introduced. The BST intervention began with the clinician describing the sportsmanship skill to be taught that day. Each participant was then asked what he thought each skill meant. The lead clinician encouraged each participant to provide a rationale as to why that behavior is important. After each individual had an opportunity to provide a rationale, the lead clinician and one support clinician modeled the target behavior for the participants. Participants were asked to critique the clinicians' performance, indicating whether they demonstrated the sportsmanship skill correctly, and if not, help identify which steps the clinicians left out or modeled incorrectly and suggest behavioral improvements for correct skill performance.

Following correct clinician modeling of the target skill, participant dyads role-played the sportsmanship/social skill for the group. After each role-play, other participants were required to offer feedback on their peers' performance. Correct performance of the sportsmanship skill

resulted in the participant receiving mastery ratings, praise, and a point, while incorrect performance resulted in immediate feedback and a second role-play.

The sports skills training portion of the camp began after each participant had an opportunity to demonstrate the *sportsmanship* skill. Participants received praise and points for successfully executing the target skills during the sports skills training activities. If target skills were not observed, lead clinicians prompted participants to exhibit the sportsmanship skills. Further, participants were asked to rate their own performance for each sportsmanship skill activity. Both lead and support clinicians provided each participant with feedback on their performance and informed each participant whether or not they accurately assessed their own performance. Participants earned verbal praise and points for exhibiting each of the necessary components for the respective target behaviors.

Generalization. The generalization probes consisted of the three basketball scrimmages at the post-intervention and follow-up phases. This was an attempt to evaluate whether the acquired skills generalized to another context in which the skills were not previously trained. Feedback on the use of the target behaviors was withheld during the basketball games, but provided afterwards. Participants were required to assess their own performance in the game and provide oral feedback to the lead clinician. Following the basketball scrimmage, participants also received additional feedback from the lead clinician if they failed to include an essential component of a target skill. The soccer scrimmage sessions were also designed in a manner to enhance the generalization of the social skills. Namely, the social skills were trained more loosely (e.g., no immediate feedback during scrimmages) in an attempt to increase the likelihood that these skills would be observed without the immediate impact of praise from the clinicians. Although data from these scrimmages were combined with the sports skills sessions from each

corresponding treatment phase (i.e., baseline, intervention, and follow-up), it's important to outline the differences of the two conditions and highlight the intention of enhancing the generalizability of the acquired skills.

Procedural Integrity and Interobserver Agreement (IOA)

To ensure treatment integrity, each day was recorded and 41.6% (i.e., 5) of the days were reviewed by the supervising licensed clinical psychologist to determine if the intervention was delivered in the intended manner. The rater completed a procedural integrity checklist (see Appendix 15) to evaluate that all components of the intervention were conducted correctly.

A detailed manual was created to assist with clinician training and treatment procedural integrity. The manual describes each treatment component of the intervention, as well as the roles and expectations for both the participants and the clinicians. Support clinicians were required to attend three, 2.5 hour training sessions and successfully complete a quiz based on information outlined in the treatment manual.

To support accuracy in data collection, IOA data were computed using a point-by-point agreement ratio (Kazdin, 2011). This method provides an estimate of the number of interrater agreements across the trials. Rather than using a total agreement, which is essentially a summation of all the disagreements and agreements, this method evaluates ratings of behavior on a response-by-response basis. IOA data were collected with two different support clinicians rating the same participant. Both the participants being observed and the clinicians collecting the data were selected randomly. A total of 47.44% of the observable data were recorded by multiple clinicians, with a 91.9% level of IOA.

Results

Target Behavior

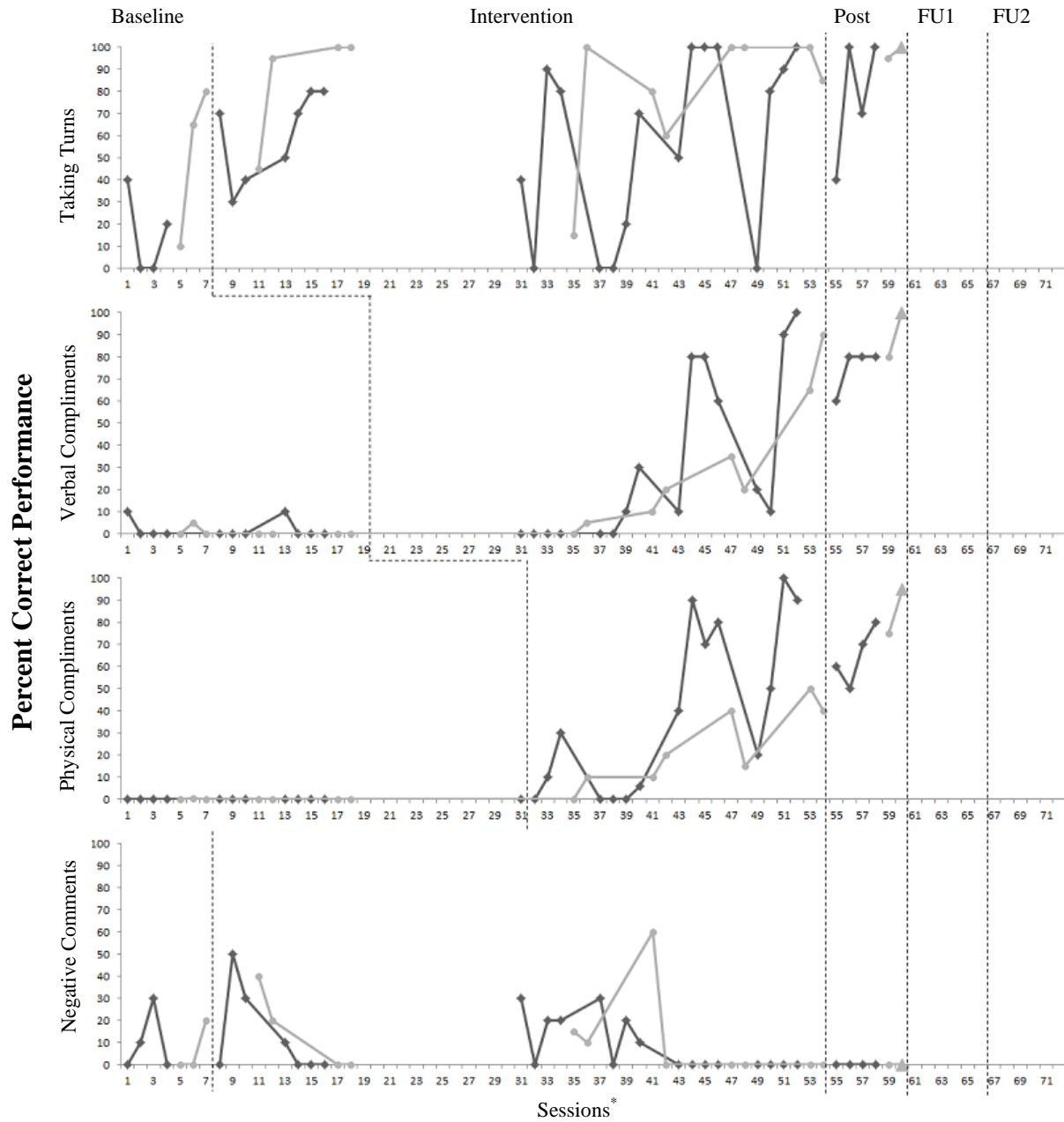
Visual Analysis. Visual inspection of the data allows examiners to evaluate both stability of participant behavior across treatment phases and trends in individual participant response rate to the independent variable (e.g., slope). This useful information about treatment impact can be lost when utilizing a statistical mean difference approach. The time-series data for each participant are displayed graphically in Figures 1 – 6. Each figure contains four separate line graphs corresponding to the four target behaviors (i.e., taking turns, verbal compliments, physical compliments, and negative comments). The data from each individual session (i.e., sports skills session vs. mini-scrimmage session) are plotted sequentially along the x-axis. The y-axis represents the individual percentage of correct performance for each respective target behavior during a single session (i.e., sports skill or scrimmage). Treatment phases (i.e., baseline, intervention, post, and follow-up) are differentiated by the dashed lines. Given the marked differences in task demands between the mini-scrimmage sessions and the sports skills sessions, data were plotted on two separate series lines (i.e., sports skills: dark tinted lines with diamond markers; soccer scrimmages: light tinted lines with circular markers; and basketball scrimmages: light tinted triangular markers). An increase in taking turns, verbal compliments, and physical compliments is expected following the introduction of the BST; whereas a decrease in negative comments is desired. The positive post-game comment data were not plotted on the line graphs because, unlike the aforementioned behaviors, this skill can only be observed one time during

each individual activity session (i.e., at the end of sports skills session or scrimmage session).

Marshall's target behavior is summarized in Figure 1. Compared to the other participants, Marshall appeared to have more variability or "bounce" in the target behaviors. Marshall's occurrence of taking turns during both sports skills activities and soccer scrimmages varied unsystematically during baseline. His execution of this behavior varied significantly following intervention as well. However, he seemed to be taking turns at a higher rate following the intervention ($M = 68.1\%$, $SD = 33.7\%$) than he was during baseline ($M = 30.7\%$, $SD = 31.9\%$) for the majority of the activity sessions. His post and generalization data were clearly higher than the baseline data, indicating that Marshall was correctly taking turns more frequently than he was prior to receiving any training. Marshall's baseline data for both verbal and physical compliments ($M = 1.4\%$, $SD = 3.3\%$; and $M = 0.3\%$, $SD = 1.1\%$, respectively) appear to be low and less variable, suggesting that he was not performing these sportsmanship skills prior to any teaching. While still considerably variable, Marshall's intervention data for verbal and physical compliments ($M = 38.4\%$, $SD = 36.3\%$; and $M = 41.4\%$, $SD = 32.3\%$, respectively) demonstrates stronger trends following the BST. Like his ability to take turns, Marshall was more likely to offer his peers verbal and physical compliments at the end of camp and during the basketball game. Even though negative comments were not addressed during the soccer camp, Marshall demonstrated a relatively clear pattern of reducing the number of sessions in which he made negative comments towards his peers. There is a clear spike in the number of negative comments after he missed Days 3 and 4, but these seemed to taper off after he re-acclimated to the camp. Since Marshall did not attend either follow-up day, no analyses can be made about his functioning at the time of follow-up.

Figure 1.

