An Exploration of Sociometric Status and Peer Relations in Youth Sport

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Abstract

More than 10 years ago, it was suggested that sociometry and systematic observation were two potentially useful but under-utilized methods for the study of peers in youth sport (Smith, 2003). Despite this call, the methods used to study peers in sport remain largely focused on athletes’ perceptions through questionnaires and interviews. Thus, the purpose of this exploratory, descriptive study was to investigate the utility of sociometry in relation to sport competence and observed athlete behavior in youth sport. Three adolescent female volleyball teams were videotaped during three practice sessions, and sport competence and sociometric status were assessed using questionnaires. An observational coding system was developed and used to code athlete behaviors and data were compared across sociometric status groups. Results revealed significant differences between sociometric status groups on peer ratings of sport competence, but not on athlete behavior. However, interesting findings emerged with respect to how status groups interacted with teammates and coaches. Thus, sport competence seems to be an important factor in gaining acceptance among youth peer groups. Further, sociometry and behavioral observation appear to be useful techniques that should continue to be employed in the study of peer relations in youth sport.

Keywords: observation, athlete behavior, peers, peer acceptance
Peers have been shown to influence a multitude of positive and negative outcomes in youth’s sport experiences. For instance, peer acceptance is associated with increased self-esteem (Daniels & Leaper, 2006), positive physical self-worth, and intrinsic motivation toward physical activity and sport in adolescents (Smith, 1999). Children and adolescents also cite the opportunity to positively interact with peers and develop and strengthen friendships as a principal source of enjoyment in sport (Weiss & Smith, 2002). However, peers can also play a negative role in sport participation; for instance, peers can be perceived as a source of stress and anxiety through negative evaluation and conflict (Fraser-Thomas & Côté, 2009). This variable relationship between peers and youth’s sport experiences suggests that this is an area of research that should be examined further, specifically in the types of interactions and relationships that lead to differential outcomes.

One of the most widely studied and foundational constructs within the peer literature is peer acceptance. Peer acceptance, popularity, and social status are all interchangeable group constructs which reflect the experience of being liked or accepted by one’s peer group (Weiss & Stuntz, 2004). Much of the early research on peers in sport focused on understanding youth’s perceptions of the characteristics important for being accepted within one’s peer group. In particular, researchers have been interested in the relationship between peer acceptance and athletic ability or sport competence. It has been widely shown that youth cite sport competence as one of the most important qualities for acceptance into one’s peer group, a finding which holds true across genders (Lindstrom & Lease, 2005) and in both children (e.g., Chase & Dummer, 1992) and adolescents (e.g., Vannatta, Garstein, Zeller, & Noll, 2009).
The benefits of being athletically skilled also appear to extend beyond peer acceptance. A study of male children suggested that the most highly skilled athletes were also afforded greater opportunities to develop leadership qualities (Evans & Roberts, 1987). Playing significant roles in games may have allowed these athletes to further develop their athletic and interpersonal skills (e.g., develop friendships). Similar findings have also demonstrated this link between sport competence, peer acceptance, and leadership in adolescent athletes (Moran & Weiss, 2006).

While there is evidence for the association between peer acceptance and sport competence, a number of limitations still persist. This relationship has primarily been studied among children and adolescents within a classroom context; it is unknown whether similar relationships persist among organized sport teams. Further, researchers have most often assessed self-perceptions of peer acceptance through self-report questionnaires (e.g., Harter, 1982). However, if one’s intention is to measure how well accepted an individual is by their peer group, it is sensible to collect data from one’s peer group. One way to do so is through the use of sociometry, which has been widely used in developmental psychology to assess an individual’s level of peer acceptance (i.e., sociometric status) from the perspective of one’s peer group (Newcomb, Bukowski, & Pattee, 1993).

Sociometric status is commonly measured using peer nominations (Coie, Dodge, & Coppotelli, 1982). In his approach, participants select individuals that correspond to their perceptions (e.g., teammates they like the most and/or least) by circling the name(s) on a list or writing them down. These nominations are used to establish group membership using a standardized score procedure (Coie et al., 1982). Participants are classified into one of five groups: (1) Popular (many positive and few negative nominations); (2) rejected (few positive and many negative nominations); (3) neglected (few positive and negative nominations); (4)
controversial (many positive and negative nominations); and (5) average (average number of positive and negative nominations).

