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## **Friendship Quality in Youth Disability Sport: Perceptions of a Best Friend**

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The purpose of the current investigation was to examine friendship quality with a best friend in youth disability sport with an international sample of moderately experienced athletes with disabilities ages 9 to 18 years. Participants were 85 males and 65 females from four countries who competed in track and field and swimming. Data were collected with the Sport Friendship Quality Scale (Weiss & Smith, 1999). An exploratory factor analyses indicated that participants viewed their friendship quality with a best friend in disability sport as having both positive and negative dimensions. The latter focused exclusively on conflict experiences. Females reported stronger perceptions of the benefits of their friendships than males did; whereas no gender differences occurred in perceptions of the negative aspects to friendships. Item analyses indicated that females scored higher than males on questions reflecting loyalty, providing intimacy, self-esteem, supportiveness, having things in common, and playing together.

Research in exercise and sport psychology has proliferated in the last 20 years (Gill, 1997). Numerous researchers have examined important social dynamics (e.g., motivation) of children and youth involved in sport and physical activity (Brustad, 1992; Weiss & Smith, 1999). However, few scientists have conducted social psychological research examining youth with disabilities in disability sport settings, despite the identification of research on disability and physical activity as a national (i.e., USA) priority (Rimmer, Braddock, & Pitetti, 1996; Seaman, 1999). Furthermore, researchers in the field have particularly lamented the lack of research examining both the social dynamics of youth sport (Brustad, 1992) and individuals with disabilities (Coakley, 2001).

Examining people with disabilities and physical activity (e.g., sport) is considered important because many individuals with disabilities are inactive (Longmuir

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& Bar-Or, 2000) and the ramifications of being sedentary often exacerbates the detrimental effects of a disability (Heath & Fentem, 1997). Increased activity, such as that obtained through sport participation, can positively influence health-related quality of life (Rejeski, Brawley, & Shumaker, 1996). Furthermore, given appropriate adult guidance, youth sport has long been heralded as an effective vehicle in promoting important psycho-social qualities such as self-esteem (Benson & Jones, 1990; Sherrill, Hinson, Gench, Kennedy, & Low, 1990). Lastly, because individuals with disabilities are often socially isolated (Asch, 1986; Sherrill, 1998), opportunities to be with peers and to develop one or two best friends are important.

Although a small body of research examining the social aspects of youth sport exists (e.g., Brustad, 1992, 1993, 1996), only recently have sport psychologists started to examine the role of friendship in youth and children's sport (Bigelow, Lewko, & Salhani, 1989; Weiss & Smith, 1999; Weiss, Smith, & Theeboom, 1996). We could find no research specifically designed to examine friendship quality in disability sport.

Therefore, we conducted the current study to address the lack of research in this area and to extend Weiss and colleagues (Smith, 1999; Weiss & Smith, 1999; Weiss et al., 1996) findings to an examination of friendship quality in disability sport. Similar to DePauw and Gavron (1995), we defined disability sport as sport "designed for or specifically practiced by athletes with disabilities" (p. 6). For the purposes of our study, we defined friendship quality as the degree to which friendship with a best friend in sport provided psycho-social benefits such as self-esteem enhancement. We specifically examined friendship "quality" because the influence that friends have on such critical self-perceptions such as competence, enjoyment, and self-esteem is dependent on the quality of the friendship (Parker & Asher, 1993). We also examined friendship quality because of the strong theoretical framework grounding research in sport (Weiss & Smith, 1999; Weiss et al., 1996) and nonsport settings (Parker & Asher, 1993). We used Weiss and Smith's (1999) Sport Friendship Quality Scale (SFQS) because it was specifically developed for youth team and individual sports with demonstrated reliability and validity evidence. Importantly, because the SFQS is multi-dimensional, it allows for an in-depth assessment of the various benefits (e.g., companionship, support, loyalty) and drawbacks (e.g., conflict) of friendship (Weiss & Smith, 1999).

In addition to our reasons for examining friendship quality, we also had three broader reasons for examining friendship in sport. First, virtually all major theories of human behavior (e.g., social cognitive theory, competence motivation theory) addressing adolescent psycho-social development discuss the important role that peers have in such areas as motivation, competence, and self-esteem development (Bandura, 1997; Harter, 1978). Specific research efforts examining peer relations make it clear that friends exert a major influence on youth psycho-social development and behavior (Asher & Dodge, 1986; Parker & Asher, 1987).