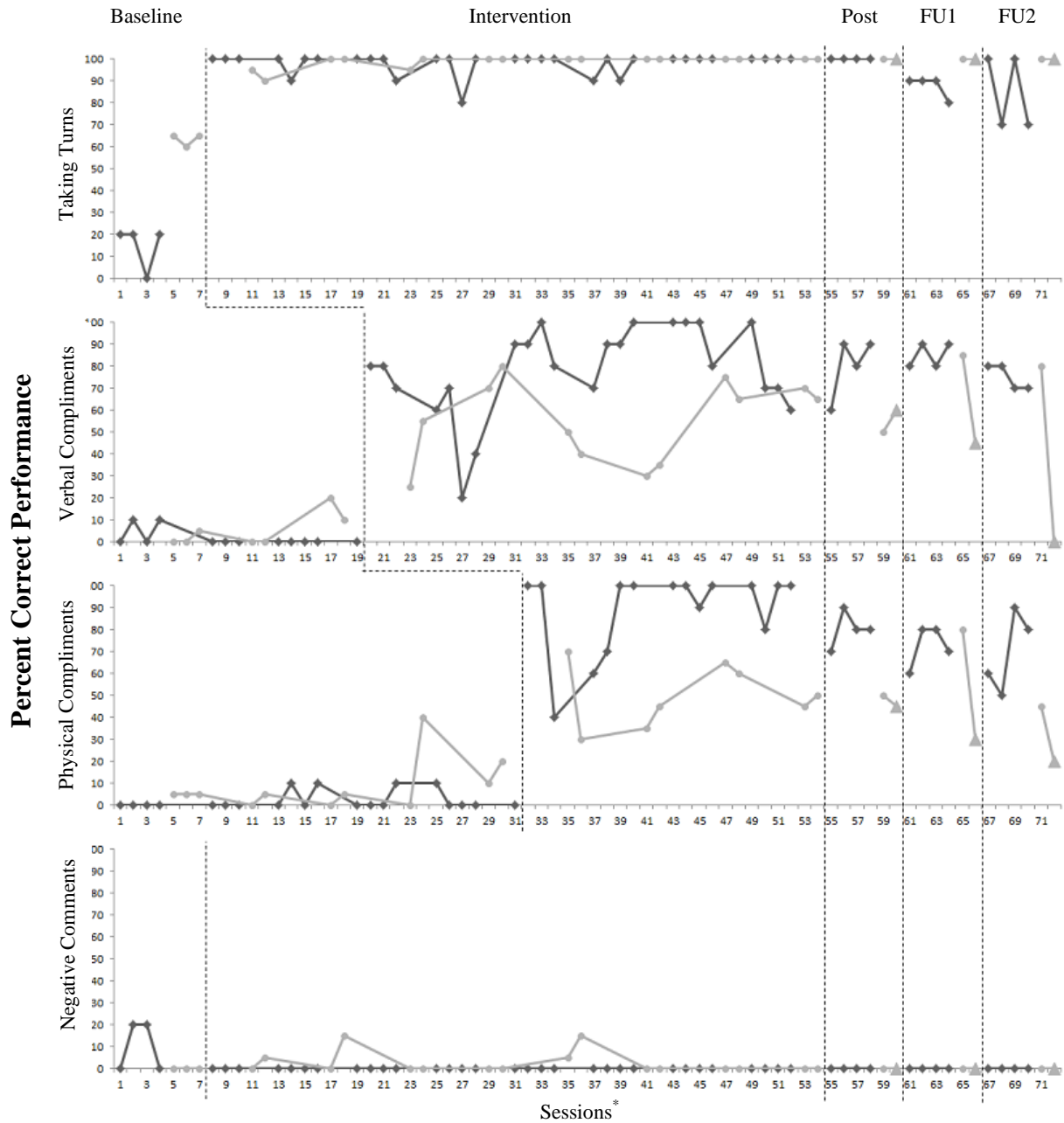
Marshall's Observed Target Behaviors



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by traingular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Figure 2.

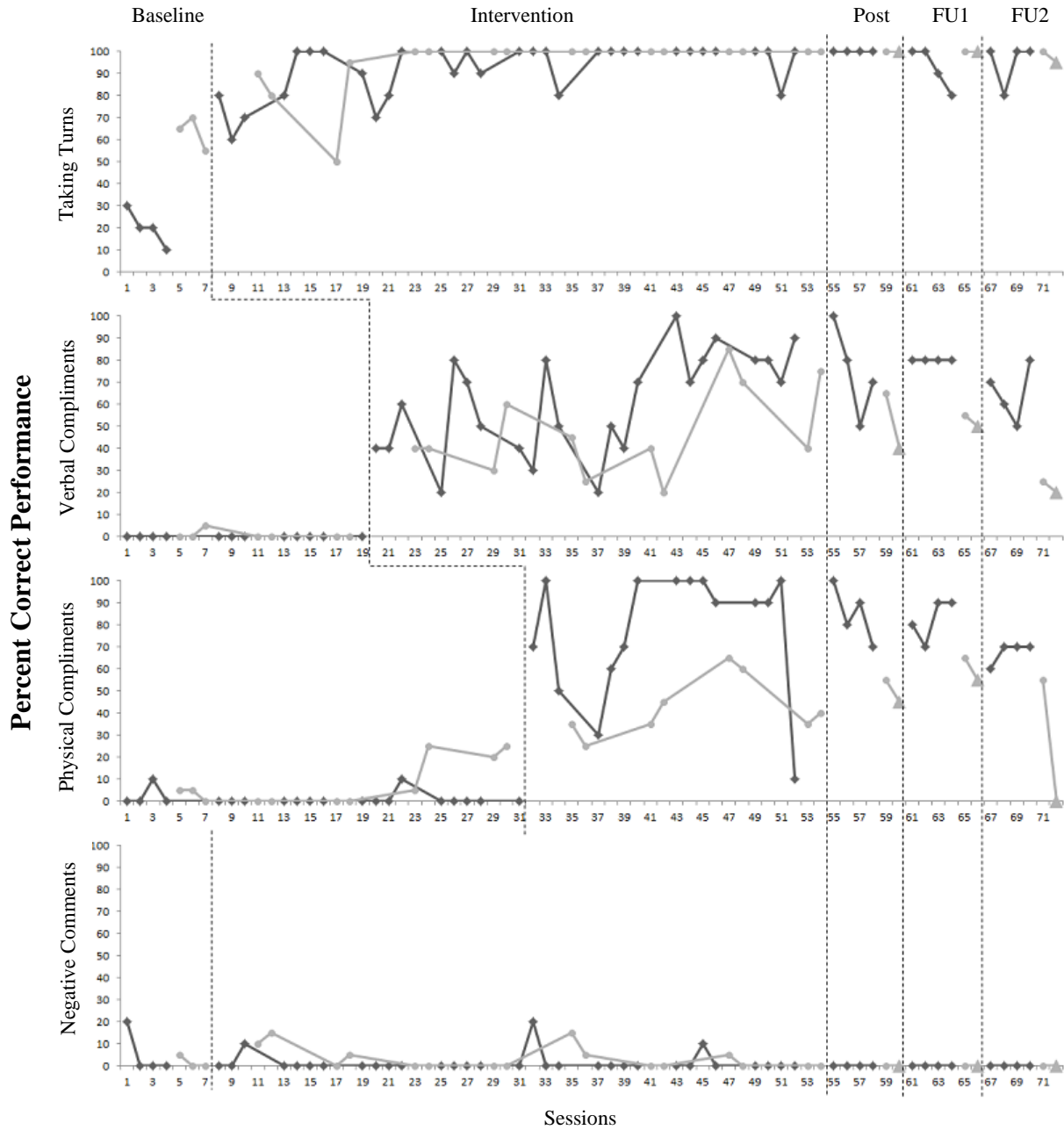
Thomas' Observed Target Behaviors



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by triangular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Figure 3.

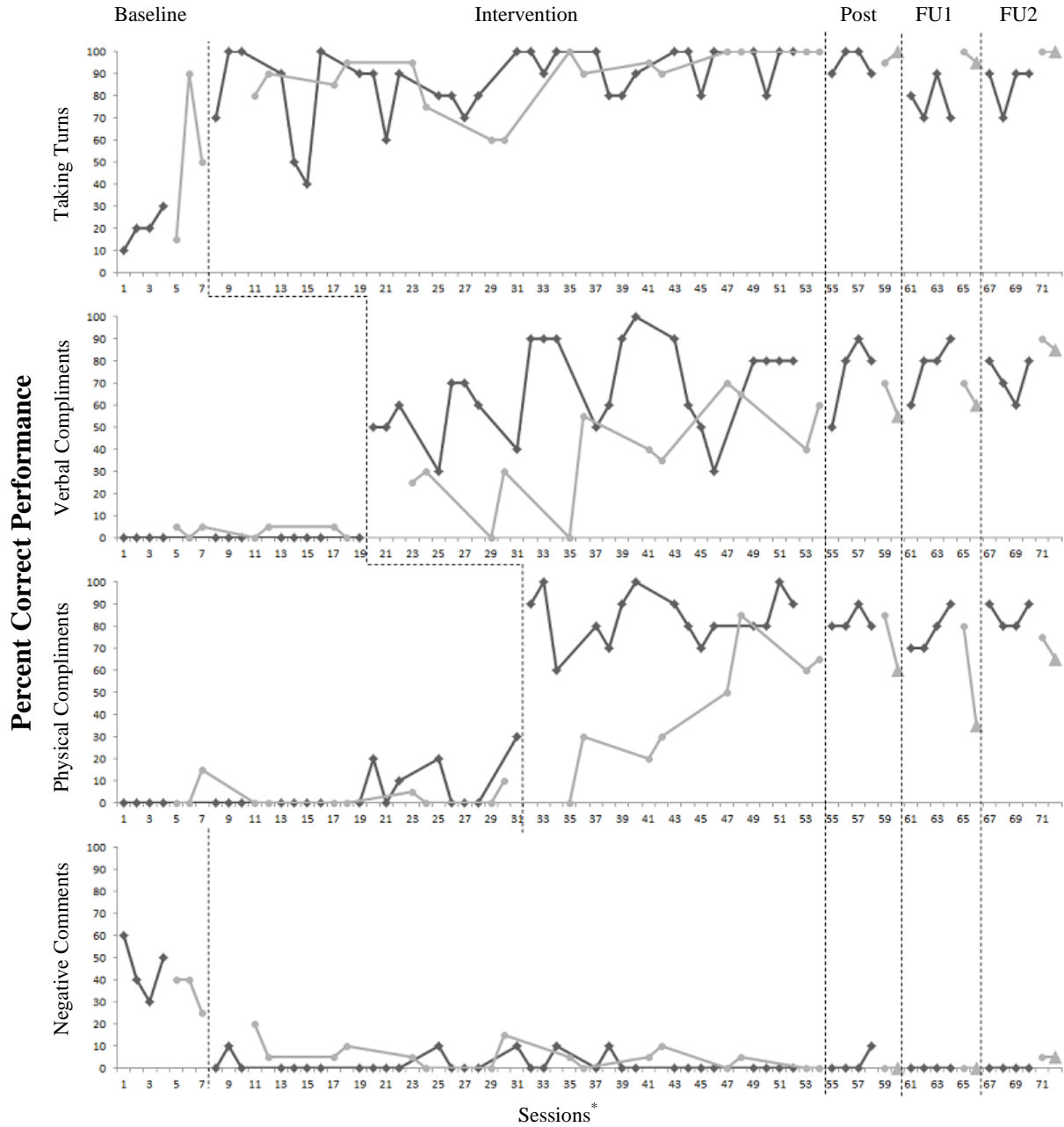
Shane's Observed Target Behaviors



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by triangular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Figure 4.