Research in developmental psychology has demonstrated many robust findings regarding the behavioral correlates of sociometric status among youth (Newcomb et al., 1993; Rubin et al., 2006). In general, youth of higher sociometric status tend to display more adaptive social skills and peer interactions than youth of lower sociometric status (Rubin et al., 2006). Popular youth, who are most well-liked by their peers, usually have the social abilities to maintain positive relationships with peers (Asher & Parker, 1989). Rejected youth seem to be polar opposites of their popular peers, with a tendency to be less cognitively skilled and sociable and more aggressive and withdrawn (Newcomb et al., 1993). Controversial youth appear to parallel their receipt of both positive and negative nominations; they tend to be more aggressive (similar to rejected peers), but also show greater sociability (similar to popular peers; Newcomb et al., 1993). Finally, there is some controversy regarding the neglected sociometric status because individuals classified into this group tend to exhibit the fewest behavioral differences compared to the average group. However, overall, neglected youth tend to exhibit a lower level of social interaction and are less visible within their peer group (Newcomb et al., 1993). While other approaches to categorizing peer relations exist (e.g., Smith, Ullrich-French, Walker, & Hurley, 2006), the above mentioned groups are arguably the most prevalent categorization of sociometric status in developmental psychology (Cillessen & Bukowski, 2000). It is thus a reasonable framework to utilize in extending this approach to the sport context.

Numerous studies have been published on the behavioral correlates of sociometric status in youth, but most of them have been conducted in a school setting. It should not be assumed that findings regarding peer relations in one context automatically apply to others (Weiss & Stuntz,
2004; Zarbatany et al., 1992). Despite the wealth of research utilizing sociometric methods, young children have been studied most extensively using this method in comparison to adolescents. This is because sociometry is best suited to stable, closed peer systems (Brown, 2004). In high school, class rotations expose students to a changing, unstable group of peers (Poulin & Dishion, 2008); however, organized sport represents a unique context that is ideal for the study of peer relations across both childhood and adolescence. In most cases, organized sport teams are set at the beginning of the sport season and this group of athletes interacts on a regular basis at practices and games. Therefore, organized sport represents a potentially useful context to study peer relations in adolescence using sociometric methods.

However, relatively few youth sport studies have employed sociometric techniques to examine peer acceptance (Smith, 2003; Vierimaa, Erickson, Côté, & Gilbert, 2012). Although researchers employing sociometric methods are often interested in interactive behaviors associated with sociometric status, there have been relatively few studies in developmental psychology and none in sport that have measured behavior directly. This can be problematic because alternative methods of measuring behavior (e.g., self or other ratings) may lack the sensitivity to detect subtleties captured through systematic observation (Pepler & Craig, 1995).

Even though it is well known that peer interactions can help to facilitate positive sport experiences, researchers have yet to fully evaluate the actual behaviors that make up these interactions (Murphy-Mills et al., 2011). Only a handful of studies have also observed athlete communication during team sport competition (Hanin, 1992; Lausic, Tenenbaum, Eccles, Jeong, & Johnson, 2009; LeCouteur & Feo, 2011) and practice sessions (Erickson, Côté, Hollenstein, & Deakin, 2011). Collectively, these studies highlight the complexity and context-dependent
nature of peer interactions in sport; however, they fail to provide adequate detail on the full breadth of interactive behaviors that athletes display.

The purpose of this exploratory study was to test the utility of sociometry and systematic observation in the study of peer relations in a sample of adolescent female volleyball players. More specifically, we aimed to use sociometry as a novel means studying of social status in sport teams, and develop an observational coding system to systematically measure athlete behavior. Using this methodological approach, we examined differences in ratings of sport competence and observed athlete behavior across sociometric status groups.

Methods

Participants

The participants were female adolescent volleyball players ($N = 28$) aged 14-17 ($M = 15.94$, $SD = 1.30$) from three different competitive teams within the same club, with an average of 3.66 years of playing experience. While coaches were not directly analyzed, team selection criteria was based on a head coach with a minimum of five years of coaching experience. The coaches were both female ($n = 1$) and male ($n = 2$), with 7-42 years of experience.