Second, a large body of sport psychology research highlights the important role that friends play in motivation (Gill, Gross, & Huddleston, 1985), competence development (Horn & Weiss, 1991), sport enjoyment and commitment (Scanlan, Carpenter, Lobel, & Simons, 1993), and character and moral development (Shields & Bredemeier, 1995). For example, competence in sport is linked to social status, popularity, and peer acceptance (Brustad, 1993; Chase & Dummer, 1992; Evans & Roberts, 1987; Weiss & Duncan, 1992), and friendship is related to positive affect (e.g., enjoyment) in physical activity (Smith, 1999).

Third, we specifically examined friendship in youth disability sport because individuals who are perceived to be different (e.g., have a physical disability) or seem to lack strong motor skills (e.g., developmental coordination disorder) may be at increased risk for peer rejection or neglect (Asher & Dodge, 1986; Castenada & Sherrill, 1999; Parker & Asher, 1987; Schoemaker & Kalverboer, 1994; Sigelman, Miller, & Whitworth, 1986). For instance, poorly coordinated children perceive a lack of social acceptance from their peers compared to children who are well coordinated (Rose, Larkin, & Berger, 1997). Youth in disability sport may feel “psychologically safe” because they are not alone in their disability. Individuals with disabilities, in general, have less extensive social networks and fewer friendships compared to nondisabled individuals (Castenada & Sherrill, 1999), making the sport setting a potentially attractive social opportunity for youth who may lack friends.

In summary, we believe our study is an important first step toward providing vital information about friendship in youth disability sport, which has been conspicuously lacking in the sport psychology and adapted physical activity literature. Our major purpose was to examine friendship quality with a best friend in youth sport with an international sample of athletes with disabilities ages 9 to 18 years. A second purpose was to examine for potential gender differences in friendship quality (Bigelow et al., 1989; Edder & Hallinan, 1978). Because females, in general, are often raised to be more nurturing and caring than males (Gilligan, 1982), we hypothesized that females may value and rate their friendships in sport more strongly than males do.

## Method

### Participants

Youths ( $n = 150$ ) participating in the Western Australia Disability Sport Association Track and Field ( $n = 129$ ) and Swimming ( $n = 21$ ) Championships participated in the current study. Male ( $n = 85$ ) and female ( $n = 65$ ) athletes from Australia ( $n = 71$ ), the USA ( $n = 29$ ), South Africa ( $n = 25$ ), and New Zealand ( $n = 25$ ) participated. They ranged in age from 9 to 18 years ( $M = 15.00$ ,  $SD = 2.07$ ) and in years of disability participation ( $M = 5.83$ ,  $SD = 3.36$ ).

Because the competition was not disability specific (i.e., limited to only one disability group such as the deaf), athletes in our study represented 17 disabilities as follows: spina bifida,  $n = 55$ ; paraplegia,  $n = 19$ ; cerebral palsy,  $n = 15$ ; amputee,  $n = 10$ ; poliomyelitis,  $n = 8$ ; vision impaired,  $n = 6$ ; hemiplegia,  $n = 5$ ; spinal cord injured,  $n = 5$ ; spastic diplegia, down syndrome, hyperactivity,  $n = 3$  each; traumatic brain injury, neuropathy, hydrocephalus,  $n = 2$  each; epilepsy, arthrogryposis,  $n = 1$  each. Ten participants did not report their disability. There was also a wide range of severity of disability as determined by their sport classification categories<sup>1</sup> (Dummer, 1999; Sherrill, 1999). Athletes with intellectual disabilities ( $n = 11$ ) were excluded from our analyses. Additionally, the international nature of the competition resulted in an ethnically varied sample. Finally, because the meet organizers sought to provide opportunities to as many children/youth as possible, the age range (i.e., 9 years) of the athletes in the current study was large. Therefore, athletes participating in the current sample were quite heterogeneous in regard

to sport, disability type, disability severity, age, gender, years of sport experience, and country of origin.

## Measures

*Demographic Scale.* Participants completed an informed consent form and a brief demographic questionnaire. The demographic survey asked them to report their age, gender, how long they had participated in disability sport, their disability type and classification, and their country of citizenship.

*Sport Friendship Quality Scale (SFQS).* Participants completed the 22 item (see Table 1) multidimensional, six factor SFQS scale developed by Weiss and Smith (1999) to assess the quality of youth sport friendships. Participants responded on a 1 to 5 point Likert scale with anchors of *not at all true* and of *really true*. The SFQS assesses the four factors: (a) self-esteem enhancement and supportiveness, (b) loyalty and intimacy, (c) things in common, and (d) companionship and pleasant play with four items each. The final two factors, conflict resolution and conflict, are based on three items each.

