

A Standardized Method of Assessing Sport Specific Problems in the Relationships of Athletes with Their Coaches, Teammates, Family, and Peers

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No standardized instruments have been developed to assess sport specific problems in the relationships of athletes, making it difficult to determine the extent and manner by which relationship factors influence sport performance. In this study focus groups were performed to originate an instrument consisting of four scales designed to identify commonly experienced problems in the relationships of student athletes with their coaches, teammates, family, and peers. The resulting instrument (i.e., Student Athlete Relationship Instrument, SARI) was subsequently administered to 198 high school and collegiate athletes. Construct validity of the SARI was indicated. Results showed that the number of extracted factors within each of SARI scales (i.e., Family, Coaches, Teammates, and Peers) ranged from two to five. All scales were accounted for by at least 54% of the variability in data, and internal consistency for the derived scales was excellent (range of alphas = .87 to .96). Common themes emerged across the 4 scales (i.e., pressure to perform, lack of support, pressure to use performance enhancing drugs). Significant positive relationships were found between each of the scale scores and ratings of overall happiness in the respective relationship, demonstrating the SARI's criterion-related validity. Interestingly, overall happiness in the family relationship was perceived by participants to be strongest, followed by the peer and teammate relationships. Student athletes were relatively least happy in their relationship with coaches. Participants also perceived their family members contribute most to their sport performance, whereas peers contribute least.

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Although positive relationships appear to be beneficial in the general development of youth (Berndt & Ladd, 1989; Deci, Nezlek, & Sheinman, 1981; Deci, Schwartz, Sheinman & Ryan, 1981; Newcomb & Bagwell, 1995), relatively little research has explored how relationships affect student athletes (e.g., enhancing motivation to join or terminate a team, increasing pressure during competition, decreasing desire to train; see review by Wiggins, 1996). Indeed, no standardized instruments have been developed to specifically assess the extent and manner by which sport specific problems occur in relationships between athletes and significant others (i.e., coaches, teammates, family, peers). Relevant to the relationship between coaches and athletes, there are a number of factors worthy of exploration (Gould & Petlichkoff, 1988; Martens, 1990). For instance, it has been long established that coaches create stress in athletes when punitive behaviors are emphasized in their relationship (Brower, 1978; Underwood, 1978). Contrarily, coaches can facilitate optimum athletic performance when they utilize positive feedback and reinforcement strategies (Daley, 1978; Weiss & Friedrichs, 1986). Therefore, it is no surprise that coaches have been found to enhance intrinsic motivation in athletes (Amorose & Horn, 2000; Black & Weiss, 1992; Pelletier & Vallerand, 1985; Vallerand & Pelletier, 1985), and athletes' positive perceptions of coaching styles and interactions are strongly associated with motivational factors (Chelladurai, 1984; Westre & Weiss, 1991). Weiss and Friedrichs (1986) found democratic style of decision-making, social support, and praise by coaches were all associated with satisfaction of athletes with their coaches. Behaviors of coaches that are positively perceived by athletes influence sport enjoyment and self-esteem, as well as perceived effort and success (Smith, Smoll, & Curtis, 1978; Smith & Smoll, 1983), whereas high levels of criticism and low levels of positive reinforcement by coaches decrease perceived competence in athletes (Horn, 1985). Burke and Peterson (1995) reported a strong relationship between players' liking of their coaches, and their perceptions of the ability of their coaches. Therefore, there appears to be a great need to develop and validate methods of assessing problems within the athlete-coach relationship.

A few studies have suggested family members may influence the involvement and achievement of athletes in sport more than coaches (Bloom, 1985; Brustad, 1993; Hellstedt, 1988, 1995; Woolger & Power, 1993). Moreover, parents may be the greatest determinants of whether their children are sufficiently motivated to continue sports (Brustad, 1988; Greendorfer, 1992). Brustad (1993, 1996) reported parental encouragement and enjoyment of their children's physical activity were significantly related to perceived attraction and competence of their children in physical activities. Similarly, in a sample of soccer players, Babkes and Weiss (1999) reported that parents who were perceived as positive role models by their children (i.e., provided more positive encouragement) were associated with higher perceived enjoyment, competence, and motivation. Alternatively, excessively high parental expectations can become a source of stress