Procedure

Ethical clearance was received from the University’s General Research Ethics Board prior to study commencement. The coaches, athletes, and parents all provided active written consent prior to participation in the study. Three practices of each participating team were videotaped using two cameras while athletes’ verbalizations were captured with a parabolic microphone. This experimental setup captured all of the physical and most verbal interactions that took place during the practice sessions, such that the behavior of each athlete could be continuously monitored throughout each session. The first recording of each team acclimatized
the coaches and athletes to the research team and equipment, while the two subsequent
recordings of each team were used for analysis. All athletes who were present for the second and
third recording sessions and who completed the questionnaires were retained for analysis. All
videos were recorded during the middle of each team’s season within four weeks of each other.
Sixty minute segments were selected from each practice session, all of which included warm-
ups, structured drills, breaks, and scrimmages, yielding six total hours of video for analysis.

Questionnaires were administered following each team’s final recorded practice session
in order to help mitigate reactivity to the sensitive nature of the measures. The research team
emphasized the strict confidentiality of the athletes’ responses, given the sensitive nature of the
peer ratings and nominations, while multiple members of the research team were present to
monitor the activity and prevent chatting among athletes.

Measures

Sport competence. The participants’ sport competence, or athletic ability was assessed
using the Sport Competence Inventory (Vierimaa, Erickson, Côté, & Gilbert, 2012), which was
adapted from a single-item measure which was previously used to assess perceptions of athletic
competence among children (Causgrove Dunn, Dunn, & Bayuza, 2007). The Sport Competence
Inventory is composed of three items which asses athletes’ technical (e.g., blocking), tactical
(e.g., decision making), and physical (e.g., speed) sport skills respectively, which are prefaced by
the question stem: “Please rate this person’s sport competence in the following areas…” . This
instrument measures sport competence perceptions from three perspectives: self, peer, and coach.
Athletes rate themselves and each of their teammates on the three items using a 5-point Likert
type scale ranging from ‘not at all competent’ to ‘extremely competent’. Coaches also complete
an identical set of items for each of their players. Self and coach ratings are reflective of each
athlete’s self rating and that of their respective head coach, while peer ratings are determined
from the mean ratings from each athlete’s teammates.

**Sociometric status.** Sociometric status was assessed using a peer nomination
questionnaire (adapted from Coie et al., 1982). Participants responded to two statements: (1)
Identify the three teammates that you enjoy participating in your sport with the most, and (2)
identify the three teammates that you enjoy participating in your sport with the least. These two
items deviated slightly from the traditional measurement of peer like and dislike (e.g., Coie et al.,
1982) in order to focus on athletes’ peer relations strictly within the team environment. Athletes
indicated their selections for each question by circling the corresponding teammates’ names on a
randomly-ordered roster (Poulin & Dishion, 2008). Athletes were explicitly instructed to base
their selections on their experiences within the team environment, excluding previous
experiences outside of the sport environment (e.g., school).

**Athlete behavior.** Given the lack of observational research on peers in sport, the present
study necessitated the development of the Athlete Behavior Coding System (ABCS). The ABCS
provides an exhaustive categorization of athlete behavior on a continuous basis, meaning the
duration of athletes’ behavior is coded for each second of a given observation. The development
of the categories for the ABCS was informed by relevant coding systems from both within (e.g.,
Erickson et al., 2011; LeCouteur & Feo, 2011) and outside of sport (e.g., Dishion et al., 1989;
Rusby et al., 1991). An iterative review of salient literature and pilot video from multiple youth
sport contexts (e.g., soccer, swimming, tennis, and volleyball) yielded a total of 8 content
categories: (1) Prosocial communication (e.g., complimenting a teammate), (2) technical/tactical
communication (e.g., discussing strategy), (3) directive communication (e.g., telling a teammate
to change positions on the court), (4) general communication (e.g., chatting about a television
show), (5) engaged (e.g., participating in practice), (6) non-cooperative/disruptive (e.g., ignoring
the coach’s instructions), (7) antisocial communication (e.g., criticizing an opponent), and (8)
uncodable (e.g., out of view of camera). The specific target of each interactive behavior (i.e.,
peers or coaches) was also recorded. While other measures such as the frequency of each
behaviour category can be gleaned from the ABCS, this initial exploratory study focused only on
the mean duration in which each behaviour was displayed during a practice session.