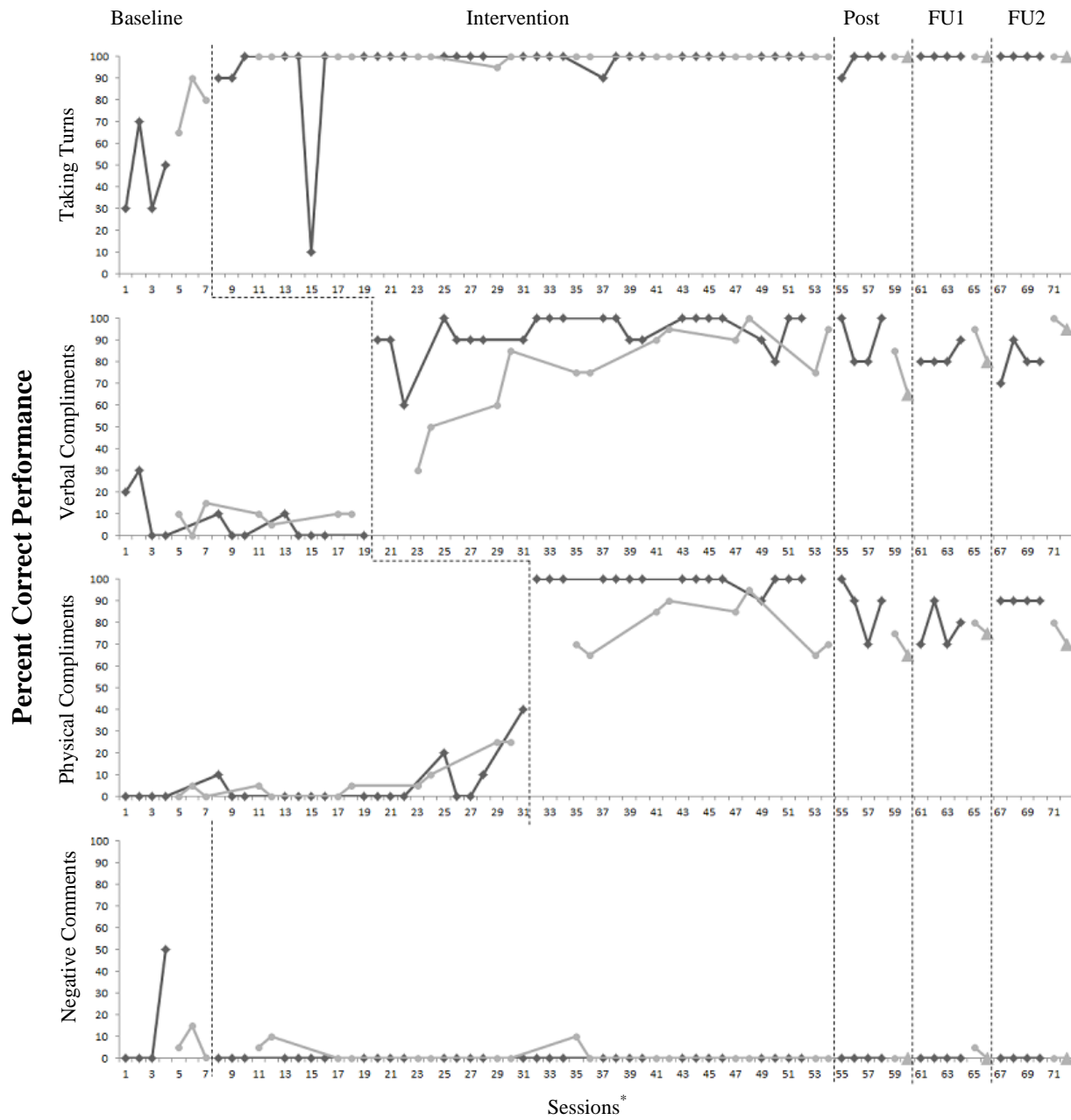
Brock's Observed Target Behaviors



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by traingular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Figure 5.

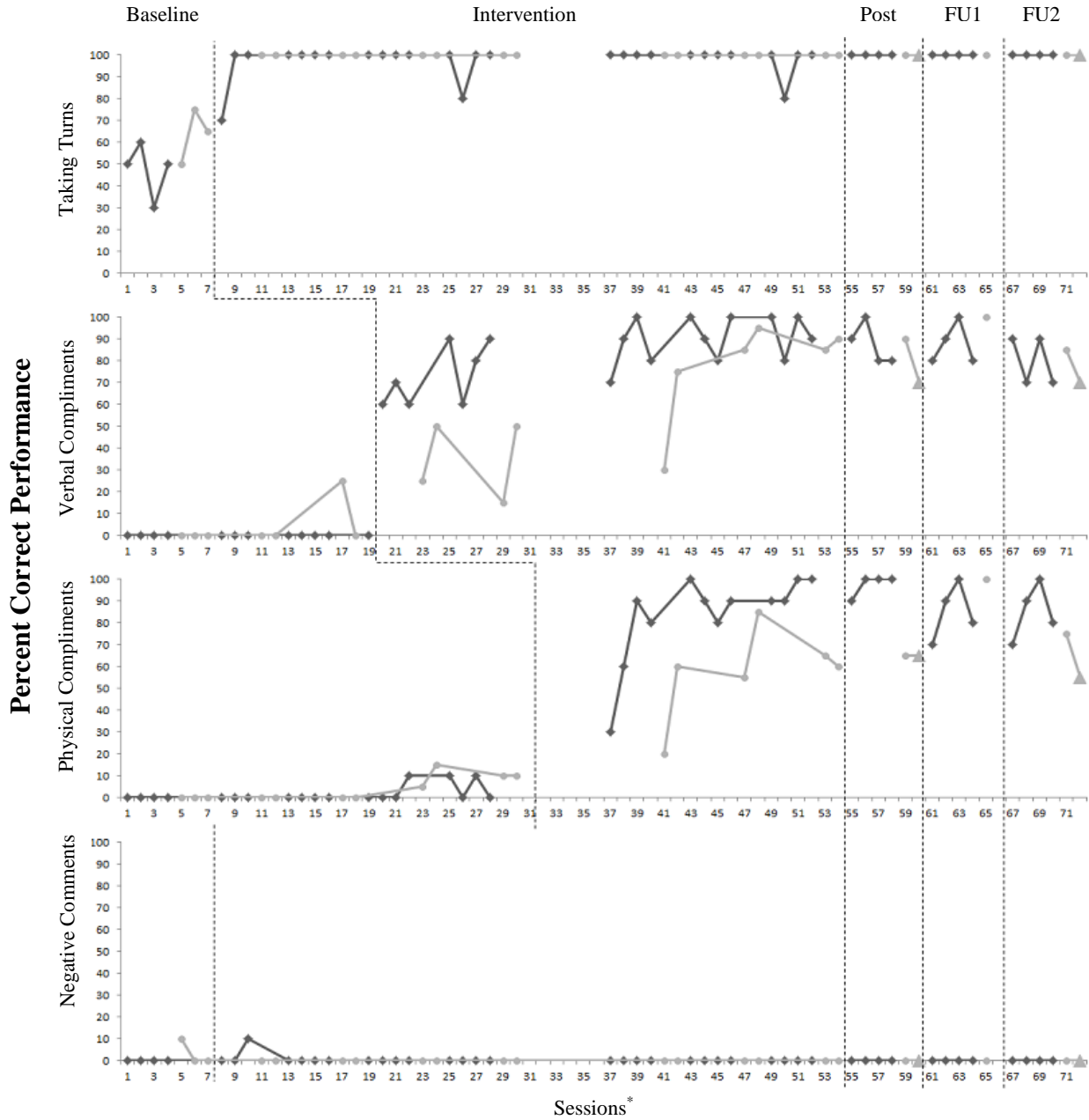
James' Observed Target Behaviors



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by triangular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Figure 6.

Michael's Observed Target Behaviors.



Note: Sessions represent the activities (i.e., sports skills training and mini-scrimmages) each child participated in. Soccer scrimmages are represented by the circular markers and are plotted along the lighter colored series line. Basketball (i.e., generalization) sessions are represented by traingular-shaped markers. Sports skills training sessions are denoted by the diamond-shaped markers and are plotted on the darker-colored series trend line.

Thomas (Figure 2) exhibited relatively stable behavior for each of the target behaviors at baseline (taking turns, $M = 35.7\%$, $SD = 26.8\%$; verbal compliments, $M = 2.9\%$, $SD = 5\%$; and physical compliments, $M = 4.4\%$, $SD = 8.2\%$) and a subsequent elevation in taking turns ($M = 98.5\%$, $SD = 4\%$), verbal compliments ($M = 71\%$, $SD = 22\%$), and physical compliments ($M = 75.4\%$, $SD = 23.8\%$) with implementation of the intervention. He also displayed a slight decrease in the percentage of activity sessions with negative comments. Although the sports-related social skills were observed at the second follow-up day (taking turns, $M = 88\%$, $SD = 16.4\%$; verbal compliments, $M = 76\%$, $SD = 5.5\%$; and physical compliments, $M = 65\%$, $SD = 19.4\%$), the data depicts a downward trend from his behavior during the intervention phase. Thomas' generalization data for verbal and physical compliments declined significantly from the last day of camp (post). The intervention appeared to be successful in increasing his turn-taking behavior and complimenting (verbal and physical), but his percentage of correct performance for these behaviors declined somewhat after the intervention.