that can interfere with the enjoyment and success of their children in sports (McElroy & Kirkendall, 1980; Scanlan & Lewthwaite, 1986), and negative parental support and pressure are related to competitive anxiety, interpersonal difficulties between teammates, and withdrawing from sports (Hellstedt, 1988; Power & Woolger, 1994, VanYperen, 1995). Relatedly, most parents are unable or unwilling to attend sport practice sessions of their youth, which may be interpreted as a lack of support by some athletes (Csikszentimihalyi, Rathunde, & Whalen, 1993; Sloan, 1985; Monsaas, 1985). Therefore, despite strong support for the necessity of assessing sport relevant interactions between athletes and parents (see Power & Woolger, 1994), there are presently no measures to accomplish this objective.

Peers contribute to enjoyment of physical activity through recognition of accomplishments, companionship, and esteem support. For instance, approval from peers (i.e., teammates) influences global self-worth, appropriate expression of emotions, and motivation to perform pro-social behaviors (Harter, 1999). Thus, peers are important to the acquisition of competence in sport settings, psychological adjustment, and social and moral development. Although the influence of friendships in athletics has received little empirical attention, the establishment of friendships appears to be a prime reason for participation in sports (Weiss & Ferrer-Caja, 2002). For instance, Weiss, Smith, and Theeboom (1996) found friendships were particularly strong among athletes, and athletes report sport participation is important to their development and affirmation of friendships (Patrick, Ryan, Alfeld-Liro, Fredricks, Hruda, & Eccles, 1999). Primary reasons for enlisting in sports include positive team interactions, support, and opportunities to develop friendships (Scanlan, Carpenter, Lobel, & Simons, 1993; Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993; Scanlan, Stein, & Ravizza, 1989). Duncan (1993) reported companionship and support from friends were related to positive affective responses to physical education, which in turn predicted future success expectancies. Thus, the need to develop and psychometrically validate measures of sport specific problems within the relationship of athletes and their teammates (and peers in general) is certainly warranted.

The purpose of the present study was threefold: 1) identify potential problems student athletes experience in relationships involving coaches, teammates, peers, and family, 2) develop a standardized self-report instrument to assess sport-specific problems in the aforementioned relationships, and (3) examine the initial psychometric properties of the developed instrument. It was hypothesized that a series of focus groups would yield an item pool sufficient to develop a standardized instrument to measure the extent athletes experience problems in their relationships with coaches, teammates, peers and family members. It was expected that the resulting instrument would evidence adequate internal consistencies in each of the resulting relationship sub-scales (i.e., alphas $>.70$), and significant correlations between scores in each of resulting relationship subscales and measures of overall happiness in the respective

relationships. It was also expected that data from this study would build upon the work of others (i.e., Youth Sport Institute at Michigan State University) in permitting an examination of the extent to which student athletes are content across several relationships concurrently.

Table 1. *Overall Ratings of Coach, Family Member, Teammate, and Peer Contributions to Participants' Sport Performance (1 = "extremely disagree," 7 = "extremely agree").*

Statement	Scale	Frequency	Percentage ^a
Overall, my family members positively contribute to my sport performance	Extremely agree	106	54
	Very much agree	56	28
	Somewhat agree	24	12
	Neither agree/disagree	11	6
Overall, my coaches positively contribute to my sport performance	Extremely agree	54	27
	Very much agree	73	37
	Somewhat agree	47	24
	Neither agree/disagree	22	11
Overall, my teammates positively contribute to my sport performance	Extremely agree	47	24
	Very much agree	80	40
	Somewhat agree	52	26
	Neither agree/disagree	18	9
Overall, my peers positively contribute to my sport performance	Extremely agree	41	21
	Very much agree	57	29
	Somewhat agree	53	27
	Neither agree/disagree	46	23

^a Percentages may not sum to 100% owing to missing data values and/or rounding

Note: All scores were higher than 3 ("somewhat disagree").