Reliability Testing. One independent coder was trained on the use of the ABCS to assist
the primary researcher in coding the data. Following a three week training period, the
prospective coder was assigned ten minute assignments which were compared with a gold-
standard coded by the primary researcher. This process continued until an average frequency
agreement of 75% was reached for two 10 minute video segments, in line with previous research
(Erickson et al., 2011; Hollenstein, Granic, Stoolmiller, & Snyder, 2004). Frequency agreement
refers to the total number of occurrences that all coders activated the same exact string of codes
(i.e., participant, behaviour content, and target) within a three second window of time.

Data Analysis

Participants’ sociometric status was determined based on Coie and colleagues’ (1982)
classification procedure. The total number of positive and negative nominations that each
participant received were tallied and converted into standardized enjoyed most (zEM) and
enjoyed least (zEL) scores. Indices of social preference (SP = zEM-zEL) and social impact (SI =
zEM+zEL) were calculated and standardized for each participant. These standardized scores
were used to classify participants into one of five sociometric status groups: (a) Popular (SP >
0.8, zEM > 0, zEL < 0); (b) rejected (SP < -0.8, zEM < 0, zEL > 0); (c) neglected (SI < -0.8,
zEM and zEL < 0); (d) controversial, (SI > 0.8, zEM and zEL > 0); and (e) average, consisting of all remaining participants.

In line with past research, the goal of the present study intended to explore how sociometric status groups deviated from average (Newcomb et al., 1993). To do so, independent samples t-tests were used to compare the extreme groups (i.e., popular, rejected, neglected, and controversial) with the average group on measures of behavior duration and self ratings of sport competence. The same comparisons were also examined for the peer and coach ratings of sport competence using dependent samples t-tests. The Bonferonni-corrected alpha-value was set at .01 to control for multiple comparisons within each conceptual grouping. In line with the exploratory nature of this descriptive study, t-tests were used to examine the pairwise comparisons of interest, which may not have been possible with a potentially non-significant ANOVA given the small sample size and statistical power. Effect sizes ($d$) were calculated and reported alongside $p$-values to aid in interpreting the data; by convention, effect sizes of 0.20, 0.50, and 0.80 were considered small, moderate and large effects, respectively (Cohen, 1992).

**Results**

**Coding System Reliability**

The primary researcher and independent coder reached the minimum 75% frequency agreement prior to coding video designated for analysis (frequency agreement = 83.20%; kappa = .83). Later in the coding process, a 20-minute segment was randomly selected to be coded by both coders, which was used in a second inter-rater reliability check (frequency agreement = 79.10%).
Sociometric Status

Of the 28 participants, nine (32.1%) were classified as popular, three (10.7%) as rejected, seven (25%) as neglected, three (10.7%) as controversial, and six (21.4%) as average. These groupings will be used to compare the participants in all subsequent analyses.

Sport Competence

The peer ($\alpha = .72$) and coach ($\alpha = .72$) formats of the three item questionnaire demonstrated adequate internal consistency, while the self rating format ($\alpha = .60$) scored slightly lower. Correlations between the three sources of competence perceptions showed a strong relationship between peer and coach ratings of competence ($r = .81, p < .01$), while self ratings of competence were weakly correlated to coach ($r = .18, p = .44$) and peer ($r = .31, p = .16$) ratings, respectively. Basic descriptives of the mean self, peer, and coach ratings of sport competence with the participants grouped by sociometric status are presented in Table 1.

T-tests were performed to examine how other sociometric status groups differed from the average group on ratings of competence (Table 2). No groups differed significantly from the average athletes on self ratings. For peer ratings, popular athletes received significantly higher competence ratings compared to average athletes, ($t(27) = -4.64, p < .01, d = 0.88$), while rejected athletes received significantly lower ratings compared to average, ($t(18) = 3.66, p < .01, d = 0.84$). No significant differences emerged for coach ratings; however, the comparisons of popular and average athletes ($t(2) = 5.28, p = .03$), and controversial and average athletes ($t(2) = 8.00, p = .01$) were both approaching statistical significance.

Athlete Behavior

The few instances of sport-related directive communication were collapsed within technical communication, and a lack of observed antisocial communication excluded it from
further analyses. All of the other active communicative codes (i.e., prosocial, technical, and general communication) were further differentiated by target, indicating whether an athlete was interacting with a coach or teammate. Post-hoc power analyses revealed that t-tests were underpowered with all comparisons well below the .80 threshold (the highest being .08) to detect significant medium effects, given the limited sample size. The following sections will thus describe the observed trends in terms of effect size (d); specifically, effect sizes larger than 0.5 (medium) will be noted to highlight the principal observed trends in this sample.

A square root transformation was applied to the positively skewed variables representing the mean duration of athletes’ behavior. Figure 1 displays the mean duration of each athlete behavior category across sociometric status groups. Additionally, descriptive statistics for the mean duration of each athlete behavior can be found in Table 3. While raw means and standard deviations are provided, t-tests were conducted using the transformed scores (Table 4). No statistically significant differences were observed between the average and the other sociometric status groups for any of the behavior categories; however, many medium to large effect sizes were observed. Large effect sizes (d = 1.08-1.48) suggest that the popular athletes engaged in more general communication with coaches and less technical communication with peers in comparison to the average athletes. Rejected and neglected athletes appeared to be less sociable overall, compared to average athletes, given the large observed effect sizes (d = 0.89-2.04). Similarly, rejected and neglected athletes spent less time displaying prosocial and technical communication with coaches, and general communication with peers compared to the average group (d = 0.58-1.23). Neglected athletes also displayed higher levels of general communication with coaches (d = 1.64). Finally, the controversial athletes spent more time than their average
teammates engaged in technical communication with peers and general communication with coaches \((d = 1.12-1.5)\).

**Discussion**

This exploratory descriptive study aimed to uncover differences between sociometric status groups on ratings of sport competence and observed athlete behavior during practice sessions. A number of significant differences emerged with respect to sport competence and sociometric status, and even though no significant differences were observed for any behavioral measures, a number of interesting findings warrant consideration, which will be discussed alongside the potential utility of systematic observation and sociometry in future sport research.

Popular athletes received peer competence ratings that were significantly higher than average athletes, and coach ratings that were nearly significantly higher than average athletes. On the other hand, rejected athletes received significantly lower peer ratings of sport competence than average athletes, which together corroborates previous research and supports the notion that sport competence is a major factor associated with youth’s social status (e.g., Vannatta et al., 2009; Weiss & Duncan, 1992). The present study extends previous research conducted primarily in schools and highlights that this finding may also hold true within youth sport teams; athletes may enjoy participating with competent teammates as it promotes an overall feeling of success or competence. Further, the similarity of peer and coach ratings of competence highlights the potential influence of the coach on athletes’ perceptions of competence and popularity.

Popular athletes appeared to spend less time discussing general, non-sport related topics with their peers, and more time displaying this behavior with their coach, compared to the average group. If we also consider the popular group’s elevated sport competence, it could be suggested that they spent less time in general communication with their peers because they are so
highly invested in their sport. These highly competent, popular athletes may tend to spend more
time on skill development that could have otherwise been spent chatting with their peers.

Similarly, expectancy theory, the notion that an expectation serves to cue a given behavior,
leading to that expectation becoming true (Merton, 1948), may help to explain the increased
amount of time popular athletes spent communicating with their coaches during practice.

Research on adolescent athletes has suggested that coaches provide more attention to athletes
they perceive to be more skilled (Solomon, DiMarco, Ohlson, & Reece, 1998). Therefore, as
coaches in the present study perceived popular athletes to be the most competent, they may have
been more inclined to spend more time interacting with those athletes.

However, it is also possible that sociometric status may instead be a product of a
combination of other factors such as sport competence, since not all correlates of sociometric
status are behavioral in nature (Rubin et al., 2005). Sport competence, physical appearance, and
academic competence all appear to be predictors of peer acceptance in children and adolescents
(Vannatta et al., 2009). These athletes may have been well-liked by their peers due to their sport
competence or other individual factors aside from their social behavior. Given the previously
established links between peer acceptance, sport competence, and other factors such as peer
leadership and friendship quality (e.g., Moran & Weiss, 2006), future research should examine
whether relationships between these factors and specific behavioral characteristics emerge that
may help to explain these findings.

Overall, the rejected and neglected groups tended to be less sociable than the average
group, a finding consistent with past research in schools (e.g., Newcomb et al., 1993). These two
groups also shared similar characteristics with respect to the specific behaviors that they
displayed. Both groups spent less time displaying general, non-sport related interactions with
peers compared to average. In schools, it has been shown that lower status individuals tend to belong to smaller cliques compared to higher status individuals (Benenson, Apostoleris, & Parnass, 1998). It is therefore possible that the rejected and neglected groups displayed lower relative levels of sociability and peer interaction because they were only comfortable interacting with a smaller subset of their peers. Similarities were also observed between rejected and neglected athletes in relation to their interactions with coaches. Both groups engaged in less prosocial and technical communication with coaches. It is possible that this could sometimes be explained by the athletes ignoring the coach due to a lack of social skills (Newcomb et al., 1993); however, it is also possible that these athletes may have been ignored by their coaches, which is line with education research which has found that teachers sometimes reject students who have also been rejected by their peers (Lopes, Cruz, & Rutherford, 2002). While it is unknown whether similar findings exist in a youth sport context, it warrants future consideration.

Expectancy theory may also help to explain that coaches provided less prosocial and technical feedback to athletes of lower sociometric status, whom they also perceived as less competent. The expectancy that a coach has for a certain athlete will affect how the coach treats that particular athlete (Rejeski, Darracott, & Hutslar, 1979). Studies of intercollegiate and high school basketball players and coaches revealed that high expectancy (i.e., highly skilled) athletes received more technical instruction and praise from coaches than low expectancy (i.e., less skilled) athletes (Solomon et al., 1998). Solomon and Rhea (2008) also found that sport competence, or athletic ability, was one of the most important sources of information that coaches used to derive their perceptions of athletes. Thus, it is possible that this finding is indicative of the competitive nature of sport and coaches’ underlying desire to win—coaches
may favor their more highly skilled players in order to improve their team’s chances at winning in subsequent competitions.

However, this self-fulfilling prophecy can be problematic in youth sport contexts when one of the primary coaching goals to foster skill development among all athletes (Côté, Young, North, & Duffy, 2007). By providing certain athletes increased technical feedback and encouragement, coaches may be amplifying the disparity between athletes of low and high social status and/or competence level, effectively inhibiting the skill development of a large portion of young athletes. This imbalance of prosocial and technical communication with coaches seems to be contrary to the suggestion that effective coaches should assess athletes and provide feedback and instruction to challenge them to improve (Côté et al., 2007). Based on this notion, it would be expected that youth sport coaches would provide more feedback to lesser skilled athletes to motivate them to develop their sport skills. Similarly, effective coaches are expected to possess intrapersonal knowledge which includes constant introspection (Côté & Gilbert, 2009). In this case, coaches should be cognizant of their neglect of certain subsets of athletes, and then tailor their subsequent behaviors accordingly to allow for optimal opportunities for athlete development.

Compared to average athletes, controversial athletes appeared to spend more time engaged in non-sport related communication with coaches, and sport-related communication with peers. Engaging in general communication with coaches is consistent with popular athletes; however, the controversial group seemed to bear no striking behavioral similarities to their rejected peers. Thus, the present sample partially supports the conceptualization of controversial individuals as sharing similarities with both popular and rejected peers (Newcomb et al., 1993).
The finding that controversial athletes seemed to engage in high levels of technical communication with their peers is a finding that may be unique to this sociometric status group. This may be a polarizing trait, where certain peers appreciated the frequent technical communication provided by these athletes, while others were opposed to it, leading to moderately high levels of both positive and negative peer nominations. In female adolescent athletes, peer acceptance and self-perceived sport competence were predictive of peer leadership (Moran & Weiss, 2006). In the present study, controversial athletes may have perceived themselves as leaders, motivating them to provide higher levels of technical instruction and feedback to their teammates. To this effect, future research should probe athletes regarding their behavior in sport to uncover the association between internal perceptions and observed behavior.