Shane's data is graphically represented in Figure 3. Visual inspection of the differences between Shane's correct performance of each sportsmanship skill at baseline (taking turns, $M = 38.6\%$, $SD = 24.3\%$; verbal compliments, $M = 0.3\%$, $SD = 1.1\%$; and physical compliments, $M = 3.4\%$, $SD = 7.2\%$) and after the intervention ($M = 93.9\%$, $SD = 11.6\%$; $M = 58.4\%$, $SD = 22.9\%$; $M = 70.9\%$, $SD = 26.2\%$, respectively) suggests that the intervention successfully improved his ability to take turns and provide his peers with various compliments. Although the consistency of behavior change is less prominent, there does appear to be an effect on each of the dependent variables. Like Thomas, Shane continued to perform these skills during the follow-up days (FU2: taking turns, $M = 96\%$, $SD = 8.9\%$; verbal compliments, $M = 57\%$, $SD = 21.1\%$; and physical compliments, $M = 65\%$, $SD = 7.1\%$), but there is a visible downward-sloping trend for verbal

and physical compliments. Shane exhibited the sportsmanship behaviors during the basketball scrimmage (taking turns, $M = 98.3\%$, $SD = 2.9\%$; verbal compliments, $M = 36.7\%$, $SD = 15.3\%$; and physical compliments, $M = 33.3\%$, $SD = 29.3\%$), but with a slightly less frequency than he did in the soccer-related sessions.

Baseline performance of taking turns ($M = 33.6\%$, $SD = 14.4\%$) and physical compliments ($M = 3.5\%$, $SD = 7.7\%$) was somewhat variable for Brock (see Figure 4). Again, this variability in behavior weakens the conclusions that can be derived regarding the impact of the intervention on his behavior. In both cases, there appears to be a slight increase in his correct performance prior to the BST. Following the teaching procedure, however, Brock's execution of these skills increased dramatically (taking turns, $M = 88.1\%$, $SD = 14.4\%$; verbal compliments, $M = 59.3\%$, $SD = 24.9\%$; and physical compliments, $M = 72\%$, $SD = 25.1\%$). There are clear upward-sloping trends in the three sportsmanship skills. Further, the follow-up (FU2: taking turns, $M = 88\%$, $SD = 11\%$; verbal compliments, $M = 76\%$, $SD = 11.4\%$; and physical compliments, $M = 83\%$, $SD = 6.7\%$) and generalization data (taking turns, $M = 98.3$, $SD = 2.9\%$; verbal compliments, $M = 66.7\%$, $SD = 16.1\%$; and physical compliments, $M = 53.3\%$, $SD = 16.1\%$) seem to indicate that the effects of the intervention were long-lasting and extended to at least one other sporting environment. Brock's tendency to make negative comments clearly lessened after he was introduced to the intervention.

Both James and Michael (Figures 5 and 6 respectively) seemed to have the most stable trends in their graphical data. James already exhibited a higher frequency of taking turns behavior before starting the camp ($M = 59.3$, $SD = 23.5\%$), but quickly mastered the target behavior after the training procedure ($M = 99.1$, $SD = 2.8\%$). Similarly, Michael was able to take turns during the both types of the activity sessions at nearly a 100% accuracy following the

intervention ($M = 98.5$, $SD = 14.3\%$). Despite a small increase in physical complimenting prior to the BST, James and Michael also appeared to provide both forms of compliments at a significantly higher rate after the intervention (James: verbal compliments, $M = 87.9\%$, $SD = 15.5\%$; physical compliments, $M = 90.7\%$, $SD = 12.5\%$; and Michael: verbal compliments, $M = 77.4\%$, $SD = 22.2\%$; physical compliments, $M = 78.3\%$, $SD = 22.7\%$) than baseline responding (James: verbal compliments, $M = 6.8\%$, $SD = 8.4\%$; physical compliments, $M = 5.2\%$, $SD = 9.7\%$; and Michael: verbal compliments, $M = 2.6\%$, $SD = 11.5\%$; physical compliments, $M = 2.3\%$, $SD = 4.5\%$). There seems to be a shallow decline in both methods of complimenting at follow-up, but their performance remained above their behavioral functioning at baseline.

Altogether, visual inspection of the data indicates that the intervention successfully resulted in a desirable increase in the targeted sportsmanship skills and a decrease in the number of times each participant made a negative comment to a peer. Although there was variability in some of the data, the overall trends moved in the desired direction. Lastly, despite the slight decline in performance in the follow-up phases for some participants, the intervention appeared to produce some lasting effects in participant behavior and this behavioral change appeared to be observed across multiple contexts.

Statistical Analysis. The Wilcoxon Signed-Rank Test was also used to further evaluate the impact of the BST procedure on each target behavior (i.e., taking turns, verbal compliments, physical compliments, positive post-game comment, and negative comments). This non-parametric test is useful with small sample sizes and when the data are assumed to be non-normally distributed (Pagano, 2004). Individual participant's response data for social skills performance were averaged for each study phase. Comparisons were then made between baseline and each of the subsequent study phases, using the rank-ordered differences between the

Table 4.

Significance Test for Sportsmanship Skills and Negative Comments

Target Behavior	Phase	N*	Wilcoxon Signed Ranks Test †
Taking Turns	Baseline	6	
	Intervention	6	a) $T = 2.20, p < .05$
	Generalization	6	b) $T = 2.20, p < .05$
	Follow-up 1	5	c) $T = 2.02, p < .05$
	Follow-up 2	5	d) $T = 2.02, p < .05$
Verbal Compliments	Baseline	6	
	Intervention	6	a) $T = 2.20, p < .05$
	Generalization	6	b) $T = 2.20, p < .05$
	Follow-up 1	5	c) $T = 2.02, p < .05$
	Follow-up 2	5	d) $T = 2.02, p < .05$
Physical Compliment	Baseline	6	
	Intervention	6	a) $T = 2.20, p < .05$
	Generalization	6	b) $T = 2.20, p < .05$
	Follow-up 1	5	c) $T = 2.02, p < .05$
	Follow-up 2	5	d) $T = 2.02, p < .05$
Post-Game Comment	Baseline	6	
	Intervention	6	a) $T = 2.20, p < .05$
	Generalization	6	b) $T = 2.23, p < .05$
	Follow-up 1	5	c) $T = 2.03, p < .05$
	Follow-up 2	5	d) $T = 2.03, p < .05$
Negative Comments	Baseline	6	
	Intervention	6	a) $T = 2.20, p < .05$
	Generalization	6	b) $T = 2.21, p < .05$
	Follow-up 1	5	c) $T = 2.03, p < .05$
	Follow-up 2	5	d) $T = 2.03, p < .05$

Note: † a) - Significance test for differences between baseline and intervention phases, b) – Significance test for differences between baseline and generalization phases, c) – Significance test for differences between baseline and Follow-up 1 phases, d) – Significance test for differences between baseline and follow-up 2 phases. * N corresponds to the number of participants represented during each phase, which fluctuates given that Marshall was absent during both follow-up days.

paired phases across participants. For summarizing purposes, individual and group means for percentage of correct performance for each target behavior during the separate conditions (i.e., sports skills sessions vs. scrimmage sessions) across each treatment phase (i.e., baseline, intervention, generalization, and follow-up) are provided in Appendices 5 – 9.

The results of the significance tests between individual performance for target behaviors across treatment phases (i.e., baseline, intervention, generalization, and follow-up) are summarized in Table 4. Although differences in overall means were not statistically tested, the group mean for positive post-game comment during the baseline phase was 2.3% ($SD = 2.9$) and the mean level of participants providing a positive post-game comment, following the intervention, was 95.1% ($SD = 5.1$). This difference supports the hypothesis that participant responding for positive post-game comment would improve following the BST. The Wilcoxon Signed Rank Test yielded statistically significant ($T = 2.20, p < .05$) difference between baseline and post-performance for positive post-game comments. This finding suggests that participants were more likely to address their peers in a positive manner (e.g., “Marshall you had an awesome goal during that game!”) after the BST occurred. Further, the differences for positive post-game comments during the baseline and remaining treatment phases (i.e., generalization ($T = 2.23, p < .05$), follow-up 1 ($T = 2.03, p < .05$), and follow-up ($T = 2.03, p < .05$)) were also statistically significant. These findings imply that, not only did the participants’ sportsmanship behavior appear to maintain over time, but it also extended to another or sport (i.e., basketball) without any training in that specific context.

Soccer Skills Competency Performance Tasks

Individual means were computed for each sports skills task (i.e., throw-in (10 and 20ft), passing (dominant and non-dominant foot), dribbling, and wall volley) across phases. Significant

differences were detected between pre and post participant performance on the 10ft. ($T = 2.23, p < .05$) and 20 ft. ($T = 2.03, p < .05$) throw-in tasks. Participants also performed significantly better at passing with their dominant ($T = 2.23, p < .05$) and non-dominant foot ($T = 2.07, p < .05$) after completing the camp. Although the differences between pre and post individual performances were not statistically significant for the dribbling and wall volley tasks, an inspection of the scores suggests that participants improved on all of the soccer performance skills. In sum, completion of the camp resulted in improved accuracy with throw-ins, passing, and dribbling; and participants were capable of dribbling the ball faster from one target to the next. The group mean scores and significance test results for differences in individual performance across phases on the soccer skills competency performance tasks are provided in Appendix 10.

Rating Scales

The Wilcoxon Signed Rank Test was used to evaluate pre- and post-intervention differences between the respective parent- and child-completed measures (i.e., SSIS-RS, SPPC, Soccer Self-Concept Scale, Basketball Self-Concept Scale, SKILS).

SSIS-RS-Parent. Composite and component scores for the parent-completed SSIS-RS are listed in Appendix 11. These scores reflect parent ratings of their child's behavior prior to the intervention (pre), immediately after (post), and at follow-up (FU1 and FU2). Although there were no statistically significant differences between pre- and post-intervention composite scores (i.e., Social Skills and Problem Behavior composites), the differences between parent ratings on the Responsibility ($T = 2.01, p < .05$) and Externalizing ($T = 2.21, p < .05$) component scales were statistically significant. This finding demonstrates a parent-perceived improvement in these respective areas of functioning following the intervention. Further, although other statistically

significant differences were not detected, many of the parent ratings moved in the desired direction (i.e., increase in scores for Social Skills composite and component scales; decrease in scores for Problem Behavior composite and component scales). This trend may be important given that these reported improvements may be clinically significant even though the differences were not deemed statistically significant.