Method

Participants

Participants were 198 athletes from 3 high schools ($N=91$) and a university ($N=107$) in the Southwestern United States who agreed to participate in this study. The mean age of the athletes was 18.2 years ($SD=2.4$). One hundred and twenty six of these athletes were female (64%). Of the 192 athletes who disclosed their ethnicity (97% of the sample), 158 were Caucasian (82.3%), 18 were Hispanic American (9.4%), 12 were African American (6.3%), and 4 were Asian American (2%). Relevant to their primary sport, 67 athletes were soccer players (33.8%), 50 were swimmers/divers (25.3%), 28 were softball players (14.2%), 23 were baseball players (11.6%), 22 were basketball players (11.1%), and the remaining 8 were volleyball players (4%). Most had played in their primary sport prior to 11 years of age (78%), and 158 (81%) had participated in sports for at least 6 years.

Materials

Overall Ratings of Participants' Happiness in Relationships with Their Coaches, Family, Peers, and Teammates. To assist in assessing athlete perceptions of their general happiness in relationships with their coaches, family, peers, and teammates, participants were instructed to separately indicate the degree to which they were happy, overall, with their coach, family, peer, and teammate relationships utilizing a percentage scale (0 % = completely unhappy, 100% = completely happy). Single item measures of relationship satisfaction have been found to have good reliability, and have closely corresponded with comprehensive measures of similar constructs, thus demonstrating their criterion related validity (see Andrews & Withey, 1976; Decato, et al., 2002; Donohue et al., 2003; Donohue, Decato, Azrin, & Teichner, 2001).

Overall Ratings of Coach, Family, Teammate, and Peer Contributions to Participants' Sport Performance. To assist in assessing the extent athletes perceive their coaches, family, peers, and teammates contribute to their sport performance, participants were instructed to rate the degree to which they agreed (1 = extremely disagree, 7 = extremely agree) their coaches, family members, peers, and teammates positively contribute to their sport performance.

Scale Development

In developing the Student Athlete Relationship Instrument (SARI), a team of 8 individuals (3 male, 5 female, age range = 19 to 39 years) with experience in competitive sports generated the initial items during 7 focus groups, each lasting approximately 90 minutes. Each of these individuals had at least several years of experience in varsity, inter-state club sports, U.S. National and/or NCAA sports. This number of participants has been recommended for optimal

participation (Bloor, Frankland, Thomas, & Robson, 2001). The task was to generate, through brainstorming, a list of items relevant to problems in the relationships of athletes with their coaches, family members, peers, and teammates that negatively influence performance in sport activities. Therefore, the SARI consisted of 4 scales (i.e., SARI-Coaches, SARI-Families, SARI-Teammates; SARI-Peers). All focus groups emphasized brainstorming analysis, allowing participants the opportunity to reflect and refine their opinions based on discussion from other group members (Ritchie & Lewis, 2003). A moderator was primarily concerned with directing the discussion, and keeping the conversation flowing to identify key ideas (Krueger, & Casey, 2000). An assistant moderator was responsible for taking comprehensive notes, and utilizing a process facilitation approach in which there was low content control and high process control (Millward, 1995). That is, while the moderator ensured the discussion was productive and covering relevant issues in sufficient depth, control over the content was minimal.

Utilizing the aforementioned process, problem statements (e.g., pressure to use illicit drugs, pressure to quit) within each of the SARI relationship scales were generated. Twenty-five problem statements were generated for the SARI-Coaches, 24 for the SARI-Families, 23 for the SARI-Teammates, and 10 for the SARI-Peers. Problem statements were constructed into items by preceding them with the phrase "It's a problem for me in my sport that." A 7-point Likert-scale measuring the degree to which the participant agrees with the problem statement (1 = extremely disagree, 7 = extremely agree) was selected as the response format.

Procedures

Coaches were informed of the study, and agreed to refer their athletes to assist in developing a scale designed to assess problems that were specific to sports within the relationships of student athletes with their coaches, teammates, family, and peers. Participation was voluntary, and all participants completed study informed consent, or assent if a minor (parents of participant minors completed study consent). After completing each of the 4 SARI scales, all participants provided information about their demographic and sport background. Two single-item measures of their general happiness with peers, coaches, teammates, and coaches were completed by all athletes.

