

Research Paper

The relationships among sport self-perceptions and social well-being in athletes with physical disabilities

Deborah R. Shapiro, Ph.D.^{a,*}, and Jeffery J. Martin, Ph.D.^b

^aDepartment of Kinesiology and Health, Georgia State University, Atlanta, GA, USA

^bWayne State University, USA

Abstract

Background: Peer relationships account for a significant motivational influence on sport participation among youth athletes with and without disabilities.

Objective: The primary purpose of this study was to determine if the quality of friendships, physical self-perceptions and general self-worth predicted close friendship, loneliness and social acceptance among 46 athletes with physical disabilities (males = 35, female = 11) between the ages of 12 and 21 (M age = 15.37, SD = 2.45). Second, this study examined descriptive information on the quality of friendships inside and outside of an adapted sport setting, feelings of loneliness, social acceptance, close friendships, athletic competence, physical appearance, and self-worth among youth athletes with physical disabilities.

Methods: Participants completed the Sport Friendship Quality Scale (SFQS), a Loneliness Rating Scale and the Self-Perception Profile for Adolescents (SPPA).

Results: Three regression analyses used positive and negative aspects of non-sport friendship quality, positive aspects of sport friendship quality, physical appearance, athletic competence, and self-worth as predictors and accounted for 57%, 41%, and 31% of the variance in loneliness, close friendships, and social acceptance, respectively. Athletic competence and self-worth were the most important predictors of loneliness and close friendships with significant ($p < .10$) beta weights. No single predictor had a significant beta weight in predicting social acceptance. Negative and positive elements of friendship quality were not important predictors.

Conclusions: These findings highlight the importance of global psychological (i.e., self-worth) and sport specific psychological (i.e., athletic competence) constructs in predicting important social well-being indices (i.e., close friendships & loneliness). Published by Elsevier Inc.

Keywords: Peer relationships; Well-being; Friendship; Disability sport; Physical disability

Peer relationships account for a significant motivational influence on sport participation among youth athletes.¹ For instance, the increased importance of peers to competence perceptions across childhood,^{1–5} the importance of social acceptance and affiliation as primary sport participation motives^{6,7} and the importance of friendships in facilitating well-being, including positive adjustment, pro-social behavior and self-esteem^{5,6} together highlight the value of understanding peer relationships in sport.

There has been an increase in research conducted on young people's peer relationships in sport.¹ Two areas of research examining peer relationships are peer acceptance and friendship. Friendship status and peer acceptance often

are gained by being good at something other children value such as sport.⁸ Friendship refers to the quality of or supportive functions of a dyadic relationship.^{5,9} Friendship quality is defined as the degree to which friendship with a best friend provides psychosocial benefits such as positive perceptions of competence, companionship, help and guidance, and intimate self-disclosure.¹⁰ Researchers have found close friendships contribute to enjoyment and commitment to physical activity (PA)¹¹ through recognition of accomplishments, companionship, and esteem support, enhanced expectancies for success, and decisions to participate in activities outside of physical education.^{9,10,12}

Parents of youth with disabilities worry about the social relationships of their children, including whether or not they are able to establish and maintain satisfying friendships.^{13,14} Children who experience movement difficulties due to a physical disability often develop lower perceptions of athletic competence. Poor self-confidence may be due in part to decreased opportunities for sport and physical

Parts of this paper have been presented at the 2010 NAFAP conference.

There is no known conflict of interest for myself or my co-author. There was no external source of funding for this research.

* Corresponding author. Tel.: +1 404 413 8372; fax: +1 404 413 8053.