SSIS-RS-Child. Participant- or child-completed SSIS-RS are listed in Appendix 12. These scores correspond with the parent-completed SSIS-RS scores and reflect participant ratings of their own behavior at pre, post, FU1, and FU2. There were no statistically significant differences between the child-completed pre and post SSIS-RS. Although some desirable trends were detected, these scores appeared to be quite stable over the respective assessment periods; indicating that the participants did not perceive a statistically significant change in functioning as measured by the SSIS-RS.

SPPC. Participant scores for the Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, and Behavioral Conduct subscales did not yield statistically significant differences between pre- and post-intervention ratings. The Wilcoxon Signed Rank Test did reveal, however, a statistically significant difference between pre- and post-intervention ratings on the Global Self-Worth scale ($T = 2.04, p < .05$). This finding indicates that participants endorsed a greater sense of overall self-worth following the camp. Scores for each child's ratings across all six subscales are provided in Appendix 13.

Sports Self-Concept Scales. Individual mean scores for the Soccer Self-Concept Scale and the Basketball Self-Concept Scale are summarized in Appendix 14. Significance tests for differences between pre and FU1 ratings on the Soccer Self-Concept Scale yielded a statistically significant increase ($T = 2.02, p < .05$). Other comparisons did not reveal any statistically

significant increases; however, in each case the individual mean scores for the scales are higher after participation in the camp. Thus, despite demonstrating only one statistically significant comparison, the scale scores may be moving in the desired direction as a result of the intervention.

SKILS. According to their responses on the SKILS, participants were significantly more interested ($T = 2.02, p < .05$) in soccer after participating in the camp than they were before it started. Participant interest in soccer at follow-up sessions 1 and 2 was also greater than their interest prior to the camp, which suggests that the participants' overall interest in soccer increased following their attendance at the camp and maintained at follow-up.

Discussion

The present study examined the effectiveness of training soccer skills and sports-based social skills in six children with parent-reported difficulties in social behavior. Both soccer and sportsmanship skills were predicted to improve following the completion of the two-week camp. Further, it was predicted that improvements in these skills would: persist after the completion of the camp, extend to other contexts, result in greater participant interest in soccer, and lead to higher participant ratings of overall self-concept and in specific domains of self-concept (e.g., athletic, physical, social). However, we did not expect participants to perceive themselves as better basketball players after completion of the camp. Lastly, we hypothesized that both the child participant and his parent would report improvements in his social behavior via a norm-referenced rating scale.

Prior to participating in the soccer camp, each participant demonstrated relatively poor performance across each of the four targeted sportsmanship skills (i.e., taking turns, verbal compliments, physical compliments, positive post-game comment). Following the soccer camp, participants improved their ability to take turns during soccer-related activities, provide verbal and physical compliments to their peers, and offer a positive post-game comment. The data also suggest that the improved social skills generalized to another sport context (i.e., basketball game). Finally, while there was a slight decrease in levels of positive social skill performance, the follow-up maintenance sessions appeared to demonstrate preservation of the treatment gains after a 3-month hiatus. These findings support our prediction that sportsmanship skills would improve after the BST was implemented.

One interesting difference in participant performance occurred between the two training conditions (i.e., soccer skills sessions vs. scrimmage sessions). Namely, the proper execution of taking turns and complimenting (verbal and physical) behavior appeared to be influenced by whether the participants were in the skills training or scrimmage sessions. Taking turns, for example, seemed to be amenable to the scrimmage condition. Figures 1 through 6 illustrate a spike or an increase in correct performance at the end of the baseline phase. This trend, however, is most likely contingent on the scrimmage training condition rather than a trained improvement in taking turns behavior. Participants seemed to be more engaged in the scrimmage when they had an opportunity to play; whereas the soccer drills often required them to wait in a line and be prepared to participate when it was their turn (requiring more self-control). Participants likely found it easier to wait on the bench during the scrimmage because they were able to watch the scrimmage, which is more stimulating than the soccer skills training.

Skill acquisition for verbal and physical compliments seemed to be more sensitive to the soccer skills training condition than the scrimmage sessions. Elements of the skills training sessions, such as clearly defined stoppages (e.g., immediately after a peer completed a dribbling task) and less distraction (e.g., standing in a line during the skills training versus running around freely during the scrimmage), perhaps make it easier for participants to correctly perform the complimenting behavior. The varying degree of structure between the two conditions conceivably resulted in the slightly different behavioral presentation.

Unlike taking turns and complimenting, correct performance of the positive post-game comments was not influenced by the training condition. This finding is likely due to the fact that both the scrimmage and soccer skills training sessions had clearly perceptible endings. Ultimately, the variation in environmental contingencies between the scrimmage and drills

conditions may be advantageous for maintenance and generalization of participant performance (Barnhill et al., 2002). Future research in this area may further examine individual's sportsmanship behavior in the practice (e.g., sports skills training sessions) and game (e.g., scrimmage sessions). Notwithstanding, participants improved their sportsmanship skills across both of the training condition.

With regards to baseline performance on the soccer skills tasks, participants were significantly better at accurately passing the ball with both feet (i.e., dominant and non-dominant), successfully executing throw-ins towards a target, and quickly dribbling the ball around target cones (i.e., between baseline and follow-up) at the end of the camp. It should be noted that even though participants did not improve considerably between performance at pre and post for the dribbling and the wall volley tasks, overall group performance was in the desired direction. In general, participants were more capable of performing the specific soccer skills after they participated in the soccer camp, which supports the hypothesis that soccer skills would improve after participating in the camp.

Our predictions about the camp's influence on self-concept were partially supported. First, while participants reported an increase in global self-worth via the SPPC, intervention did not appear to have a significant effect on ratings the scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct. Second, as predicted, ratings on the soccer self-concept scale improved following the camp. The fact that participant ratings of soccer competency improved, yet ratings of athletic competency (SPPC) did not, supports the multidimensional theory of self-concept and replicates the findings of Feltz and Brown (1984). Taken alone, this might suggest that self-concept is sport-specific (Hopper, Guthrie, & Kelly, 1991); however, participant report on the basketball self-concept scale reflected significantly

different scores between baseline ratings and after the basketball scrimmage session. This is interesting given the fact that no basketball skills were coached or systematically practiced during the course of the study, yet participants are reporting feeling more competent with their basketball abilities. This finding supports the notion that self-esteem and sport self-concept are linked to aspects of the team environment, rather than actual skill enhancement (Slutzky & Simpkins, 2009). Factors such as participating on a team and receiving peer praise during both the soccer and basketball scrimmages may have accounted for the increases in reported sport self-concept. It may also be the case that participants were receiving basketball training elsewhere (e.g., during P.E.). Additional information would be required to further explore this relationship.

Consistent with our hypothesis, both participant responses on the SKILS rating scale and parent report suggested that their interest in soccer increased following the intervention. Although the psychometric qualities of this scale have not been tested, this is preliminary evidence that researchers can increase participant interest in a socially appropriate activity. This result is consistent with research conducted by Hupp and Reitman (1999), where participants in their study reported an increase in interest in basketball following a camp. Therefore, given the right coach-child or parent-child interaction, we may be able to both increase and maintain interest in a prosocial activity. Further, in addition to more enjoyment in sports, this increased interest may ultimately lead to additional opportunities for improved peer relationships.

Despite the absence of feedback to participants who made negative comments, each participant significantly reduced the rates of negative comments towards peers. This effect of improving positive peer interactions while lowering negative comments was consistent with our hypothesis and has been demonstrated in similar studies (e.g., Ferguson, Gillis, & Sevlever,

2011). Not surprisingly, research suggests that children who engage in more negative behavior experience difficulty gaining peer acceptance (e.g., Lopez-Williams et al., 2005). Thus, by targeting positive behaviors and setting up the appropriate award contingencies, coaches can effect change in behaviors that are likely to negatively influence the overall athletic experience.

Lastly, our intervention did not appear to systematically improve either parent-participant-reported social functioning (i.e., Social Skills composite score on SSIS-RS). Although parents reported significant pre- and post-intervention differences on the responsibility and externalizing component scales, we anticipated significant differences on the social skills composite score. Other SST studies have borne similar null findings when using pre-post reports on general measures of social skills (e.g., Barry et al., 2003; Webb et al., 2004). It may be the case that treatment gains were context-specific and were not observed outside of the study or that we simply needed a larger sample size to detect a significant difference (Cappadocia & Weiss, 2011). With regards to the former, these skills are readily observable within a sport context; however, it is likely that parents did not have an opportunity to observe participants in an athletic setting prior to completing the ratings.

Cappadocia and Weiss (2011) suggested that SST groups involving 10 subjects or less were more likely to have difficulty producing positive results due to the limited power to conduct pre-post analyses; whereas, studies utilizing a larger sample size (i.e., $n > 18$) were more likely to report positive treatment effects. With that said, parent SSIS-RS scores for five of the six participants improved at the end of treatment. Likewise, every parent reported improvements in their son's sportsmanship skills following the camp. Taken together, there may be disconnect between the skills trained and the assessment selected for this study. Even though our study aimed to improve social skills in an athletic setting, the multidimensional measure of social skills

we selected may not be measuring the same construct. These findings are consistent with the literature and highlight the current lack of a universal definition of social skills (Rao, Beidel, & Murray, 2008).

These findings have a few important clinical implications. First, a review of SST interventions revealed that the average SST group met 2.5 to 3 hours per session for 10-12 weeks (i.e., approximately 30 hours; Gresham et al., 2001). Whilst the present SST intervention was 30 hours, the desired skill acquisition occurred in a more condensed window of time (i.e., 12 days) compared to most studies. Although more information is needed regarding the impact of duration and intensity of SST interventions on outcomes (McMahon, Lerner, & Britton, 2013), the strong treatment effect in this study may have been influenced by the increased program intensity. Further, parents may be more likely to enroll their children in programs that can obtain desirable outcomes in less than two weeks.

Perhaps one of the most important implications of this study is that of social validity. Athletic competence is vital to a child's self-esteem, especially males (Fredricks & Eccles, 2002). Every parent reported: a) they felt that their son improved his soccer ability, b) thought their son used better sportsmanship skills, and c) would recommend the intervention to others. One parent stated, "My son has learned how to play soccer, a sport he has always wanted to play...now we have something he likes and that will keep him active, which he wasn't before the camp." Further, providing children with both the requisite athletic skills and social behavior necessary to participate in team sports such as soccer may inevitably give these children access to a peer network from which they can practice appropriate social skills and improve peer relationships (Lopez-Williams et al., 2005). Participation in sports is also negatively correlated with obesity, which in turn is positively correlated with physical activity levels, global self-

concept, and athletic competence (Franklin et al., 2006). Accordingly, a study that improves all three domains would potentially address physical health concerns and other commonly associated concerns (e.g., depression). Overall, the findings appear to be both relevant and important to the participants and their parents.