Statistical Plan. The first analysis was chiefly focused on gaining an understanding of relative happiness of athletes with their coaches, family, peers, and teammates. Means and standard deviations in overall happiness of athletes in these relationship domains were performed. Kruskal-Wallis tests were conducted to determine if athletes' differed in their degree of happiness across these relationships. Chi-square analyses were similarly conducted to determine if athletes perceived these relationships differed in their relative contribution to sport

performance. Construct validity of scores in each of the relationship scales making up the SARI (i.e., Coaching Relationship, Family Relationship, Peer Relationship, Teammate Relationship) were examined utilizing the principal axis factoring extraction method. Cronbach's Alpha was calculated for each of the SARI scales to obtain a measure of internal consistency. Similarly, Cronbach's Alpha was also conducted for each subscale within each of the SARI scales. Cronbach's Alphas above .70 indicate acceptable internal consistency. Lastly, criterion related validity of the SARI-Family scale was assessed by conducting a pearson product moment correlation among the individual questions comprising this scale and the single item reflecting overall happiness with the family relationship. Similar analyses were conducted between mean SARI-Coach, SARI-Peer, and SARI-Teammate relationship factor scores, and the single items reflecting overall happiness with coaches, peers, and teammates, respectively. Significant positive correlations between these measures suggest criterion related validity of these factors.

Results

Overall Happiness with Coaches, Family Members, Peers, and Teammates.

The participants' overall mean percentage happiness in the relationship scores (and standard deviations) was as follows: coaches = 72.0 (25.5), teammates = 81.6 (15.6), peers = 83.9 (16.6), and family relationships 90.2 (14.0). Although participants appeared to be relatively happy in all relationships, a Kruskal-Wallis test indicated at least 1 significant difference between the 4 relationships in degree of happiness ($X^2 = 93.49$, $P < .001$). Post-hoc comparisons indicated overall differences among all relationships except between teammates and peers (Mann-Whitney Tests with Bonferonni corrections; $U = 16271.5$, $P = 0.065$ for teammates vs. peers; $P < .001$ for all other comparisons). Therefore, the family relationship was perceived by participants to be strongest, followed by the peer and teammate relationships. They were relatively least happy in the relationship with their coaches.

Perceived Positive Contributions in Sports from Coaches, Family Members, Peers, and Teammates.

Most participants agreed family members, coaches, peers and teammates positively contribute to their performance in sports (see Table 1). However, the perceived extent of contributions among groups (i.e., teammates, coaches, family members, peers) was dependent on the ratings (Chi-square = 90.441, d.f. = 9, $p < 0.0001$). Post-hoc comparisons of frequencies summed over the "extremely agree" (7) and "very much agree" (6) categories indicated that

athletes perceived family members were the greatest contributors in their sport performance, and peers contributed least to their sport performance (Chi-Square tests with Bonferonni corrections; $\chi^2 = 15.75$, $P < .001$ for family versus peers; all other comparisons were insignificant).

Construct Validity of Student Athlete Relationship Instrument (SARI).

To determine the construct validity of scores in each of the relationship scales making up the SARI (i.e., Coaching Relationship, Family Relationship, Peer Relationship, Teammate Relationship), examination of initial results suggested that the principal axis factoring extraction method resulted in the highest percentage of explained variance in all cases. Based on simulation studies (see recommendations by Khattree & Naik, 2000), the relatively higher root mean square error associated with this method may make it less appropriate than some of the other commonly employed methods. However, the maximum likelihood and unweighted least squares method resulted in nearly identical loadings. The maximum likelihood approach is based on an underlying assumption of multivariate normality, so we therefore report the somewhat less restrictive unweighted least squares method results for the teammate, coach, and family member scales. The lower number of variables in the peer group questionnaire suggested the use of a different extraction method (i.e., image extraction; Acito & Anderson, 1980). The results were identical to the principal axis factoring extraction method, which has a relatively similar root mean square error. We therefore report the results of the principal axis factoring extraction, which captured more of the variability in the original data set.