E-mail address: Dshapiro@gsu.edu (D.R. Shapiro).

activity (PA) participation,^{15,16} repeated failure in sport settings in conjunction with a lack of support from significant others¹⁷ and social isolation and peer rejection.¹⁸ The impact of these experiences often extends beyond the athletic domain resulting in adverse psychosocial consequences (i.e., reduced self-worth, loneliness and decreased quality of life).^{17,19}

Loneliness is the cognitive awareness of a deficiency in satisfying social relationships. Loneliness is accompanied by feelings of sadness, deprivation of and longing for association or closeness with other people.^{20–22} Loneliness is an affective variable reflecting the quality of social relationships rather than the quantity of social contacts.²⁰ Children's ability to form close friendships is an important indicator of social well-being.²³ More than 10% of children without disabilities between the third and sixth grades report feelings of considerable loneliness and social dissatisfaction with statements including "I'm lonely" and "I feel left out of things."²⁴ Over time, loneliness is predictive of later adjustment problems. Children who feel isolated or rejected by peers or who are unable to establish close friendships become socially inhibited. Negative self-perceptions of social competence and further peer rejection have been linked to greater risk for academic failure, juvenile delinquency, school dropout, mental health problems and substance abuse.^{20,22}

There is evidence that loneliness is associated with physical inactivity among children and youth.¹⁸ Children who scored low on a measures of loneliness were significantly more physically active, had significantly better scores on tests of physical fitness and were less likely to experience tension and anxiety than those who scored average or high on ratings of loneliness.²⁰ Differences in loneliness scores (average, high, and low) among third through sixth grade children suggest that social and peer factors play a crucial role in physical activity participation.²⁰ Lonely children

may lack the social skills necessary to interact and function effectively in groups. As a result, they may not be included in groups or they withdraw, further contributing to increased feelings of loneliness and isolation.²⁰ Prolonged loneliness may negatively influence ones psychological, emotional and physical well-being.²¹

Few attempts have been made to learn whether children with physical disabilities feel lonely, have close friendships, or are dissatisfied with their social relationships in PA settings¹⁵ or examine potential predictors of related but distinct elements of loneliness, close friendships, and social acceptance. The phenomenon of loneliness in children with physical disabilities merits investigation in its own right since relatively little is known about the concerns and emotional lives of children with physical disabilities.

The social context is an important variable in the study of friendship and loneliness.¹⁸ Children's selection of close friends outside of sport may differ from those with whom they interact on their sports teams. For instance, inclusive physical education settings may be places where children with disabilities can develop close friendships.^{16,25} Youth with disabilities also may identify a close friend via associations between families or interactions with other children outside of the school grounds (neighborhood, church, cousins, and siblings).²⁶ Assessing friendships across sport and non-sport settings may reveal unique and important differences in the quality of friendships of youth with disabilities. An important feature of the current study is the examination of friendship in both adapted sport and non-sport settings.

The purpose of this study was twofold. First, to determine if the quality of friendships inside and outside of sport, physical self-perceptions and general self-worth predicted close friendship, loneliness and social acceptance among athletes with physical disabilities (see Fig. 1). The second goal was to provide descriptive information on the

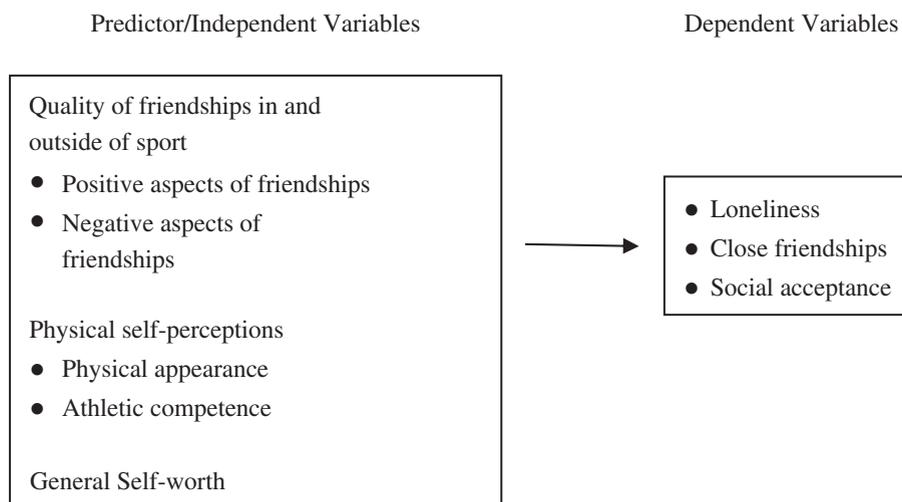


Fig. 1. Organization of independent and dependent variables.

quality of friendships inside and outside of sport, feelings of loneliness, social acceptance, close friendships, athletic competence, physical appearance, and self-worth among youth athletes with physical disabilities. A related outcome was to determine if there were differences between participant's perceptions of their best friend inside and outside of sport.

Methods

Participants

Participants included 46 athletes with physical disabilities (males = 35, female = 11) between the ages of 12 and 21 (M age = 15.37, SD = 2.45). Participants disabilities included cerebral palsy (n = 16), spina bifida (n = 9), traumatic brain injury (n = 3), spinal cord injury (n = 3), muscular dystrophy (n = 3) and other (n = 12; i.e., amputations, spinal muscular atrophy, scoliosis). They represented 4 distinct racial groups, African American (n = 23), Caucasian American (n = 19), Hispanic American (n = 1), and Asian American (n = 3). Participants were recruited from 5 wheelchair basketball and wheelchair football teams from the American Association of Adapted Sports Program (AAASP). All teams were co-ed and cross disability. The sample was heterogeneous (e.g., gender, disability, ethnicity, mode of ambulation).

Instruments

Demographic questionnaire

Participants were first asked to report demographic information such as their gender, age, ethnic background, and disability.

Sport Friendship Quality Scale

The Sport Friendship Quality Scale (SFQS^{10,27}) is a 22 item multidimensional scale designed to assess the quality of youth sport friendships. Participants respond on a Likert-type scale with 1 = "not at all true" and 5 = "really true". The SFQS assesses six factors: (a) self-esteem enhancement and supportiveness, (b) loyalty and intimacy, (c) things in common, (d) companionship and pleasant play, (e) conflict resolution, and (f) conflict. While Weiss and Smith^{10,26} established content, factorial and construct validity as well as internal and test–retest reliability for a 6 factor SFQS, Martin and Smith¹¹ only found support for a two-factor model of positive and negative aspects of sport friendship quality with athletes with disabilities. Because the six factors can be theoretically subsumed under a positive and negative 2 factor structure, and the participants (i.e., youth athletes with physical disabilities) are similar to the participants of Martin and Smith¹¹ study, the 2 factor structure was examined in the current study.

Loneliness Rating Scale

The Loneliness Rating Scale²⁴ is a 24 item questionnaire to assess children's feelings of loneliness. The scale contains 16 items that focus on children's feelings of loneliness (I am lonely), feelings of social adequacy versus inadequacy (I'm good at working with other children), or subjective estimations of peer status (I have lots of friends). The remaining 8 items (e.g., I like to read) are "filler" items included to help participants feel more open and relaxed about indicating their attitudes about various topics related to feelings of loneliness. For each item, participants are asked to circle (on a scale from 1–5) whether the item was "always true," "true most of the time," "sometimes true," "hardly ever true," or "not true at all." The order was reversed scored for 10 items. Responses were summed to create a total loneliness score for each participant ranging from 16 to 80 with higher scores representing greater feelings of loneliness. The 16 item scale is psychometrically sound for use with children and adolescents.^{22,24,28}

Self-Perception Profile for Adolescents

The Self-Perception Profile for Adolescents (SPPA²⁹) is a 45 item self-report instrument designed to measure adolescent's self-perceptions related to nine specific subdomains. Each subdomain consists of five items scored using a four choice structured alternative format. Respondents choose which of two opposing statements is most like them. After making this choice, participants decide if the statement is "really true" or "sort of true" for them. Scoring of each item ranges from 1 to 4 with higher values representing stronger and more positive perceptions of competence. Five of the nine subscales including social acceptance, athletic competence, physical appearance, close friendships and global self-worth were used. Internal reliability and factorial validity of the SPPA have been well established for adolescents without disabilities²⁹ and have demonstrated strong psychometric properties for children and adolescents with disabilities.³⁰

Data collection procedures

Approval was obtained from the university institutional review board. The AAASP and team coaches provided approval to interview their athletes. Parents/guardians completed consent forms and athletes completed a participant assent form before completing the questionnaires. Participants completed questionnaires individually with the help of the primary investigator or a trained research assistant during the team's weekly practice. The SFQS was administered twice consecutively. The reference to sport was deleted when participants considered the role of the best friend outside of the sport team. This friend may or may not be someone with whom study participants engage in sports outside of their adapted sport team (i.e., in their neighborhood or school setting). The order of

completion of the SFQS for closest sport friend and closest friend outside of sport was randomized but administered consecutively to facilitate immediate comparison by the athlete as they considered the quality of two different closest friends. The order of the Loneliness Rating Scale and the SPPA also were randomized such that the Loneliness Rating Scale and the SPPA could have been completed either before or after the two administrations of the SFQS. Questions were read out loud to each participant to ensure understanding of the questions. Athletes who needed assistance recording their answers because of their disability (i.e., spasticity) had their answers recorded for them. Completion of the questionnaires took approximately 20 min. The researchers asked questions of each athlete to share their feelings or elaborate on their responses. Once athletes became comfortable many volunteered or initiated discussion with the researcher about the questions being answered. Participant's comments were recorded in writing by the researcher. While not all participants were able to explain their responses, the comments provided were believed to be representative of the sample. The treatment of all participants was in accordance with the ethical standards of the APA.

Data analysis

Given the small numbers of participants in various subsamples, the analyses are based on the total sample. Descriptive statistics were computed to examine the internal consistency of the instruments. Cronbach alpha coefficients were computed to determine if the reliability of the scores produced by the questionnaires were adequate (i.e., $\alpha \geq .70$). Bivariate correlations were computed to identify significant relationships among all variables. Three regression analyses were conducted to predict loneliness, social acceptance and close friendships from positive and negative aspects of non-sport friendship quality, positive sport friendship quality, physical appearance, athletic competence and general self-worth.

Results

Descriptive and difference results

The Statistical Package for the Social Sciences 18.00 was used for all analyses. All scales demonstrated adequate internal consistency (i.e., $\alpha \geq .70$) except the negative aspects subscale of the SFQS ($\alpha = .53$). As a result, the negative aspects subscale was not used in any subsequent analyses. Descriptive statistics (see Table 1) indicated mostly positive perceptions for the various constructs and were consistent with prior research with adolescents with disabilities.^{15,31} Participants rated the positive aspects of friendship quality outside of sport ($M = 3.95$) higher ($t(1, 45) = -2.74, p < .01$) than the positive aspects of friendship quality in sport ($M = 3.62$) but both means were

Table 1
Means, standard deviations and alpha coefficients for all psychological variables

	<i>M</i>	<i>SD</i>	α
Sport Friendship Quality Subscales			
Positive aspects of friendship	3.62	.78	.91
Non-Sport Friendship Quality Subscales			
Conflict	2.56	.89	.72
Positive aspects of friendship	3.94	.74	.92
Self-Perception Profile for Adolescents			
Social acceptance	3.27	.71	.81
Athletic competence	3.01	.67	.82
Physical appearance	3.22	.66	.77
Close friendships	3.24	.67	.69
Self-worth	3.43	.55	.70
Loneliness	1.8	.60	.86

above the mid-point of the scales. Analyses of the loneliness data indicated that a total of 15% of athletes with physical disabilities in the present investigation reported its “always true” (4.3%) or “true most of the time” (10.9%) that they “feel left out of things.”

Correlational results

The relationships among the variables were examined via correlations (see Table 2). The correlations involving loneliness and self-worth stood out as they were both significantly correlated with five other constructs and in general had the largest correlations (e.g., $r = .67$). Loneliness was unrelated to all measures of sport friendship quality, but significantly and negatively related to athletic competence, physical appearance, and self-worth. Social acceptance was positively related to self-worth, physical appearance, and positive aspects of sport friendship quality. Finally, close friendships, similar to loneliness, was unrelated to all measures of sport friendship quality, but significantly and positively related to athletic competence and self-worth. Loneliness, social acceptance and close friendships were moderately correlated (r 's = .46–.67) suggesting they share variance but represent distinct elements of broader social well-being.

Multiple regression results

Variance inflation factors (VIF: 1.24–1.66) and tolerance figures (.60–.81) were examined and both indicated a lack of multicollinearity. In regard to the multiple regression analyses all three equations were significant. Loneliness ($F(6, 39) = 8.50, p < .001$), predicted 57% of the variance. For close friendships ($F(6, 39) = 4.46, p < .002$), 41% of the variance was predicted. For social acceptance ($F(6, 39) = 2.92, p < .05$), 31% of the variance was predicted. In regard to predictor variables there was a pattern across all three regression equations. Perceptions of athletic competence and self-worth were the most important predictors of loneliness as they had the only significant standardized beta weights. Adding further

Table 2
Correlation matrix for all variables

	2	3	4	5	6	7	8	9
1. Positive aspects sport friendship	.06	.45 ^b	.30 ^a	.06	.00	-.24	.30 ^a	.22
2. Conflict in non-sport friendship	1	.44 ^b	-.03	-.07	-.11	-.01	.07	-.03
3. Positive aspects non-sport friendship		1	.04	-.15	-.05	-.24	.28	.16
4. Athletic competence			1	.27	.40 ^b	-.58 ^b	.27	.45 ^b
5. Physical appearance				1	.44 ^b	-.32 ^a	.33 ^a	.28
6. Self-worth					1	-.60 ^b	.37 ^a	.55 ^b
7. Loneliness						1	-.67 ^b	.52 ^b
8. Social acceptance							1	.47 ^b
9. Close friendships								1

^a Correlations are significant at the .05 level.

^b Correlations are significant at the .01 level.

weight to their importance was their role in predicting close friendships. Athletic competence and self-worth were the only constructs with significant standardized beta weights. Athletes with the strongest perceptions of their athletic abilities and global self-worth, in turn, reported being the least lonely and in having stronger perceptions of close friendships, relative to participants who had weaker perceptions of their athletic ability and general self-worth. For the third measure of social well-being, social acceptance, no particular predictor variable stood out as important by having a significant standardized beta weight. However, the 3 standardized beta weights all above .23 (see Table 3) suggested that positive perceptions of global self-worth, physical appearance, and positive benefits of non-sport friendship quality likely accounted for most of the variance in social acceptance. Negative and positive elements of friendship quality were not important predictors of social well-being.

Table 3
Standard multiple regression results predicting loneliness close friendships and social acceptance

Variables	B	SE B	β	t	p
<i>Loneliness</i>					
Positive aspects of sport friendship	-.05	.09	-.07	-.53	.60
Conflict in non-sport friendship	.03	.08	.04	.32	.75
Positive aspects non-sport friendship	-.20	.11	-.25	-1.82	.08
Athletic competence	-.33	.10	-.37	-3.17	.00
Physical appearance	-.06	.11	-.06	-.52	.61
Self-worth	-.47	.14	-.43	-3.41	.00
<i>Close friendships</i>					
Positive aspects of sport friendship	.10	.12	.11	.79	.44
Conflict in non-sport friendship	-.03	.11	-.04	-.29	.78
Positive aspects non-sport friendship	.13	.14	.14	.91	.37
Athletic competence	.23	.14	.24	1.71	.10
Physical appearance	.03	.14	.03	.21	.84
Self-worth	.54	.18	.45	3.04	.00
<i>Social acceptance</i>					
Positive aspects of sport friendship	.15	.14	.16	1.06	.30
Conflict in non-sport friendship	.00	.12	-.01	-.08	.94
Positive aspects non-sport friendship	.24	.16	.26	1.49	.15
Athletic competence	.07	.16	.07	.44	.67
Physical appearance	.24	.16	.23	1.50	.14
Self-worth	.33	.21	.26	1.63	.11

Based on the amount of variance accounted for, the predictor variables (positive aspects of sport and non-sport friendship quality, negative aspects of non-sport friendship quality, physical appearance, athletic competence, and self-worth) produced medium to large effect sizes (i.e., variance accounted for) for each of the 3 dependent variables (loneliness, close friendships and social acceptance).

Discussion

A major purpose of the present study was to predict loneliness, social acceptance and close friendships with social and psychological physical self-perceptions as well as a non-sport specific measure of self-perception (i.e., self-worth). The degree to which perceptions of friendship quality in and outside of sport might be related to loneliness, close friendships, and social acceptance was of particular interest. In addition to friendship quality, of interest was how common global (i.e., self-worth) and physical self-perceptions might be related to loneliness, close friendships and social acceptance.

These findings suggest that participants who have confidence in their athletic abilities and who hold themselves in high regards also have close friendships and low levels of loneliness. This pattern of results is consistent with those found by Causgrove Dunn and colleagues.²¹ The stronger relationship between confidence, athletic abilities, close friendships and loneliness found in the present study, however, may reflect the use of multiple items used to assess competence in comparison to the single item indicators used by Causgrove Dunn and colleagues.²¹ The above pattern of results seems logical in that children with close friendships are not likely to be lonely and a major reason children are likely to be lonely is because they lack close friendships. It is plausible that participants who have high self-regard for their athletic abilities specifically and their self-worth in general are happy and well-adjusted children who attract other children to them. For example, children with strong perceptions of athletic competence are often the better athletes and hence the ones picked first for teams

and who have strong social status among their peers. As a result these types of children are not likely to lack close friends or be lonely. It is also likely that this relationship works in reverse such that close friendships can provide validation of worth and athletic competence.³² In contrast, the children with the lowest perceptions of their athletic abilities and with lower general self-worth are, plausibly, the children who are picked last for teams, may be perceived as shy, lack meaningful engagement with their teammates, and hence report higher levels of loneliness and less adequate friendships compared to the children with stronger athletic and self-worth perceptions.

The multiple regression and correlation results correspond to findings reported by Ulrich-French and Smith³² and Smith et al.¹ For instance, there were significant positive relationships among social acceptance, close friendships, and global self-worth. Higher social acceptance and close friendships were associated with higher global self-worth. These findings are also similar to those reported by Weiss and Duncan⁴ and Causgrove Dunn and colleagues²¹ as positive perceptions of athletic competence were significantly related to being successful in peer relations (i.e., close friendship and loneliness).

A second purpose of the current study was to provide descriptive data on the various constructs assessed. Given evidence that poor peer relationships are predictive of future adjustment problems²⁴ and that children with physical disabilities tend to be the least accepted by their classmates, it was unexpected to find that participants in the present study reported low ratings of loneliness. The finding that 15% of the athletes in the current study reported its “always true” (4.3%) or “true most of the time” (10.9%) that they “feel left out of things” contrasts with 23% of children, grades 3–6 without disabilities.²⁴ The present findings are, however, consistent with those of Poulsen and colleagues¹⁸ who reported team sports participation to be associated with low loneliness ratings in boys with developmental coordination disorder. Combined these studies suggests the possibility that regular sport participation may act as a buffer against loneliness.¹⁸

Because this study is one of the first to compare sport and non-sport friendship quality, we were also interested in whether or not children had stronger best friend relationships inside or outside of sport. There were stronger positive friendship bonds with close friends outside of adapted sport. All teams in this study met for practices and games twice a week for 1.5 h per practice/game. This time frame may not be sufficient for youth to depend strongly on sport friendships for their social needs.³³ It also may be that physical barriers (e.g., distance that athletes live from each other) prevented athletes from spending time with each other outside of sport.²⁵ Often parental help and facilitation is required to arrange for social opportunities to foster friendships in individuals with disabilities across contexts.^{14,25} The infrastructure of the adapted sports program is such that athletes are bussed to practice from

their respective school and are bussed directly home following practices and games, minimizing opportunities for continued friendship development outside of sport.

The physical proximity of athletes to a close friend outside of adapted sport (i.e., home, neighborhood) may strengthen this peer relationship through engaging in common activities (i.e., watching TV, playing computer games or board games) over a longer period of time, as it is not as dependent on parental involvement to support the relationship.²⁵ It is also possible that close friendships outside of sport are stronger because of the school context. Youth spend a large portion of their day at school and in school-related activities with their peers. The larger amount of time and ease with which they can meet other kids their own age in school may play a role in why non-sport friends were highly rated in this study. This is consistent with findings by Seymour and colleagues²⁵ who reported that 87% of children with disabilities in their study met their best friend at school.

There are several possible explanations for the lack of friendship conflict with a best friend outside of sport. First, it could be that youth with disabilities do not associate conflict with a best friend. Second, it may be that friendship histories are not as extensive in youth with disabilities. Third, differences may exist in the conception and expectations of friendship. Lastly, it is possible that best friendships would cease with frequent conflict^{5,25} leaving primarily perceived positive benefits of the remaining friendships.

Limitations

This study explored important issues in a population that has been largely neglected in the sport psychology literature. A few limitations should be noted. Given the small and unique nature of the sample, generalizing our findings should be done very tentatively. To improve generalizability, future studies should consider larger sample sizes to study differences based on age, gender and nature of the disability. Generalizability of the results is limited as participants were asked about their closest sport friend on their team and may not adequately reflect the quality of friendships in other physical activity settings such as the physical education class. It is important to note that the research design was correlational. This design does not allow for the examination of the influence of adapted sport participation on close friendships, social acceptance and loneliness, but simply served as a context in which to situate the results.

Directions for future research

Future research should examine the link between peer relationships in interscholastic adapted sport and affect, attributions, expectancies and future sport participation. Researchers also should examine the impact of the motivational climate created by adapted sport coaches on

friendships, athletic identity and well-being of athletes with physical disabilities. Based on informal discussions with athletes, the transcendence of friendship from the adapted sport setting to other contexts may not occur. The barriers that prevent the growth and development of significant sport friendships into non-sport settings are of importance and are another avenue for future research.

Practical implications for practitioners

Practitioners have to consider the appropriateness of a competitive sport environment on the psychosocial development of children and youth with physical disabilities. Practitioners need to be attentive to improving ratings of actual athletic competence of youth with physical disabilities and facilitating the development of positive physical self-perceptions of competence that have been shown to positively influence feelings of loneliness, acceptance by peers, opportunities to interact with peers and develop friendships and overall mental health.^{18,21} Coaches also should work to facilitate friendships between players that can be bilaterally meaningful and satisfying. Coaches can do this by encouraging and facilitating opportunities for the team to socialize outside the sport setting, thereby potentially decreasing feelings of sadness, longing for associations and the social distance between youth and the likelihood of participants experiencing feelings of loneliness and evaluating themselves in a negative way.²¹ Lastly, school based personnel can make a compelling argument for increased resources and funding to support competitive disability sport teams and programs within and across schools and districts as a way to address the physical and psychosocial needs of students with physical disabilities.

References

- Smith AL, Ulrich-French S, Walker E, Hurley KS. Peer relationship profiles and motivation in youth sport. *J Sport Exerc Psychol.* 2006;28:362–382.
- Evans J, Roberts GC. Physical competence and the development of children's peer relations. *Quest.* 1987;39:23–35.
- Horn TS, Weiss MR. A developmental analysis of children's self-ability judgments in the physical domain. *Pediatr Exerc Sci.* 1991;3:310–326.
- Weiss MR, Duncan SC. The relationship between physical competence and peer acceptance in the context of children's sports participation. *J Sport Exerc Psychol.* 1992;14:177–191.
- Weiss MR, Smith AL, Theeboom M. That's what friends are for: children's and teenagers' perceptions of peer relationships in the sport domain. *J Sport Exerc Psychol.* 1996;18:347–379.
- Smith AL. Peer relationships in physical activity contexts: a road less traveled in youth sport and exercise psychology research. *Psychol Sport Exerc.* 2003;4:25–39.
- Weiss MR, Petlichkoff LM. Children's motivation for participation in and withdrawal from sport: identifying the missing links. *Pediatr Exerc Sci.* 1989;1:195–211.
- Chase MA, Dummer GM. The role of sports as a social status determinant for children. *Res Q Exerc Sport.* 1992;63:418–424.
- Smith AL. Perceptions of peer relationship and physical activity participation in early adolescence. *J Sport Exerc Psychol.* 1999;21:329–350.
- Weiss MR, Smith AL. Friendship quality in youth sport: relationship to age, gender and motivation variables. *J Sport Exerc Psychol.* 2002;24:420–437.
- Martin JJ, Smith K. Friendship quality in youth disability sport: perceptions of a best friend. *Adapt Phys Act Q.* 2002;19:472–482.
- Duncan SC. The role of cognitive appraisal and friendship provisions in adolescents' affect and motivation toward activity in physical education. *Res Q Exerc Sport.* 1993;64:314–323.
- Martin JJ, Choi Y. Parent's physical activity related perceptions of their children with disabilities. *Disabil Health J.* 2009;2:9–14.
- Matheson C, Olsen RJ, Weisner T. A good friend is hard to find: friendship among adolescents with disabilities. *Am J Ment Retard.* 2007;5:319–329.
- Shapiro D, Martin JJ. Multidimensional physical self-concept of youth athletes with physical disabilities. *Adapt Phys Act Q.* 2010;27:294–307.
- Shapiro D, Martin JJ. Athletic identity, affect and peer relations in youth athletes with physical disabilities. *Disabil Health J.* 2010;3:79–85.
- Causgrove Dunn J, Goodwin DL. Youth with movement difficulties. In: Smith AL, Biddle SJH, eds. *Youth Physical Activity and Sedentary Behavior: Challenges and Solutions.* Champaign, IL: Human Kinetics; 2008. p. 239–263.
- Poulsen AA, Ziviani JM, Cuskelly M, Smith R. Boys with developmental coordination disorder: loneliness and team sports participation. *Am J Occup Ther.* 2007;61:451–462.
- Bouchard D, Tetrault S. The motor development of sighted children and children with low moderate vision. *J Vis Impair Blind.* 2000;94:564–574.
- Page RM, Frey J, Talbert J, Falk C. Children's feelings of loneliness and social dissatisfaction: relationship to measures of physical fitness and activity. *J Teach Phys Educ.* 1992;11:211–219.
- Causgrove Dunn J, Dunn JGH, Bayduza A. Perceived athletic competence, sociometric status and loneliness in elementary school children. *J Sport Behav.* 2007;30:249–269.
- Renshaw PD, Brown PJ. Loneliness in middle childhood: concurrent and longitudinal predictors. *Child Dev.* 1993;64:1271–1284.
- Cassidy J, Asher SR. Loneliness and peer relations in young children. *Child Dev.* 1993;63:350–365.
- Asher SR, Hymel S, Renshaw PD. Loneliness in children. *Child Dev.* 1984;55:1456–1464.
- Seymour H, Reid G, Bloom GA. Friendship in inclusive physical education. *Adapt Phys Act Q.* 2009;26:201–219.
- Hall LJ, McGregor JA. A follow-up study of the peer relationships of children with disabilities in an inclusive school. *J Spec Educ.* 2000;34:114–126. 153.
- Weiss MR, Smith AL. Quality of youth sport friendships: measurement development and validation. *J Sport Exerc Psychol.* 1999;21:145–166.
- Asher SR, Wheeler VA. Children's loneliness comparison of rejected and neglected peer status. *J Consult Clin Psychol.* 1985;53:500–505.
- Harter S. *Manual for the Self-Perception Profile for Adolescents.* Colorado: University of Denver; 1988.
- Shapiro DR, Moffett A, Lieberman L, Dummer GM. Perceived competence of children with visual impairments. *J Vis Impair Blind.* 2005;99:15–25.
- Martin JJ. Psychosocial aspects of youth disability sport. *Adapt Phys Act Q.* 2006;23:65–77.
- Ulrich-French S, Smith AL. Perceptions of relationships with parents and peers in youth sport: independent and combined prediction of motivational outcomes. *Psychol Sport Exerc.* 2006;7:193–214.
- McDonough MH, Crocker PRE. Sport participation motivation in young adolescent girls: the role of friendship quality and self-concept. *Res Q Exerc Sport.* 2005;76:456–467.