Research consistently calls for the inclusion of methods designed to enhance the maintenance and generalization of skill acquisition into the community setting (McMahon, Lerner, & Britton, 2013; O’Callaghan et al., 2003; Rao, Beidel, Murray, 2008). Even though it is an analog summer camp (Kasari & Smith, 2013), our study was also designed in a manner so that the social skills activity sessions would mirror an actual soccer practice (e.g., more one-on-one feedback), whereas the mini-scrimmages paralleled an actual soccer game (e.g., less one-on-one feedback). This was done so that in the event a participant joined a soccer team they would already be accustomed to the typical flow of activity. Furthermore, we hoped that improving self-monitoring skills would result in both the maintenance and generalization of performance. Children who enroll in similar SST groups typically carry disorders involving impairment of executive processes (e.g., ADHD, learning disorders, externalizing behavioral disorders), and are often poor evaluators of their own behavior (Owens et al., 2007). We believed that implementing a self-monitoring component would diminish the impact of a PIB (Evangelista et al., 2008), and aid in the maintenance and generalization any treatment gains. Although we cannot infer formal conclusions from this methodological decision, anecdotally, participants in the present study became more accurate at evaluating their social skills performance after receiving immediate feedback on their own appraisals. Future research should examine the influence of systematically training self-monitoring skills in children with social skills deficits and the subsequent impact on maintenance and generalization of skill acquisition.

Several limitations of this study are worth noting. First, perhaps both a limitation and strength of these results was the method of participant selection. Study inclusion was based on a parent-reported deficit in social skills, via the SSIS-RS. Even though clinicians observed poor social skill performance during baseline, certain parents could have been motivated to exaggerate the level of social skills deficits in an attempt to ensure their child's acceptance into the study. Validity scales on the SSIS-RS suggest that the parent ratings should be considered valid, but the social skills impairment was not corroborated by another rater or observation prior to the commencement of the study. As previously discussed, there seems to be a lack of correspondence between the deficits assessed by the SSIS-RS and those targeted during this study. Perhaps this was not an appropriate measure to use for study inclusion.

Methodological improvements such as obtaining additional information regarding the nature of each participant's social skills deficits (Gresham, Sugai, & Horner, 2001) and opportunities to corroborate parent report with direct observation of social skills impairment could be implemented in future research. Due to the intricate, multidimensional nature of social skills (McMahon, Lerner, & Britton, 2013) and the variety of measures selected to assess social functioning in children, it is unclear as to what is the best method of measuring social functioning and treatment efficacy (Cunningham, 2012).

Additional inclusionary criteria may allow for more prescriptive intervention strategies while retaining a group format. Although parents provided information about participants' formal diagnoses, a psychological diagnosis was not a prerequisite for the study. Further, no information was collected regarding each individual's current cognitive functioning. Developing a more stringent inclusionary process may limit the specific social skills deficits to a certain subgroup (e.g., ADHD, ASD, LD), thus possibly safeguarding practitioners from developing an

intervention that fails to meet the individual needs of the various subgroups that would be included otherwise (Rao, Beidel, & Murray, 2008). Therefore, collecting more detailed information (e.g., intellectual ability, comorbidity) about the characteristics that would make individuals appropriate for a similar study could augment its success. Marshall, for example, struggled frequently with peer interactions in the group. He was often distracted by the presence of other participants and vice-versa. Although he significantly improved his performance across all of the target skills, there is a clear pattern of his performance worsening at the beginning of each day and improving as the day progressed. It may be the case that Marshall would have been better served with a one-on-one approach; however, he would have missed opportunities for peer interaction. Consequently, including treatment components such as time-out or response cost may be helpful in controlling undesirable behavior (e.g., STP; Pelham & Hoza, 1996).

The current study was conducted using only male participants. A sports-based SST camp may not be effective for girls, since boys participate more frequently in sports tend to value athletic competencies more than females (Eccles & Harrold, 1991; Fredricks & Eccles, 2002). Accordingly, girls with social skills difficulties may not be as interested in participating in sports, and since their self-esteem is not as attached to athletic competencies, including girls in this line of research may be less fruitful. Future investigations should consider an all-girl camp or a mixed-gender camp to evaluate the impact of gender with this type of SST intervention.

Given the aforementioned limitations surrounding the inclusion criteria, there may also be strength in having more flexible criteria. Namely, even though participants in this study presented with various diagnoses, the intervention appeared to be effective for all participants. It may follow that this intervention would have shown a more powerful effect if each individual had membership to the same diagnostic subgroup; however, individual characteristics associated

with treatment success or difficulty were not examined. We predict that results will be similar across diagnostic groups (particularly in boys), due to the social validity of athletic competence (Fredricks & Eccles, 2002). Nonetheless, replication and expansion of the present study would be necessary to determine whether specific factors (e.g., participant characteristics, treatment modality) contributed more than others to treatment outcomes.

Although attempts were made to create a naturalistic setting (i.e., game-like atmosphere), a second limitation is the fact that it is unclear whether skill acquisition and performance would transfer to real-world settings (e.g., actual soccer practice/ game or another sport-related activity). Stimuli such as clinician and/or participant characteristics, and various environmental elements were most likely influencing participant behavior. Children in this study may respond much differently to the individuals on a real team than they would a group of individuals with social skills deficits. Further, the characteristics of a real coach may be drastically different than that of an individual whose aim is to increase prosocial behavior (Cunningham, 2012). Despite an increase in participant interest in soccer and three parents reporting a desire to enroll their child in a recreational soccer league, no systematic attempts to collect outcome data were made. Therefore, we could not make conclusions about behavior change on an actual sports team. Additional studies are needed to determine if skill acquisition would maintain in the presence of alternative stimuli (e.g., different coaches, different players). If feasible, future studies may collect data in an actual soccer setting before and after the intervention.

Third, despite significant differences between performance during baseline and intervention phases, these findings are limited by the variability of some of the baseline data. Traditional multiple baseline methodology utilizes changes (or lack of change) in behavioral data to make clinical decisions (e.g., stable baseline, mastery criteria, low variability within phase;

Kazdin, 2011). Decisions to move from one phase or skill to the next were not contingent on participant performance. Rather, the treatment order and flow were intentionally designed in a manner that would closely mirror a sports camp. Consequently, these clinical decisions were influenced by time limitations to ensure that both target social and sports skills were introduced and trained within the 10-day camp. Overall, experimental control was partially sacrificed in order to create a realistic soccer camp. Future studies may allocate a longer baseline phase and/or introduce subsequent skills training based on participants reaching mastery criteria rather than time constraints.

In summary, not only did participants improve their sportsmanship skills, soccer skills, and interest in soccer, but these improvements led to an increase in overall self-concept and soccer-specific self-concept. These results were achieved in a relatively short, but intense, camp which utilized both BST and sports-skills training components. Treatment gains appeared to maintain after the camp was over, and extend to another sport context. This study addresses the needs of children who are interested in participating in sports, but may be limited due to their restricted experience with the game or associated poor sportsmanship skills. Since children's perceptions of their own athletic competence affect their decision to participate in sports (Ridgers, Fazey, & Fairclough, 2007), it is our aim to develop an empirically supported "booster" camp to assist socially impaired children with the transition into team sports. Although additional research is needed to further explore this area, this study serves as feasible starting point for a brief sports-based SST intervention.

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Appendices

Appendix 1. Soccer Self-Concept Scale

Child Initials: _____

Date: _____

Soccer Self-Concept

Really True For me	Sort of True for me				Sort of True for me	Really True For me
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at soccer	BUT	Others don't feel they are very good when it comes to soccer	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good at dribbling and keeping close control of the ball	BUT	Others do well at dribbling and keeping close control of the ball	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at juggling	BUT	Others don't feel they are very good when it comes to juggling	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good when it comes to dribbling past players	BUT	Others do well at dribbling past players	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at passing with accuracy	BUT	Others don't feel they are very good at passing with accuracy	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good at receiving and controlling	BUT	Others do well at receiving and controlling	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 2. *Basketball Self-Concept Scales*

Child Initials: _____

Date: _____

Basketball Self-Concept

Really True For me	Sort of True for me		BUT		Sort of True for me	Really True For me
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at basketball	BUT	Others don't feel they are very good when it comes to basketball	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good at dribbling and keeping close control of the ball	BUT	Others do well at dribbling and keeping close control of the ball	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at shooting the basketball	BUT	Others don't feel they are very good when it comes to shooting the basketball	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good when it comes to dribbling past players	BUT	Others do well at dribbling past players	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids do very well at passing with accuracy	BUT	Others don't feel they are very good at passing with accuracy	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't feel they are very good at catching and controlling the basketball	BUT	Others do well at catching and controlling the basketball	<input type="checkbox"/>	<input type="checkbox"/>

Soccer Knowledge and Interest Likert Scale

Please Circle 1, 2, 3, 4, 5, 6, or 7 for each question

1. How much do you like to play soccer?

1	2	3	4	5	6	7
Very Much Dislike		Somewhat Dislike		Somewhat Like		Very Much Like

2. How much do you like to play other sports?

1	2	3	4	5	6	7
Very Much Dislike		Somewhat Dislike		Somewhat Like		Very Much Like

3. How much do you watch soccer on T.V.?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

4. How much do you watch other sports on T. V.?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

5. How much do you play soccer video games?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

6. How much do you play other sports video games?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

7. How much would you like to be a professional soccer player?

1	2	3	4	5	6	7
Very Much Dislike		Somewhat Dislike		Somewhat Like		Very Much Like

8. How much would you like to play soccer on a team at your school?

1	2	3	4	5	6	7
Very Much Dislike		Somewhat Dislike		Somewhat Like		Very Much Like

9. How important is soccer to you?

1	2	3	4	5	6	7
Very Unimportant		Not too Important		Somewhat Important		Very Important