The Kaiser criterion, which identifies eigenvalues greater than one, (Kaiser, 1958) for selecting the number of factors to rotate was used owing to ease of interpretability, and because visual judgments of the discontinuity of the slopes of eigenvalues involved in Scree plots is sometimes unreliable (Tabachnick & Fidell, 2001); however, it should be noted that visual examination of the Scree plots and the number of factors selected using Kaiser's criterion were identical. A series of factor analyses was performed eliminating questions that did not make the .5 criterion, or that loaded on more than one factor above .5 (see Comrey & Lee, 1992). The results of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, which measures the proportion of the variance in the variables that might be caused by underlying factors, were all $> .5$, suggesting that factor analysis might be useful with these data. Bartlett's Test of Sphericity resulted in the rejection of the null that the correlation matrix was an identity matrix in the data sets representing all 4 scales. An overall description of items making up each factor (see rows denoted "Sub-Scale") is provided in Tables 2 through 5, including factor loadings for each scale. The number of extracted factors in each relationship scale ranged from two to five, which accounted for between 54% and 60% of the variability in the data (Table 6). Several

questions were not well represented by the factors (i.e., factor loading $< .5$), or had high loadings ($> .5$) on multiple factors. Although common themes emerged across all relationship scales (i.e., Lack of Support, Poor Overall Relationship), each relationship scale appears to offer unique information.

Internal Consistency

Cronbach's Alpha was calculated for each of the scales to obtain a measure of internal consistency. Cronbach's Alpha was high for all scales with Teammates, Coaches, Family Members, and Peers resulting in coefficients of .93, .96, .92, and .87, respectively. Additionally, we calculated Cronbach's Alpha for each resolved subscale that was identified by the factor analysis as a measure of the consistency of responses to questions comprising each potential subscale. In general the internal consistencies of each subscale were quite high (Tables 2-5).

Criterion Related Validity of the SARI. To examine criterion related validity of the SARI-Family scale, a weighted Pearson product moment correlation (weighted by sample size) was calculated among the individual questions comprising this factor and the single item reflecting overall happiness with the family relationship. Results indicated a weighted correlation coefficient, r_w , of 0.32 ($p_w = .02$). Similar analyses were conducted between mean SARI-Coach, SARI-Peer, and SARI-Teammate relationship factors, and the single items reflecting overall happiness with coaches, peers, and teammates, respectively. Results were significant in all cases (Athlete/Coach: $r_w = .41$, $p_w = .01$; Athlete/Peer: $r_w = .21$, $p_w = .03$; Athlete Teammate $r_w = .28$, $p_w = .004$).

Table 2. Rotated factor matrix for Family Relationship Scale using an unweighted least squares extraction and varimax rotation with Kaiser normalization. Internal consistency, as measured by Cronbach's Alpha ($C-\alpha$), is reported for each subscale.

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Item Mean	SD
At least one of my family members needs to praise me more often.	.665	.422	.123	.253	5.4	1.88
At least one of my family members doesn't show interest.	.691	.229	.094	.180	5.5	1.98
At least one of my family members doesn't push me enough in training.	.667	.179	.303	.071	5.7	1.66
I don't get enough encouragement from my family members.	.752	.133	.300	.243	5.8	1.69
At least one of my family members doesn't support me after I have performed poorly.	.545	.283	.364	.319	5.8	1.71
At least one of my family members pressures me to participate in a sport when I don't want to participate.	.177	.575	.229	.032	5.5	1.98
At least one of my family members is too overprotective.	.141	.505	.119	-.017	4.9	1.98
At least one of my family members disagrees with me about my decisions.	.447	.581	.118	.198	5.2	1.83
At least one of my family members is too demanding with me.	.222	.654	.206	.431	5.6	1.85

Table 2. (Continued)

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Item Mean	SD
At least one of my family members is too demanding with me.	.222	.654	.206	.431	5.6	1.85
I'm not living up to the expectations of at least one of my family members.	.322	.586	.203	.380	5.4	1.94
At least one of my family members puts too much pressure on me.	.249	.713	.182	.313	5.4	1.98
At least one of my family members has me do things that could result in me being injured or worsen existing injuries.	.203	.328	.626	.189	6.2	1.43
At least one of my family members pressures me to quit.	.281	.286	.603	.169	6.2	1.45
At least one of my family members encourages me to take performance enhancers.	.089	.154	.696	.166	6.4	1.29
At least one of my family members makes rude or embarrassing comments about me.	.323	.273	.314	.607	5.8	1.75
At least one of my family members consistently has a negative attitude with me.	.439	.163	.385	.642	5.9	1.70