**Limitations and Future Directions**

Given that the present study was one of the first of its kind to measure sociometric status and athlete behavior through observation, it is not without limitations. An often cited drawback of observational research is that it is very time-intensive (Rubin et al., 2006); thus, this exploratory study was limited by its small sample size, which resulted in underpowered statistical analyses. However, salient trends emerged (Figure 1) which should encourage the future use of observation. In addition, it is important to state that, as with all observational research, participants’ behavior may have been influenced by the Hawthorne effect. However, the direct observation of behaviors can also be considered a key strength of this study. Relatively few studies of sociometric status have assessed behaviors through direct observation (Newcomb et al., 1993); rather, self, peer, or teacher ratings of behavior are more often used (Rubin et al., 2006). Systematic observation is regarded as the standard upon which other forms of behavioral assessment should be compared (Rubin et al., 2005), and therefore this method should continue...
to be employed by sport researchers unless an individual’s perceptions are preferable to their actual behavior. Future research on athlete behavior should consider the target of behaviors in greater detail, in order to examine both what behaviors athletes are displaying and who athletes are interacting with. The present study was cross-sectional in nature to provide a social snapshot of three teams at one point in time during a season. However, while this design was appropriate for an initial exploratory descriptive study, future research should longitudinally examine the stability of sociometric status, sport competence, and behavior.

Practical Implications

Given the significant negative implications of peer rejection outside of the sport context (Newcomb et al., 1993), the observed behavioral trends in the present study should be examined further. If researchers can identify specific behavior patterns associated with sociometric status in sport, this information could be translated to coaches and program developers to optimize the youth sport environment to foster positive peer relationships and overall sport experiences. This may be particularly important for the study’s demographic; sport participation rates are generally lowest for adolescent females compared to adolescent males and younger youth (Canadian Fitness and Lifestyle Research Institute, 2012). Thus, the sport environment should be structured to foster adaptive peer relations, leading to long-term sport participation.
References


Table 1

*Mean Self, Peer, and Coach Ratings of Sport Competence*

<table>
<thead>
<tr>
<th></th>
<th>Popular (n = 9)</th>
<th>Rejected (n = 3)</th>
<th>Neglected (n = 7)</th>
<th>Controversial (n = 3)</th>
<th>Average (n = 6)</th>
</tr>
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<tbody>
<tr>
<td>Self Ratings</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
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<tr>
<td>Self Ratings</td>
<td>3.76 (0.23)</td>
<td>3.06 (1.08)</td>
<td>4.00 (0.26)</td>
<td>3.78 (0.09)</td>
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<td>Peer Ratings</td>
<td>4.27 (0.31)</td>
<td>3.23 (0.50)</td>
<td>3.65 (0.30)</td>
<td>3.46 (0.39)</td>
<td>3.64 (0.10)</td>
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<tr>
<td>Coach Ratings</td>
<td>3.86 (0.42)</td>
<td>3.00 (0.67)</td>
<td>3.37 (0.45)</td>
<td>2.94 (0.25)</td>
<td>3.25 (0.17)</td>
</tr>
</tbody>
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Table 2

**Comparison of Average and Extreme Groups on Sport Competence**

<table>
<thead>
<tr>
<th></th>
<th>Average vs. Popular</th>
<th></th>
<th>Average vs. Rejected</th>
<th></th>
<th>Average vs. Neglected</th>
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<th>Average vs. Controversial</th>
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<tr>
<td></td>
<td>t (df)</td>
<td>p</td>
<td>d</td>
<td>t (df)</td>
<td>p</td>
<td>d</td>
<td>t (df)</td>
<td>p</td>
</tr>
<tr>
<td>Self Ratings</td>
<td>1.79 (9)</td>
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<td>1.24</td>
<td>0.82 (5)</td>
<td>.45</td>
<td>0.74</td>
<td>2.96 (7)</td>
<td>.02</td>
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<td>Peer Ratings</td>
<td>4.64 (27)</td>
<td>.00*</td>
<td>0.88</td>
<td>3.66 (18)</td>
<td>.00*</td>
<td>0.84</td>
<td>1.35 (27)</td>
<td>.19</td>
</tr>
<tr>
<td>Coach Ratings</td>
<td>5.36 (2)</td>
<td>.03</td>
<td>3.05</td>
<td>1.00 (1)</td>
<td>.50</td>
<td>0.71</td>
<td>2.00 (2)</td>
<td>.18</td>
</tr>
</tbody>
</table>

*Note. *p < .0125. Self ratings reflect results of independent samples t-tests, while peer and coach ratings reflect results of dependent samples t-tests.
Table 3

*Mean Duration of Athlete Behavior (in seconds) per 60 Minute Practice Session*

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Popular M (SD)</th>
<th>Rejected M (SD)</th>
<th>Neglected M (SD)</th>
<th>Controversial M (SD)</th>
<th>Average M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial Coach</td>
<td>12.46 (14.02)</td>
<td>6.77 (1.25)</td>
<td>6.60 (4.77)</td>
<td>17.25 (20.39)</td>
<td>11.97 (12.07)</td>
</tr>
<tr>
<td>Prosocial Athlete</td>
<td>36.61 (32.58)</td>
<td>34.88 (27.01)</td>
<td>22.17 (15.12)</td>
<td>23.06 (12.30)</td>
<td>30.81 (32.04)</td>
</tr>
<tr>
<td>Technical Coach</td>
<td>129.17 (123.56)</td>
<td>61.48 (32.84)</td>
<td>65.11 (47.02)</td>
<td>82.83 (36.91)</td>
<td>108.66 (81.79)</td>
</tr>
<tr>
<td>Technical Athlete</td>
<td>144.79 (96.08)</td>
<td>126.72 (84.81)</td>
<td>131.97 (100.69)</td>
<td>162.71 (15.10)</td>
<td>130.28 (74.64)</td>
</tr>
<tr>
<td>General Coach</td>
<td>3.87 (7.99)</td>
<td>-</td>
<td>5.04 (7.74)</td>
<td>0.41 (0.72)</td>
<td>-</td>
</tr>
<tr>
<td>General Athlete</td>
<td>58.40 (60.77)</td>
<td>48.63 (28.41)</td>
<td>48.00 (73.71)</td>
<td>104.97 (155.37)</td>
<td>147.22 (155.37)</td>
</tr>
<tr>
<td>Engaged</td>
<td>3216.80 (308.25)</td>
<td>3390.55 (46.10)</td>
<td>3353.68 (225.38)</td>
<td>3237.09 (212.26)</td>
<td>3164.78 (231.56)</td>
</tr>
</tbody>
</table>
Table 4

Comparison of Average with Extreme Groups on Mean Number of Behavior Events (per 60 Minute Practice)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Average vs. Popular</th>
<th>Average vs. Rejected</th>
<th>Average vs. Neglected</th>
<th>Average vs. Controversial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$t$ (df)</td>
<td>$p$</td>
<td>$d$</td>
<td>$t$ (df)</td>
</tr>
<tr>
<td>Prosocial Coach</td>
<td>.29 (13)</td>
<td>0.77</td>
<td>0.17</td>
<td>.59 (5.73)</td>
</tr>
<tr>
<td>Prosocial Athlete</td>
<td>-.17 (13)</td>
<td>0.87</td>
<td>-0.10</td>
<td>-.51 (7)</td>
</tr>
<tr>
<td>Technical Coach</td>
<td>-.21 (13)</td>
<td>0.83</td>
<td>-0.12</td>
<td>.59 (7)</td>
</tr>
<tr>
<td>Technical Athlete</td>
<td>-.26 (13)</td>
<td>0.8</td>
<td>-0.15</td>
<td>-.13 (7)</td>
</tr>
<tr>
<td>General Coach</td>
<td>-2.28 (8)</td>
<td>0.05</td>
<td><strong>-1.65</strong></td>
<td>-</td>
</tr>
<tr>
<td>General Athlete</td>
<td>.99 (13)</td>
<td>0.34</td>
<td><strong>0.56</strong></td>
<td>.91 (7)</td>
</tr>
<tr>
<td>Engaged</td>
<td>-.16 (13)</td>
<td>0.88</td>
<td>-0.10</td>
<td>.19 (7)</td>
</tr>
</tbody>
</table>

*Note.* Effect sizes > 0.50 are in boldface.
Figure 1. Mean duration in which each behavior category was displayed during a 60 minute practice session.