10. How exciting do you find soccer?

1	2	3	4	5	6	7
Very Exciting		Not too Exciting		Somewhat Exciting		Very Exciting

11. How often do you play soccer other than this camp?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

12. How much do you talk about soccer away from this camp?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

13. How much do you play soccer with your parents?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

14. How much do your parents talk about soccer?

1	2	3	4	5	6	7
Never		Not too Often		Sometimes		Very Often

15. How well do you understand the rules of soccer?

1	2	3	4	5	6	7
Not at All		Not too Well		Somewhat		Very Well

16. How good are your parents at soccer?

1	2	3	4	5	6	7
Very Bad		Not too Good		Somewhat Good		Very Good

17. How good are you at soccer?

1	2	3	4	5	6	7
Very Bad		Not too Good		Somewhat Good		Very Good

18. How good do other people think you are at soccer?

1	2	3	4	5	6	7
Very Bad		Not too Good		Somewhat Good		Very Good

Appendix 4. *Camp Days 4 and 5*

Time	Activity	Phase
4:00	Break the Ice Game - Juggling	1 (B)
4:10	Orientation and Feedback	
4:20	Teaching Probe – Social Skill (Compliments) • Individual feedback – Self-monitoring probe: Accurate?	Y/N
4:45	Warm-up and stretch	
4:50	Soccer Skill (Dribbling) Introduction	
4:55	2A – Soccer skill (Dribbling) – Demo (Dribbling for Speed)	
5:00	2A – Soccer skill Practice (Dribbling for Speed) • Praise for correct performance of Soccer and Social skill (Compliment)	2 (T)
5:10	Performance Feedback - (Dribbling) and (Compliment) → Self-Monitoring: Accurate?	Y/N
5:15	WATER BREAK	
5:20	2B – Soccer skill (Dribbling) – Demo (Dribbling for Control)	
5:25	2B – Soccer skill Practice – (Dribbling for Control) • Praise for correct performance of Soccer and Social skill (Compliment)	3 (T)
5:35	Performance Feedback - (Dribbling) and (Compliment) → Self-Monitoring: Accurate?	Y/N
5:40	2C – Soccer skill (Dribbling) – Demo (Dribbling against opponent)	
5:45	2C – Soccer skill Practice (Dribbling against opponent) • Praise for correct performance of Soccer and Social skill (Compliment)	4 (T)
5:55	Performance Feedback - (Dribbling) and (Compliment) → Self-Monitoring: Accurate?	Y/N
6:05	WATER, SNACK, BATHROOM BREAK	
6:15	Mini Scrimmage 1	5 (G)
6:20	Performance Feedback - (Dribbling) and (Compliment) → Self-Monitoring: Accurate?	Y/N
6:25	Mini Scrimmage 2	6 (G)
6:35	Performance Feedback - (Dribbling) and (Compliment) → Self-Monitoring: Accurate?	Y/N
6:40	WATER BREAK and Token Count up	
6:50	Free play	

Appendix 5. Individual and group mean percent correct for Taking Turns across respective treatment phases.

Taking Turns										
Participant	# of sessions*	BL		TX		GEN.**	FU 1		FU 2	
		(Skills)	(Scrim)	(Skills)	(Scrim)		(Skills)	(Scrim)	(Skills)	(Scrim)
Marshall	8	30.7		68.1		100	.		.	
		(15)	(51.7)	(61.1)	(82.7)		.	.	.	.
Thomas	12	35.7		98.5		100	90		88	
		(15)	(63.3)	(98.3)	(98.8)		(87.5)	(100)	(85)	(100)
Shane	12	38.6		93.9		98.3	94		96.0	
		(20)	(63.3)	(93.4)	(95)		(92.5)	(100)	(95)	(100)
Brock	12	33.6		88.1		98.3	82		88.0	
		(20)	(51.7)	(87.7)	(88.8)		(77.5)	(100)	(85)	(100)
James	12	59.3		99.1		100	100		100	
		(45)	(78.3)	(98.9)	(99.7)		(100)	(100)	(100)	(100)
Michael	11	54.3		98.5		100	100		100	
		(47.5)	(63.3)	(97.7)	(100)		(100)	(100)	(100)	(100)
Group		42.0		91.0		99.4	93.2		94.4	
		(27.1)	(61.9)	(89.5)	(94.2)		(91.5)	(100)	(93)	(100)

Note: * Number of sessions indicates the number of camp days each participant attended. **Generalization scores were based on the data collected during the basketball games on the last day of camp and at both follow-up days.

Appendix 6. Individual and group mean percent correct for Verbal Compliments across respective treatment phases.

Participant	# of sessions*	Verbal Compliments								
		BL		TX		GEN.**	FU 1		FU 2	
		(Skills)	(Scrim)	(Skills)	(Scrim)		(Skills)	(Scrim)	(Skills)	(Scrim)
Marshall	8	1.4 (1.8)	(0.7)	38.4 (39.5)	(36.1)	100	.	.	.	.
Thomas	12	2.9 (1.7)	(5)	71 (78.9)	(54.6)	45	85 (85)	(85)	76 (75)	(80)
Shane	12	0.3 (0)	(0.7)	58.4 (63)	(48.8)	36.7	75 (80)	(55)	57 (65)	(25)
Brock	12	1.1 (0)	(2.9)	59.3 (68.5)	(40)	66.7	76 (77.5)	(70)	76 (72.5)	(90)
James	12	6.8 (5.8)	(8.6)	87.9 (93)	(77.3)	80	85 (82.5)	(95)	84 (80)	(100)
Michael	11	2.6 (0)	(7.1)	77.4 (84.3)	(62.7)	51.7	90 (87.5)	(100)	81 (80)	(85)
Group		2.5 (1.6)	(4.2)	65.3 (71.2)	(53.3)	63.5	82.2 (82.5)	(81)	74.8 (74.5)	(76)

Note: * Number of sessions indicates the number of camp days each participant attended. **Generalization scores were based on the data collected during the basketball games on the last day of camp and at both follow-up days.

Appendix 7. Individual and group mean percent correct for Physical Compliments across respective treatment phases.

Participant	# of sessions*	Physical Compliments								
		BL		TX		GEN.**	FU 1		FU 2	
		(Skills)	(Scrim)	(Skills)	(Scrim)		(Skills)	(Scrim)	(Skills)	(Scrim)
Marshall	8	0.3 (0)	(0.7)	41.4 (47.7)	(28.9)	95	.	.	.	.
Thomas	12	4.4 (2)	(8.6)	75.4 (87.4)	(50)	31.7	74 (72.5)	(80)	65 (70)	(45)
Shane	12	3.4 (1)	(7.7)	70.9 (83.7)	(43.9)	33.3	79 (82.5)	(65)	65 (67.5)	(55)
Brock	12	3.5 (4)	(2.7)	72 (83.7)	(47.2)	53.3	78 (77.5)	(80)	83 (85)	(75)
James	12	5.2 (4)	(7.3)	90.7 (96.8)	(77.8)	70	78 (77.5)	(80)	88 (90)	(80)
Michael	11	2.3 (1.6)	(3.6)	78.3 (96.9)	(58.6)	45	88 (85)	(100)	83 (85)	(75)
Group		3.1 (2.1)	(5.1)	71.4 (82.7)	(51.1)	54.7	79.4 (79)	(81)	76.8 (79.5)	(66)

Note: * Number of sessions indicates the number of camp days each participant attended. **Generalization scores were based on the data collected during the basketball games on the last day of camp and at both follow-up days.

Appendix 8. Individual and group mean percent correct for Positive Post-Game Comment across respective treatment phases.

Positive Post-Game Comment										
Participant	# of sessions*	BL		TX		GEN.**	FU 1		FU 2	
		(Skills)	(Scrim)	(Skills)	(Scrim)		(Skills)	(Scrim)	(Skills)	(Scrim)
Marshall	8	0		87.5		100	.		.	
		(0)	(0)	(81.8)	(100)		.	.	.	.
Thomas	12	2.3		100		100	100		100	
		(0)	(6.6)	(100)	(100)		(100)	(100)	(100)	(100)
Shane	12	0		100		100	100		100	
		(0)	(0)	(100)	(100)		(100)	(100)	(100)	(100)
Brock	12	4.6		93.7		100	100		100	
		(3.5)	(6.6)	(90.9)	(100)		(100)	(100)	(100)	(100)
James	12	6.9		100		100	100		100	
		(0)	(20)	(100)	(100)		(100)	(100)	(100)	(100)
Michael	11	0		93.7		100	100		100	
		(0)	(0)	(90.9)	(100)		(100)	(100)	(100)	(100)
Group		2.3		95.8		100	100		100	
		(0.6)	(5.5)	(93.9)	(100)		(100)	(100)	(100)	(100)

Note: * Number of sessions indicates the number of camp days each participant attended. **Generalization scores were based on the data collected during the basketball games on the last day of camp and at both follow-up days.

Appendix 9. Individual and group mean percent correct for Negative Comments across respective treatment phases.

Participant	# of sessions*	Negative Comments***								
		BL		TX		GEN.**	FU 1		FU 2	
		(Skills)	(Scrim)	(Skills)	(Scrim)		(Skills)	(Scrim)	(Skills)	(Scrim)
Marshall	8	42.8 (50)	(33.3)	35 (33.3)	(38.4)	0	.	.	.	.
Thomas	12	28.5 (50)	(0)	7.6 (0)	(23.5)	0	0 (0)	(0)	0 (0)	(0)
Shane	12	28.5 (25)	(33.3)	17.3 (8.5)	(35.2)	0	0 (0)	(0)	0 (0)	(0)
Brock	12	100 (100)	(100)	30.7 (17.4)	(58.8)	33.3	0 (0)	(0)	20 (0)	(100)
James	12	57.1 (25)	(100)	5.7 (0)	(17.6)	0	20 (0)	(100)	0 (0)	(0)
Michael	11	14.2 (0)	(33.3)	2.1 (3.2)	(0)	0	0 (0)	(0)	0 (0)	(0)
Group		45.2 (41.7)	(50)	16.4 (10.4)	(28.9)	5.5	4.0 (0)	(20)	4.0 (0)	(20)

Note: * Number of sessions indicates the number of camp days each participant attended. **Generalization scores were based on the data collected during the basketball games on the last day of camp and at both follow-up days. *** NCs were not targeted during treatment. BL, TX, and GEN for NCs match the BL, TX, and GEN for Taking Turns. The mean percentage for NCs indicate the percentage of sessions with NCs, therefore, a decrease in NCs from BL to TX was desired.