Factor 1: Poor relationship and lack of support (C- α = .76)

Factor 2: General pressure (C- α = .85)

Factor 3: Pressure to quit or continue unsafely (C- α = .76)

Factor 4: Embarrassing comments and negative attitude (C- α = .62)

Table 3. Rotated factor matrix for Coaching Relationship Scale using an unweighted least squares extraction and a varimax rotation with Kaiser normalization. Internal consistency, as measured by Cronbach's Alpha ($C-\alpha$), is reported for each subscale.

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Item Mean	SD
I don't have a good relationship with at least one of my coaches.	.746	.315	.212	.126	4.5	2.12
At least one of my coaches consistently has a negative attitude toward me.	.772	.396	.135	.176	4.7	2.21
I disagree with the decisions of at least one of my coaches.	.714	.055	.250	.180	4.1	2.05
At least one of my coaches interferes with my athletic performance during competition.	.622	.289	.198	.371	5.0	2.05
At least one of my coaches doesn't support me after I have performed poorly.	.684	.189	.403	.291	4.6	2.08
I don't like training with at least one of my coaches.	.690	.293	.129	.179	4.5	2.09
At least one of my coaches doesn't provide enough encouragement for me.	.731	.131	.335	.334	4.6	2.06
At least one of my coaches needs to praise me more often.	.649	.163	.213	.236	4.9	2.06
I feel left out or isolated from at least one of my coaches.	.617	.280	.307	.119	5.0	2.02
At least one of my coaches has me do things that could result in me being injured or worsen existing injuries.	.327	.618	.035	.340	5.7	1.81

Table 3. (Continued)

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Item Mean	SD
At least one of my coaches doesn't promote teamwork.	.376	.638	.278	.185	5.6	1.95
At least one of my coaches encourages me to take performances enhancers.	.102	.662	.161	.195	6.4	1.45
At least one of my coaches is not demanding enough with me.	.158	.274	.651	.251	5.4	1.79
At least one of my coaches doesn't spend enough time with me during training.	.409	.136	.698	.126	4.9	1.99
At least one of my coaches is not competitive enough with me.	.280	.420	.594	.130	5.6	1.76
I'm not living up to the expectations of at least one of my coaches.	.377	.056	.536	.200	4.5	1.99
At least one of my coaches is too demanding with me.	.351	.274	.299	.580	5.4	1.72
At least one of my coaches puts too much pressure on me.	.421	.298	.182	.627	5.2	1.80
At least one of my coaches is too competitive.	.178	.214	.293	.546	5.3	1.95

Factor 1: Poor relationship and lack of support (C- α = .91)

Factor 2: Lack of concern for teamwork and safety (C- α = .72)

Factor 3: Lack of involvement and high expectations (C- α = .82)

Factor 4: Too demanding (C- α = .66)

Table 4. Rotated factor matrix for Teammate Relationship Scale using an unweighted least squares extraction and a varimax rotation with Kaiser normalization. Internal consistency, as measured by Cronbach's Alpha (C- α), is reported for each subscale.

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Item Mean	SD
At least one of my teammates doesn't support me after I have performed poorly.	.507	.055	.464	.333	.073	4.9	1.88
At least one of my teammates doesn't provide enough encouragement.	.527	.181	.370	.292	.196	4.7	1.92
At least one of my teammates puts too much pressure on me.	.620	.290	.166	.173	.065	5.3	1.69
At least one of my teammates needs to praise me more often.	.578	.088	.232	.081	.097	5.4	1.72
I feel left out or isolated from at least one of my teammates.	.617	.047	.015	.420	.099	4.8	1.95
At least one of my teammates is too demanding on me.	.676	.382	.249	.271	-.133	5.4	1.59
At least one of my teammates encourages me to take performance enhancers.	.169	.667	.022	-.001	.311	6.0	1.68
I consistently disagree with decisions of my teammates during competition or training.	.088	.570	.427	.267	-.018	5.0	1.89
At least one of my teammates is too hard on me in training.	.450	.551	.172	.241	.145	5.6	1.57

Table 4. (Continued)

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Item Mean	SD
At least one of my teammates encourages me to use recreational drugs.	.098	.716	.017	.170	.311	6.0	1.72
At least one of my teammates is not competitive enough for me.	.207	.094	.634	.106	.109	4.3	2.12
At least one of my teammates is not a "team player."	.194	.091	.768	.131	.179	3.7	2.13
I don't have a good relationship with at least one of my teammates.	.113	.340	.209	.653	.087	4.6	2.00
I'm not living up to the expectations of at least one of my teammates.	.386	.021	.106	.534	.112	4.7	1.77
At least one of my teammates says things that make me feel guilty.	.399	.105	.156	.564	.259	4.9	1.82
At least one of my teammates has a negative attitude toward me.	.380	.255	.322	.517	.091	4.8	1.96
At least one of my teammates encourages me to drink alcohol.	-.052	.198	.145	.144	.515	5.0	2.11
At least one of my teammates interferes with my athletic performance during competition.	.348	.238	.114	.100	.589	5.8	1.63

Factor 1: Poor relationship and lack of support ($C-\alpha = .76$)

Factor 2: Pressure to use illicit drugs and being difficult during training ($C-\alpha = .78$)

Factor 3: Not a team player and too non-competitive ($C-\alpha = .45$)

Factor 4: Poor relationship ($C-\alpha = .71$)

Factor 5: Pressure to drink alcohol and interfere during competition ($C-\alpha = .69$)

Table 5. This is a rotated factor matrix for the Peer Relationship Scale using a principal component extraction and a varimax rotation with Kaiser normalization. Internal consistency, as measured by Cronbach's Alpha ($C-\alpha$), is reported for each subscale.

It's a <u>problem</u> for me in my sport that...	Factor 1	Factor 2	Item Mean	SD
My involvement in sports has led me to feel left out or isolated from my peers.	.516	.188	5.2	2.01
At least one of my peers doesn't support me after I have performed poorly in my sport.	.708	.186	5.4	1.84
I don't have a good relationship with at least one of my peers.	.750	.125	4.5	2.13
At least one of my peers says things that make me feel guilty.	.825	.107	5.2	1.82
At least one of my peers consistently has a negative attitude with me.	.746	.281	5.2	1.96
At least one of my peers makes rude or embarrassing comments about me.	.807	.236	5.2	1.99
At least one of my peers interferes with my athletic training routine.	.645	.493	5.4	1.86
At least one of my peers encourages me to drink alcohol.	.028	.745	4.4	2.25
At least one of my peers encourages me to use recreational drugs.	.281	.839	5.6	1.92
At least one of my peers encourages me to take performance enhancers.	.373	.618	6.1	1.357

Factor 1: Poor relationship and lack of support ($C-\alpha = .80$)

Factor 2: Use of recreational and performance-enhancing substances ($C-\alpha = .76$)

Discussion

This study provides initial psychometric support for the Student Athlete Relationship Instrument. The principal axis factoring extraction method demonstrated acceptable construct validity for each of the SARI scales (i.e., SARI-Coaches, SARI-Family, SARI-Peers, SARI-Teammates). Moreover, each of these scales demonstrated excellent internal consistency, with coefficients of at least .87. Similarly, subscales within each of the SARI scales demonstrated acceptable internal consistency. Criterion-related validity of the SARI was supported as each of its scales was shown to be significantly positively correlated with single items measuring similar constructs (e.g., overall happiness with coaches was significantly positively related with scores on the SARI-Coaches). Thus, sport specific problems within the various relationship domains assessed in the SARI are related to measures of the overall relationships, although further validity along these lines is warranted.

The results of this study shed light on prior research. Specifically, previous studies have found family members may influence the involvement and achievement of athletes in sport more than coaches (Bloom, 1985; Brustad, 1993; Hellstedt, 1988, 1995; Woolger & Power, 1993), and in this study student athletes reported that their family contributed at least as much to their performance in sports as their coaches and teammates, and significantly more than their peers. The latter finding supports the contention that sport psychologists should involve family members in the development of intervention planning when working with athletes. Moreover, observation of item mean scores suggest all relationship topics assessed in the SARI (i.e., items) have the potential to negatively affect sport performance (i.e., mean responses to all items in the SARI were positively skewed in the direction indicative of being problematic to athletic performance). Interestingly, overall happiness in the family relationship was perceived by participants to be strongest, followed by the peer and teammate relationships. Student athletes were least happy in their relationship with coaches. This makes sense as student athletes have likely spent less time developing their relationships with coaches, as compared with the other relationships. The result is also consistent with studies that have found student athletes generally wish for a better coach than the one to which they are exposed (Bortoli, Robazza, & Giabardo, 1995). Consistent with the recommendations of these investigators, there appears to be growing empirical support for the need to improve the coach-athlete relationship.

Student athletes also perceived their family members contributed more to their sport performance than peers, although not significantly more than coaches. Therefore, the SARI appears to be measuring information that is unique to measures of overall happiness in the relationship, suggesting the SARI may offer distinct advantages over the customarily utilized

measures of relationship that are not specific to athletics. Important to clinical application, factor structure of the SARI supported problematic themes across the respective relationships (e.g., pressure to perform, lack of support, pressure to use performance enhancing drugs). Although these problems are commonly experienced by athletes, and well-substantiated to be detrimental to long-lasting performance in sports across studies (see Weinberg & Gould, 1999), the SARI is the first empirical measure to assess these problems within the context of their relationships with significant others.

Examining mean responses to items, it is disappointing to learn athletes consistently reported pressure to use performance enhancing drugs as their highest rated problem in each of the relationships (item range = 6.0 to 6.4). Along these lines, Tricker and Connolly (1996) reported increased awareness of problems associated with performance enhancing drugs. Although it is certainly good student athletes in this study recognize performance enhancing drugs are problematic, the results imply student athletes are getting pressure to use them nonetheless. Moreover, it appears pressure to use performance enhancing substances may be a significant stressor in relationships of athletes. Given that detrimental physical effects of anabolic steroids are becoming increasingly recognized, it is not surprising that performance enhancing drugs were consistently associated with items that were pertinent to doing things that are a threat to bodily harm (i.e., pressure to use alcohol, drugs, or things that could result in injury). Unfortunately, as reported by Tricker and Connolly (1996), a relative lack of clarity remains regarding what elements of drug education prevention programs have been successful or unsuccessful in preventing performance enhancing drugs. Indeed, with the exception of their study, the components and structure of drug education and prevention programs (DEPP) for student athletes have not been well described, and no outcome studies have been conducted to evaluate the effects of such programs in decreasing performance enhancing drug use. The finding in this study that student athletes report relatively high levels of pressure to use performance enhancing drugs in their relationships suggest these programs should involve parents, coaches and peers whenever feasible.

The SARI appears to have clinical utility, as sport psychologists can administer all scales to athletes in determining specific relationships that may be problematic to their performance in sport, or selectively choose scales to assess specific relationships. Once problematic relationships are identified, particular problem domains can be examined to assist in treatment planning. Indeed, item content permits functional analyses through the process of querying responses to items that are within elevated scales (e.g., "You indicated that it's been extremely problematic for you that your coach doesn't support you after you've performed poorly. Tell me how this has been a problem for you"). The SARI may also be utilized to facilitate treatment planning (e.g., "How can the coach be more supportive of you after you've performed poorly?").

Lastly, the SARI can be used to measure outcomes in controlled trials, or assess progress when working with athletes in clinical settings, particularly when interventions are designed to improve relationships among athletes.

Future research involving the SARI should determine if confirmatory factor analyses substantiate results of the present investigation (i.e., similar factor structure). Similarly, items were specifically developed to assess the extent of sport specific problems in the relationships of student athletes. Therefore, its utility in professional athletes is undetermined. It is also important to mention these preliminary results are based on self-report data. Although the present results are promising, future investigations should emphasize objective assessment of sport performance, and determine if athlete responses to the developed scales are negatively correlated with problems in sport.

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