The SFQS was developed over the course of four studies reported in two papers by Weiss and colleagues (Weiss & Smith, 1999; Weiss et al., 1996). They first interviewed 19 female and 19 male athletes ranging from 8 to 16 years of age (Weiss et al., 1996) and used qualitative analyses (i.e., inductive content analyses) to determine that 12 positive friendship dimensions and four negative friendship dimensions existed. Next, using Parker and Asher's (1993) Friendship Quality Scale and their earlier qualitative results (Weiss et al., 1996), they developed the SFQS and provided evidence of its psychometric properties with confirmatory factor analyses techniques. All three studies were conducted with three independent samples ranging in size from 161 to 196 male and female athletes aged 8 to 16. In brief, Weiss and Smith (1999) adequately established content, factorial, and construct validity as well as internal and test-retest reliability (see Weiss & Smith, 1999; Weiss et al., 1996) for the final 22 item six factor SFQS used in our study. We sought to determine whether these findings could be generalized to athletes with disabilities.

## Procedure

We first obtained approval from the university internal research review board and competition directors to conduct the current study. After arranging permission to visit both swimming and track and field practices, both researchers and a former student with a degree in adapted physical education trained by the second researcher collected data. We collected data during a 3-day period previous to the start of the competition during athletes' practice sessions. The SFQS was administered with procedures identical to Weiss and Smith (1999) except that we used the phrase "disability sport" instead of "sport." Participants were instructed to think about their best friend in disability sport and then write that person's name at the top of the SFQS. Athletes were then told to read each item and circle the response that best reflected their feelings about their best friend in disability sport. Athletes who needed assistance because their disability made writing difficult and those who were vision impaired had the questions read to them while a member of the research team recorded their answers.

**Table 1** Factor Analytic Results for the Sport Friendship Quality Scale

Items	Factors		
	1	2	3
1.	.65		
2.		.78	
3.	.72		
4.	.71		
5.	.66		
6.	.48		
7.	.68		
8.		.66	
9.	.67		
10.	.74		
11.	.55		
12.	.73		
13.	.70		
14.	.56		
15.		.78	
16.	.75		
17.	.62		
18.	.64		-.40
19.	.77		
20.	.55		
21.	.68		
22.	.57		
Eigenvalue	8.8	2.3	1.1
Percent variance	37.7	8.4	2.8
Cumulative percent variance	37.7	46.1	48.9

*Note.* Factor 1 represents the Positive Aspects of having a best friend, and Factor 2 represents Conflict. Factor 3 was disregarded.

## Results

### Confirmatory Factor Analysis (CFA)

Bentler's (1995) EQS structural equation program was used to confirm the Weiss and Smith's (1999) six factor structure for the current sample. Based on Hoyle and Panter's (1995) recommendations, we examined the Bentler-Bonett Normed Fit Index (NFI), Bentler-Bonett Nonnormed Fit Index (NNFI), and the Comparative Fit Index (CFI). All three values (NFI = .50; NNFI = .51; CFI = .56) were well below the recommended value of .90 needed to conclude that there was an acceptable

data model fit (Hoyle & Panter, 1995). This result indicated that it would be inappropriate to continue to examine the SFQS data as best represented by six factors.

### Exploratory Factor Analysis (EFA)

Given the poor fit of our data to the model in the CFA, we next conducted a maximum likelihood EFA with varimax rotation in order to explain the correlations among the variables (Schutz & Gessaroli, 1993).<sup>2</sup> Three factors with Eigenvalues over 1.0 accounted for 48.85% of the variance. However, only the first two factors were clearly interpretable. They accounted for most of the variance (i.e., 37.65% and 8.39%, respectively) and had the strongest pattern of loadings (see Table 1). For example, the 19 items that clearly loaded on Factor 1 ranged from .48 to .77, and the 3 items loading on Factor 2 had loadings of .66, .78, and .78. The highest loading on Factor 3 was Item 18 at -.40 with no other items loading higher than .27, which is below the recommended criterion of .40 (Safrit & Wood, 1989). Lastly, Item 18 had a loading of .64 on Factor 1, further supporting its inclusion on Factor 1. Additionally, Item 18 was conceptually consistent with the other 18 items loading on Factor 1.

We concluded that two factors of 19 and 3 items, respectively, adequately described the data. Both factors together accounted for 46% of the variance in SFQS scores and were conceptually consistent with the initial observations of Weiss et al. (1996) that children recognized positive and negative aspects to their friendship in sport.

The three items constituting Factor 2 were identical to the three items representing the Conflict subscale of Weiss and Smith's (1999) six factor model. Factor one included the remaining 19 items that spread over the five remaining subscales of the SFQS, which all represent positive aspects of friendship (e.g., loyalty and intimacy). Consistent with Weiss et al. (1996), we labeled Factor 1 Positive Aspects of Friendship (PAF) and Factor 2 as Conflict (Weiss & Smith, 1999).

### Internal Consistency

The alpha coefficient (Cronbach, 1951) for our sample on the total SFQS was .90 and .93 and .80 for the PAF and Conflict subscales, respectively. All alpha coefficients were considered acceptable as they met Nunnally's (1978) criterion of .70.

### Gender Differences

An ANOVA to examine for potential gender differences on the PAF and Conflict factors was conducted. Results,  $F(1, 148) = 16.16, p < .001$ , for the PAF factor were significant indicating that females ( $M = 3.96; SD = 1.07$ ) perceived stronger positive attributes in their sport friendships compared to males ( $M = 3.44; SD = .96$ ). Results for the Conflict factor,  $F(1, 148) = .68, p < .41$ , indicated no differences between females ( $M = 3.98; SD = 1.13$ ) and males ( $M = 3.84; SD = 1.10$ ) in how much conflict they experienced in their friendship in disability sport.

To determine if specific positive behaviors, as defined by individual items on the SFQS, were responsible for the gender difference on the PAF factor, a second ANOVA was conducted on the 22 item SFQS. After a Bonferonni correction for the 22 tests (i.e., for each item), seven items were significantly different with females providing higher ratings than males on all seven questions (see Table 2).

**Table 2 Means and Standard Deviations for 5-point Likert Ratings of Sport Friendship Quality Scale by Gender with Significant Differences Indicated**

SFQS items	Female		Male	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Positive aspects of friendship items</i>				
1. Second chance to perform skill.	4.06*	1.05	3.38*	1.28
2. Praise each other for doing sports well.	4.16	1.09	3.67	1.33
3. After I make mistakes, my friend encourages me.	4.13*	1.15	3.48*	1.29
4. Confidence in me during disability sports.	4.34	0.85	3.89	1.16
5. Can talk about anything.	4.24*	0.94	3.68*	1.21
6. Stick up for each other in disability sports.	4.34*	0.92	3.78*	1.23
7. Looks out for me	4.19*	1.08	3.47*	1.27
8. Tell each other secrets.	3.50	1.25	2.95	1.38
9. Have common interests.	4.07*	0.89	3.31*	1.21
10. Do similar things.	3.92	0.95	3.40	1.20
11. Have the same values.	3.63	1.09	3.08	1.19
12. Think the same way.	3.44	1.10	3.14	1.26
13. Do fun things.	3.98	1.07	3.81	1.17
14. Like to play with my friend.	4.17*	0.92	3.50*	1.31
15. Play well together.	4.00	1.04	3.63	1.28
16. Spend time together.	3.91	1.09	3.44	1.26
17. Make up easily when we have a fight.	3.77	1.37	3.32	1.41
18. Try to work things out when we disagree.	3.99	1.00	3.44	1.29
19. After an argument, talk about a solution.	3.29	1.22	3.08	1.27
<i>Conflict factor items</i>				
20. Get mad at each other.	4.14	1.13	3.99	1.22
21. My friend and I fight.	4.00	1.25	3.95	1.31
22. Have arguments.	3.81	1.33	3.58	1.28

Note. \* Significant at the  $p < .002$  based on a Bonferonni correction for 22 tests.

## Discussion

The purpose of our study was to examine friendship quality with a best friend in youth disability sport. To our knowledge, this study is one of the first research projects in adapted physical activity and sport psychology investigating this important topic. Two major significant findings warrant discussion.

The first finding addresses the psychometric properties and factor structure of the SFQS. We were unable to support a 6 factor multi-dimensional model of



friendship quality, as defined by the SFQS recently developed by Weiss and Smith (1999) with a CFA. This finding was not unexpected given the differences between samples and that validity cannot be generalized to all situations (Yun & Ulrich, 2002).

However, an exploratory factor analysis substantiated the two dimensional (i.e., positive and negative aspects of friendships) perspective of friendship upon which the SFQS was initially developed by Weiss and colleagues (1996) using qualitative research techniques. The results of both the CFA and EFA indicated that youth athletes with disabilities did not distinguish the positive experiences of their friendship into the six functions or factors (e.g., pleasant play, loyalty, and intimacy) as described by Weiss and Smith (1999), but rather athletes viewed their friendships as having a positive and a negative dimension to them.

Given that Weiss et al. (1996) discovered the two broader categories of positive and negative aspects to friendship, our results are not surprising. Furthermore, the results of their CFA (Weiss & Smith, 1999) are likely sample specific given the small ( $n = 161$ ) sample size and per item ( $n = 22$ ) ratio (i.e., 7.23/1), and the model modifications made (i.e., dropping 11 items over 4 runs) to obtain satisfactory fit indexes (Hoyle, 1995; MacCallum, Roznowski, & Necowitz, 1992). Finally, the strong correlations (e.g., .92, 7 > .70) among their factors is also suggestive of potential higher order factors (i.e., positive and negative).

Although Weiss and Smith (1999) tested two alternative models (which did not fit the data as well as the six factor structure), they did not test a two factor positive and negative factor model. The results of our study and the strong likelihood that the findings of Weiss and Smith (1999) were sample specific suggest that further validation work on the SFQS is needed with larger samples and CFA cross validation (MacCallum et al., 1992).

Our second major finding was the presence of gender differences in perceptions of friendship quality with a best friend. Females reported higher levels of positive friendship acts compared to males. However, females did not report differences in perceptions of the negative dimension of friendship. The differences in the 19-item positive factor scale were further examined with an item analysis of the questions constituting this factor. Weiss and Smith's (1999) interpretation of the higher order themes represented by each question provides some insight into why females perceived more benefits from their friendships in disability sport than males did. For instance, three (i.e., my friend and I can talk about anything, my friend and I stick up for each other in sports, my friend looks out for me) of the seven questions in which females scored higher than males were viewed as representing loyalty and providing intimacy by Weiss and Smith (1999). Out of the remaining four questions, two of them (i.e., my friend gives me a second chance to perform a skill and after I make mistakes, my friend encourages me) are thought to have self-esteem and supportiveness functions (Weiss & Smith, 1999). Finally, the female athletes were more likely to report having things in common (i.e., my friend and I have common interests) and enjoyed playing together (i.e., I like to play with my friend) more than the male athletes did. No items that Weiss and Smith (1999) viewed as representing an ability to solve conflicts was rated differently by the respondents.

In general, our findings clearly indicate that disability sport provided athletes with an opportunity to interact with a best friend who provided them with a variety of important self-enhancing benefits. It also appears that sport may be more

important in this regard for girls than it might be for boys, although both genders clearly rated the friendship benefits of their sport experience as positive. This finding provides quite strong empirical support to the premise that disability sport is an important vehicle for promoting positive peer relations. Furthermore, these findings validate the efforts of the many administrators, coaches, parents, and volunteers who strive to provide sporting opportunities to youngsters with disabilities.

In conclusion, our investigation was a first step toward addressing a dearth of research examining friendship function in disability youth sport. The findings raise questions about the validity of the six factor structure of the Sport Friendship Quality Scale (Weiss & Smith, 1999) for youth athletes with disabilities and indicate that athletes viewed their friendship in disability sport as having both positive and negative dimensions. Females, in particular, saw their sport friendship as providing more positive benefits than did the males.

Some limitations of the current project also warrant discussion. The heterogeneous (i.e., age, ethnicity, sport, gender, disability type, disability severity) nature of our sample limited our ability to identify specific factors (e.g., disability type or severity), with the exception of gender, that might moderate or help explain our findings.

Numerous future research directions exist within the psychology of disability sport as little psycho-social research about disability sport exists. We know little about this neglected, yet important, population of athletes. Researchers are encouraged to continue to investigate the various benefits of sport that children and youth with disabilities derive from their experiences.

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## Authors' Notes

<sup>1</sup>The level of competition in which athletes with disabilities compete is based on a classification category, which is a rating of how mild or severe their disability is.

<sup>2</sup>A principal component analysis (PCA) was also conducted in order to determine the total variance among the variables (Schutz & Gessaroli, 1993). Both the EFA and the PCA yielded virtually identical results.