Appendix 10. Group mean performance on soccer skills and significance test for individual differences

Soccer Skills Tasks	Assessment Phase	N*	Mean**	SD	Wilcoxon Signed Ranks Test †
Throw in (10 ft.)	Pre	6	.83	.75	
	Post	6	3.17	.75	a) $T = 2.23, p < .05$
	Follow-up 1	5	4.40	.89	b) $T = 2.07, p < .05$
	Follow-up 2	5	3.00	1.22	c) $T = 2.04, p < .05$
Throw in (20 ft.)	Pre	6	.33	.52	
	Post	6	2.17	1.33	a) $T = 2.03, p < .05$
	Follow-up 1	5	2.20	1.48	b) $T = 1.76, ns$
	Follow-up 2	5	1.60	.89	c) $T = 2.07, p < .05$
Dribbling	Pre	6	34.83	15.9	
	Post	6	28.33	8.26	a) $T = 1.48, ns$
	Follow-up 1	5	20.40	4.33	b) $T = 2.02, p < .05$
	Follow-up 2	5	20.40	3.50	c) $T = 0.81, ns$
Passing (dominant foot)	Pre	6	.33	.52	
	Post	6	3.83	.98	a) $T = 2.23, p < .05$
	Follow-up 1	5	4.40	.55	b) $T = 2.06, p < .05$
	Follow-up 2	5	4.40	.89	c) $T = 2.06, p < .05$
Passing (non-dominant foot)	Pre	6	.50	1.22	
	Post	6	3.33	.52	a) $T = 2.07, p < .05$
	Follow-up 1	5	3.6	1.34	b) $T = 1.84, ns$
	Follow-up 2	5	3.6	2.07	c) $T = 1.84, ns$
Wall Volley	Pre	6	1.50	.84	
	Post	6	2.50	2.17	a) $T = 1.19, ns$
	Follow-up 1	5	2.40	1.82	b) $T = 0.96, ns$
	Follow-up 2	5	2.60	2.30	c) $T = 1.09, ns$

Note: † a) - Significance test for individual differences between sports skills performance during pre- and post-intervention phases, b) - Significance test for individual differences between sports skills performance prior to the intervention and at the follow-up 1, c) - Significance test for individual differences between sports skills performance prior to the intervention and at the follow-up 2; * N corresponds to the number of participants represented during each phase, which fluctuates given that Marshall was absent during both follow-up days; ** Represents the mean for group performance on each target skill (i.e., # of accurate passes, time to complete dribbling task). This mean was not utilized to conduct a significance test, rather it is presented for summarization purposes.

Appendix 11. Parent-Completed SSIS-RS composite and component scores for participants at Pre, Post, and Follow-up sessions.

	Marshall				Thomas				Shane			
	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2
Social skills	63	75	72	.	82	78	81	83	73	73	75	.
Communication	9	10	9	.	12	11	12	14	11	9	13	.
Cooperation	7	9	8	.	13	12	10	10	9	7	8	.
Assertion	8	11	11	.	9	8	11	10	16	14	14	.
Responsibility	7	10	8	.	12	11	10	11	5	7	7	.
Empathy	6	12	9	.	9	10	12	13	9	8	8	.
Engagement	9	9	10	.	10	10	10	10	10	11	9	.
Self-Control	5	5	6	.	9	8	8	8	3	7	7	.
Problem Behaviors	129	121	136	.	131	131	131	128	141	131	133	.
Externalizing	12	8	14	.	15	14	14	13	21	18	18	.
Bullying	5	1	5	.	5	3	4	3	4	4	3	.
Hyper/Inattention	11	6	10	.	12	12	12	11	17	12	12	.
Internalizing	10	10	12	.	14	15	13	13	13	12	14	.
Autism Spectrum	30	28	31	.	19	22	22	9	20	19	18	.

Appendix 11. (Continued)

	Brock				James				Michael			
	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2
Social skills	59	56	72	64	73	96	70	81	41	49	55	79
Communication	10	9	9	9	10	15	9	11	4	7	7	15
Cooperation	8	4	7	7	8	13	7	9	6	5	8	11
Assertion	10	10	12	11	12	11	10	13	1	2	5	9
Responsibility	2	4	8	7	7	14	8	10	4	6	6	11
Empathy	3	3	8	3	10	14	9	11	1	5	6	7
Engagement	11	12	13	13	11	14	10	11	4	4	7	10
Self-Control	2	1	5	3	6	10	7	8	2	3	1	8
Problem Behaviors	150	151	137	148	117	108	107	104	143	114	114	126
Externalizing	25	23	20	23	10	8	7	6	26	14	13	16
Bullying	9	6	4	5	0	0	1	1	5	3	2	4
Hyper/Inattention	17	19	16	17	9	12	8	8	19	9	10	15
Internalizing	13	16	12	15	10	4	8	6	11	8	8	10
Autism Spectrum	27	25	21	24	0	14	17	16	26	18	21	15

Appendix 12. *Child-Completed Social Skills Improvement System scores for participants at Pre, Post, and Follow-up sessions.*

	Marshall				Thomas				Shane			
	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2
Social skills	61	69	70		80	90	98	88	74	70	80	81
Communication	4	10	11		10	11	15	12	9	6	7	8
Cooperation	11	8	9		14	14	16	12	16	12	14	12
Assertion	6	13	8		10	10	13	13	8	8	10	9
Responsibility	5	9	6		8	13	14	12	8	9	11	12
Empathy	5	7	7		8	11	10	9	6	6	8	7
Engagement	4	5	8		11	12	14	12	6	9	12	13
Self-Control	6	0	5		7	12	12	10	5	4	6	9
Problem Behaviors	101	91	103		104	98	91	95	101	106	107	100
Externalizing	11	5	6		12	8	6	6	9	12	11	9
Bullying	2	1	3		4	2	2	3	2	4	3	3
Hyper/Inattention	11	4	9		5	4	4	4	6	7	7	6
Internalizing	5	7	11		11	9	4	7	9	10	12	8

Appendix 12. (Continued)

	Brock				James				Michael			
	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2	Pre	Post	FU1	FU2
Social skills	110	81	95	114	112	120	118	121	116	117	121	120
Communication	15	12	10	17	14	16	14	18	17	18	18	18
Cooperation	21	12	19	21	18	20	19	19	21	20	20	21
Assertion	10	7	7	12	17	18	19	19	17	12	19	16
Responsibility	20	9	15	18	17	21	21	20	18	21	21	19
Empathy	15	6	12	10	17	18	17	16	13	16	15	14
Engagement	12	12	9	20	21	19	19	21	16	16	17	19
Self-Control	18	12	18	18	10	13	13	13	17	18	17	18
Problem Behaviors	85	99	84	80	82	82	78	80	86	83	87	84
Externalizing	1	7	2	2	2	2	0	2	1	2	4	3
Bullying	0	1	0	0	0	0	0	0	0	1	0	0
Hyper/Inattention	3	7	3	2	3	3	0	1	3	0	2	3
Internalizing	4	9	3	0	0	0	0	0	5	3	5	2

Appendix 13. *Domain-Specific Subscale Scores for the SPPC for all Participants*

	Scholastic	Social	Athletic	Appearance	Behavior	Self-worth
Marshall						
<i>Pre</i>	2.5	2.5	2.2	3.2	3.0	3.0
<i>Post</i>	1.8	4.0	1.5	3.7	2.5	3.8
<i>FU1</i>	1.0	2.5	1.0	1.3	2.2	1.8
<i>FU2</i>	.	.	.	.	.	.
Thomas						
<i>Pre</i>	3.7	2.0	2.7	3.5	2.3	2.5
<i>Post</i>	3.5	2.7	3.0	4.0	2.3	3.3
<i>FU1</i>	3.8	3.0	3.8	4.0	3.0	3.7
<i>FU2</i>	3.5	2.2	3.2	4.0	3.2	3.5
Shane						
<i>Pre</i>	3.3	3.0	3.0	2.3	2.8	2.5
<i>Post</i>	3.2	2.3	2.8	1.8	3.0	3.0
<i>FU1</i>	2.8	2.8	3.0	2.5	3.0	3.0
<i>FU2</i>	3.2	3.0	3.0	2.3	3.0	2.8
Brock						
<i>Pre</i>	2.8	2.7	3.2	2.3	2.5	3.2
<i>Post</i>	2.7	3.3	2.8	3.5	3.3	3.5
<i>FU1</i>	4.0	4.0	4.0	4.0	4.0	4.0
<i>FU2</i>	3.5	4.0	4.0	3.5	3.7	4.0
James						
<i>Pre</i>	3.7	3.3	2.3	3.8	3.8	4.0
<i>Post</i>	3.8	3.3	2.7	4.0	4.0	4.0
<i>FU1</i>	4.0	3.5	2.3	4.0	3.5	4.0
<i>FU2</i>	4.0	3.5	2.5	3.8	4.0	4.0
Michael						
<i>Pre</i>	3.3	2.7	2.7	4.0	3.3	3.6
<i>Post</i>	3.8	3.3	2.8	4.0	3.8	4.0
<i>FU1</i>	4.0	3.2	4.0	4.0	3.0	4.0
<i>FU2</i>	4.0	3.5	4.0	4.0	4.0	4.0

Appendix 14. Mean scores for the Soccer Self-Concept and Basketball Self-Concept Scales at Pre, Post, and Follow-up.

	Pre	Post	FU1	FU2
Soccer Self-Concept Scale				
Marshall	2.7	2.7	.	.
Thomas	2.8	2.8	3.0	2.8
Shane	2.7	3.0	3.2	3.0
Brock	2.8	3.7	4.0	4.0
James	2.5	3.0	3.2	3.3
Michael	3.2	3.3	4.0	4.0
Basketball Self-Concept Scale				
Marshall		1.0	.	.
Thomas		2.7	3.7	3.3
Shane		2.7	3.3	3.0
Brock		2.5	4.0	4.0
James		2.7	2.8	3.0
Michael		4.0	4.0	4.0

Procedural Integrity Worksheet

Coder Name: _____ Date: _____ Camp Day Coded: _____

- Lead counselors appropriately introduce each activity
 - 1. *Introduce the skill to be practiced that day –* Yes No
 - 2. *Define the skill and discuss its importance –* Yes No
 - 3. *Discuss when to use it –* Yes No
 - 4. *Describe each step of the skill (Table 2.1) –* Yes No
 - 5. *Counselor role play –* Yes No
 - a. *Good Choice –* Yes No
 - b. *Bad Choice –* Yes No
 - 6. *Camper feedback –* Yes No
 - 7. *Campers model positive examples –* Yes No
 - 8. *Individual feedback with self-monitoring probe –* Yes No

- Activities are completed as intended
 - 1. *Did observers appear to stop recording after the 5/10 window?* Yes No
 - 2. *Appropriate feedback is provided to campers* Yes No
 - 3. *Were campers praised for social skills that weren't introduced yet?* Yes No
 - 4. *Did counselors' positioning interfere with the play at all?* Yes No

Additional Notes:
