

# Naturalistic Observations of Spectator Behavior at Youth Hockey Games

**Anne Bowker, Belinda Boekhoven, Amanda Nolan, Stephanie Bauhaus, Paul Glover, Tamara Powell, and Shannon Taylor**  
Carleton University

The purpose of the current study was to conduct an examination of spectator (i.e., parental) behavior at youth hockey games in a large Canadian city. Using naturalistic observation methods, an event sampling procedure was used to code spectators' comments. Of specific interest were the type of remarks made, who made them (i.e., males versus females), the intensity of those remarks and whether they varied by child age, gender, and competitive level. We were also interested in whether the majority of onlookers' comments were actually directed at the players, on-ice officials, or fellow spectators. Five observers attended 69 hockey games during the 2006–2007 hockey season. There was a significant variability in the number of comments made, with an average of 105 comments per game. The majority of the comments were generally positive ones, directed at the players. Negative comments, although quite infrequent, were directed largely at the referees. Females made more comments than did males, although males made more negative and corrective comments, and females made mostly positive comments. Comments varied significantly as a function of gender and competitive level. Proportionally more negative comments were made at competitive, as opposed to recreational games. An interaction was found for female spectators as their comments varied as a function of both the competitive level and the gender of the players. Results of this study are in direct contrast to media reports of extreme parental violence at youth hockey games, and provide unique information about the role of parental involvement at youth sporting events.

Ice hockey is characterized as an aggressive sport and the behavior of spectators is often more verbal and intrusive than for other noncontact sports (Theberge, 2005). Recent media reports (e.g., Canadian Press, 2008, 2005; Smith, 2007; Tench, 2003) have highlighted the apparent increase of violent and aggressive behavior in amateur hockey, both on and off the ice. Incidents have included disputes, sometimes reaching threatening and physical levels of behavior, between coaches, referees and parents; abuse of on-ice officials; and intense coach and parental pressure directed toward players (Arnold, 2002).

In the case of youth sports, where parents are usually the spectators, research suggests that children's self-esteem and enjoyment can be strongly influenced by

parental involvement (Bowker, 2006; Smith & Smoll, 2002). While parental involvement in youth's sports activities typically involves time (e.g., transportation to games and practices) and money, parents also provide emotional support and encouragement to children by attending games and cheering them on.

Sometimes this support and encouragement becomes quite *directive*, for example, "Skate faster," "Pass the puck" (Averill & Power, 1995). At times, the level of directiveness becomes intrusive, placing pressure on youth to win and involving considerable punishment in response to failure. Indeed, negative parental behavior at youth's sports events has been found to lead to competitive stress and to cause youth to drop out of the sport (Petlichkoff, 1993).

Recent books such as *Whose Puck Is It, Anyway? A Season With a Minor Novice Hockey Team* (Arnold, 2002) highlight the importance of parental involvement and suggest that youth sports can be coached and played successfully without parental over-involvement, abuse, or an excessive emphasis on winning. While the issue of parental over-involvement is not new, recent research has begun to examine and quantify the specific ways in which parental involvement can affect child outcomes.

Parental involvement can be operationalized in different ways. In the current study, we looked at one component of involvement: spectators' behavior at youth hockey games. We were interested in the content of verbal comments, the positive or negative valence, the intensity of the comments, and to whom they were directed (e.g., players, officials or other spectators). Although not all of the spectators were specifically identified as parents, it was clear that the vast majority of fans were, in fact, either parents or grandparents of the players. We chose to consider the comments of males and females separately.

## Parental Influence on Sports Participation

Feedback from parents can have a substantial effect on youth's developing self-concept in a sports context (Smith & Smoll, 2002). Indeed, the choice and number of sports activities available to children and adolescents is frequently subject to parental control and influence (Jacobs, Vernon, & Eccles, 2007). Using an expectancy value framework, Eccles (Parsons), Adler, Futterman, Goff, Kaczala, Meece, et al. (1983) argued that youth achievement motivation is strongly influenced by specific parenting practices in a variety of contexts, including sports-related activities. Parents influence their children's motivation to pursue sports in a variety of ways: from their willingness to enroll them in programs; parental modeling of active sports involvement; and, perhaps most importantly, the extent to which they communicate their perceptions and expectations of children's abilities and performance.

Parents may play an especially important role in youth sports experiences through their own beliefs and practices, including their values and goals with respect to the athletic domain (Fredricks & Eccles, 2004). While parents can be active promoters of youth's sports participation, parental over-involvement has been reported as a contributing factor in the high levels of attrition in youth sports (Murphy, 1999).

Research has investigated child and adolescent perceptions of parents' behavior, including the level and positive or negative nature of parental involvement in sport. For example, Bowker (2007) found that adolescent soccer players who perceived their parents as under- or over-involved in their sports activities reported lower self-esteem than did adolescents who were satisfied with their parents' involvement.

Other studies (Anderson, Funk, Elliott, & Smith, 2003; Bowker, 2007; Wuerth, Lee, & Alfermann, 2004), have examined parents' type of involvement through child and adolescent perceptions of parental behavior. Anderson et al. (2003) found that youth perceptions of parental support and understanding were consistently related to activity enjoyment and negatively related to performance anxiety. Perceived parental pressure, on the other hand, was negatively related to the youth's enjoyment of sport and to continued participation in the activity.

Wuerth et al. (2004) examined both parental self-report and youth (aged 10–20 years) perceptions of parental behavior. Most youth reported low levels of parental pressure and high levels of praise and understanding, with the latter predicting greater athletic success. Finally, Bowker (2007) reported a significant positive association between adolescents' perceptions of supportive parental behavior and their self-esteem, and a significant negative association between adolescents' perceptions of negative parental behavior (e.g., pressure to succeed) and their self-esteem and body image satisfaction.

In addition, research suggests that the effects of parental involvement may vary as a function of parent and youth gender. Bowker (2007) reported that boys who thought that their mothers were overly involved in their sport had lower self-esteem and expressed the lowest sports enjoyment. Fathers' negative involvement was most strongly related to girls' self-esteem, while mothers' negative involvement was more strongly related to boys' self-esteem.

Averill and Power (1995) found differences between mothers and fathers in terms of the ways in which their support was expressed. Based on parental self-report, maternal support was consistently and positively associated with the level of youth enjoyment, regardless of athletic ability or effort. However paternal support varied as a function of performance, with fathers' expectations and directiveness at their highest when their children's ability and effort were considered low. Consistent with these results, Wuerth et al. (2004) reported mothers gave more positive support to their children than did fathers, while fathers reported using more directive behavior, which was viewed as an indication of greater parental pressure.

In summary, recent research demonstrates the importance of parental involvement in youth sports. Clearly the nature of that involvement can have important consequences for sports enjoyment and continued participation, as well as long-term implications for youth self-esteem. In addition, high levels of perceived parental pressure can have important implications for youth performance anxiety, and reduce their motivation to continue sports participation.

While the majority of previous research has relied on child and adolescent perceptions of parental conduct, the current study took a more direct, behavioral approach, observing the actions and comments of parent and adult spectators at youth sporting events.

## Spectator Behavior at Youth Sporting Events

One way in which parents may influence their youth sports experiences is through their involvement as spectators. Only two published studies (Kidman, McKenzie, & McKenzie, 1999; Randall & McKenzie, 1987) have examined spectator behaviors at youth sporting events.

Randall and McKenzie (1987) randomly selected four spectators at each of 30 youth soccer matches and observed their verbal behavior at 10 s intervals throughout the game. The youth (mostly boys, between the ages of 6 and 11), were members of 18 soccer teams in Southern California. No information was provided as to the recreational or competitive level of the teams. Based on earlier work specifically targeting adult verbal conduct at sporting events, verbal behavior was coded into one of four distinct categories: no comments, corrective comments, negative comments, and positive comments. Every verbal comment that was made by the four adults was recorded, as well as the target of the comment and what was happening in the game. Verbal behavior was recorded in only 12.5% of the observed intervals, of which corrective comments were the most frequent (74.4%), followed by positive comments (19.8%) and then negative comments (5.8%). Female spectators made more verbal comments than did male spectators, and more comments were made when watching the games of younger (6–7 years) as opposed to older (10–11 years) players. Based on the results of this study, adult spectators appeared to be quite uninvolved with the games, making relatively few verbal comments. However, comments were most often of a directive nature, correcting and instructing the players.

In a subsequent study in New Zealand, Kidman et al. (1999) observed two parent spectators at 147 matches of various youth sports (netball, field hockey, miniball, cricket, t-ball, soccer, and rugby) for children aged 6–12 years. No information was provided as to the total number of teams, or the level at which they were playing. Following Randall & McKenzie's (1987) method, verbal comments were coded as positive, neutral or negative. This last category included corrective comments. In contrast to the previous research, the majority of the verbal comments were positive (51.2%), while 36.6% were negative, and 12.2% were neutral. Interestingly, only 12% of comments made by parents were directed toward their own children. Differences were also noted by sport. Comments were most negative at soccer games, and least negative at t-ball games.

In summary, research on spectator behavior at youth sporting events has reported relatively few verbal utterances, with most comments being positive or corrective in nature (Kidman et al., 1999; Randall & McKenzie, 1987). However, a number of shortcomings are evident in the limited research in this area. First, it seems reasonable to assume that spectator behavior may be more intense as the level of sports expertise increases. However, previous research has not included any mention of the influence of the level of play (i.e., recreational vs. competitive level), nor the intensity of the actual comments (e.g., sarcastic, approving, etc.). Third, the two published studies to date have observed mostly younger children, between 6 and 12 years of age, yet most of the recent media reports on hockey violence have focused on fan behavior at adolescents' hockey games. Fourth, there has been little attention as to the gender of the players or the gender of the parents and spectators involved. Finally, there has been some inconsistency as to

the categorization of the comments, and whether the target of the comments was recorded. We hoped to rectify these limitations in the current study.

## Overview of Present Study

The purpose of the current study was to examine spectator behavior at youth hockey games in a large Canadian city. We were, in part, motivated by recent Canadian media reports highlighting an apparent increase in violence among spectators and players. Rather than focusing on one or two onlookers, we were interested in recording all the comments made during a game to gain a better overall sense of spectator behavior.

With respect to a foundation for specific hypotheses, the available research is quite limited and often contradictory. On the basis of recent media reports, it could be predicted that comments would be made quite frequently and that negative comments would be most prevalent. However, results of more empirical work (as discussed above) suggests that spectators do not make many verbal comments during youth sports, and the majority of these comments are either positive or corrective in nature, depending on the coding system.

### Comment Type And Target

We were particularly interested in the relative proportion of positive, negative or corrective comments made by spectators. Thus, following Randall & McKenzie's (1987) work, we decided to consider corrective comments as a separate category and expected that this type of comment would be the most frequent type of remark made by spectators. We were also interested in the way observed remarks might vary as a function of player age-group, player gender, competitive level, intensity, and spectator gender.

Although our main focus was the nature of the comments made, it seemed appropriate to record whether the comments were directed at the players or at on-ice officials. We expected that the majority of comments would be directed toward the players; however, we had no specific expectations about the relative frequency of comments directed at players versus on-ice officials.

**Player Age-Group.** Based on previous research (Randall & McKenzie, 1987), it was anticipated that there would be more comments made at the games of younger players as opposed to the games for older players.

**Player Gender.** Given the greater attention that boys' hockey receives, and the greater value placed on male sporting events by the media in general (Pelak, 2002; Theberge, 2003), it was expected that more comments would be made at boys' games than girls' games; although no specific hypotheses were proposed with regard to the nature of the comments.

**Competitive Level.** Competitive hockey players are selected based on superior skill level, their hockey games involve physical contact such as body checking, and aggressive behavior is more frequent at this level (Smith, 1986). The emphasis is frequently on winning 'at all costs' (Duda, 1989). Recreational hockey players, on the other hand, are typically less skilled and no body contact is involved.

The focus is on fun and skill development more than on winning. Typically there is an emphasis on equal playing time, regardless of ability (Fortier et al., 1995; USA Annual Hockey Guide, 2006). Based on the differences in rivalry between recreational and competitive leagues, it was expected that more comments, particularly negative and corrective comments, would be made at competitive matches rather than recreational games.

**Intensity of Comments.** It was expected that the intensity of comments would vary as a function of competitive level, with comments being more intense (e.g., louder, with more emotion) at competitive, as opposed to recreational hockey games. This seemed to be an important variable to consider, as the meaning of verbal comments may well vary as a function of their intensity. For example, ‘Pass the puck’ said with low intensity, sounds like a mild suggestion, however ‘Pass the puck!’ when said with high intensity (i.e., with greater emphasis, more loudly) becomes a very directive, and potentially much more negative, comment.

**Gender of Spectator.** Two hypotheses were proposed with regard the number and type of comments as a function of spectators’ gender. From our anecdotal experiences at hockey games in Canada, it could be argued that male spectators at hockey games would be more verbally engaged than would female spectators. However, consistent with work by Randall & McKenzie (1987), we hypothesized that female spectators would make more comments than male spectators.

Second, based on previous studies (Averill & Power, 1995; Wuerth et al., 2004), it was expected that females would make more positive comments than males; while males would make more negative and corrective comments, more closely associated with directive behavior.

## Method

### Design and Procedure

Ethics approval was obtained from the Ethics Committee of Carleton University. Naturalistic observations were subsequently carried out in publicly accessible places (i.e., municipal arenas), so additional ethics approval was unnecessary. Observers were instructed to explain the nature of their research to any spectators who asked. However, this only happened on two or three occasions, and in all cases the responses were positive.

Two age groups were chosen for the study, Peewee (ages 11–12 years) and Bantam (ages 13–14 years), as we wanted to look at players older than in the two previous studies and because these age groups tend to have the largest enrolment. Games were chosen randomly, based on the availability of the observers and the location of the game. There were about 500 boys games played during this period, and about 130 girls’ games. We observed only games that were played in the area of Ottawa, Ontario, Canada, although the leagues included teams from smaller towns up to two hours away.

Five undergraduate honours students attended 69 youth hockey games (comprising 138 hockey teams), at eight arenas between November 2006 and February 2007. This represented about 10% of boys’ recreational and competitive hockey

games (50 games: 14 Pee wee Recreational, 8 Bantam Recreational, 12 Pee wee Competitive, and 16 Bantam Competitive), and approximately 15% of girls' competitive and recreational games (19 games: 5 Pee wee Recreational, 5 Bantam Recreational, 4 Pee wee Competitive, and 5 Bantam Competitive). The difference in the number of boys' and girls' games attended reflects the proportion of male/female hockey teams in the region. The average length of recreational games was 50 min and competitive games varied from 54 to 63 min.

There was an average of 40 spectators at each game, with approximately 75% of the spectators being either parents or grandparents of participating players. The remaining 25% were children: their comments were not used as part of this study. Spectators were usually seated in two groups, each group representing one of the teams participating in the game. Typically, one observer attended each hockey game and was able to perceive and record all of the verbal comments expressed by one of the two groups. Rather than choose random spectators or parents, we simply recorded all the verbal behavior expressed in one area of the arena, comprising all of the onlookers' remarks for one of the two participating teams. Observers decided randomly which section of the arena in which to sit.

## Measures

Event sampling was used to capture spectator comments, coded as either positive, corrective, negative or neutral. Following Randall & McKenzie (1987), we felt that corrective and negative comments should be considered separately to avoid losing the important distinction between directive behavior (e.g., corrective comments that might not necessarily be perceived as negative by the children) and more negative and potentially harmful comments.

**Positive, General (Pg).** These comments were defined as positive in tone and as directed at the team in general, with no instructional content (e.g., "Go Crusaders"; "Nice try"; "Good work").

**Positive, Specific (Ps).** These comments were defined as being positive, but directed at a specific player (e.g., "Nice play JD"; "Way to go LJ").

**Corrective/Instructional (Cor).** These comments were defined as including a specific action or play that the player was instructed to do. They included comments which were positive in nature (e.g., "Go after it"), and those with a more negative tone (e.g., "Get back"; "You've got to cover him").

**Negative (Neg).** These comments were defined as those meant to criticize the target in some way (usually directed toward the referee). Much of the time, the negativity of the comment was due to a sarcastic tone (e.g., "What kind of call is that?"; "Come on ref, you call that a penalty?").

**Neutral (Neu).** These comments were defined as those not fitting into any of the other categories, and/or were unrelated to the game (e.g., "Did you book your hotel room for the tournament?").

Each remark was coded for intensity, based on a three-point scale: 1 = spoken relatively quietly, with little to no emotion; 2 = louder, more intense speech, stronger emotion, but controlled; 3 = loud, intense speech, extreme emotional content.

The gender of the speaker and the target of the comment (player, referee, or other spectator) were also recorded.

Early in the observational period, each observer met with the principal investigator to observe one hockey game to ensure reliability. Reliability coefficients were calculated as the total number of agreements, divided by the total number of agreements and disagreements. Based on approximately 100–150 observations, reliability coefficients were as follows: positive (general) 93%; positive (specific) 87%; corrective 100%; negative 100%. No neutral comments were recorded. The intensity ratings, scored on a 3-point scale, were not reliable (reliability coefficient = 58%), with the main discrepancies noted between 1) “relatively quiet, with little to no emotion” and 2) “louder, more intense speech, stronger emotion”, thus they were not used in subsequent analyses.

## Results

### Descriptive Analyses

Spectators verbalized a mean of 104.6 comments per game ( $SD = 35.7$ ), with a range of 33–198 comments per game. Spectators were most likely to express comments that were positive general in nature, followed by positive specific, corrective, and negative. No neutral comments were recorded, so subsequent analyses did not include this variable. Almost all the comments made by spectators were targeted at players (96%), followed by comments to referees and others. Of the negative comments made, the majority (55%) were directed toward the referee. Means and standard deviations of all relevant variables are presented in Table 1.

Given the variability in the number of comments per game, all scores were converted to proportion scores for subsequent analyses. Thus, for each of the four types of comments, we calculated a score for each game, taking into account the total number of comments made at that particular game. See Table 2. For all sub-

**Table 1** Descriptive Statistics

	Mean	SD	Range
Nature of Comments			
Positive General	40.46	16.89	12–83
Positive Specific	25.19	15.13	1–62
Corrective	33.35	16.23	9–96
Negative	4.62	4.09	0–13
Direction of Comments			
Player	96.17	30.51	33–117
Referee	1.99	2.71	0–12
Other	1.17	1.95	0–10
Source of Comments			
Females	61.12	27.05	9–119
Males	38.16	24.16	3–114



sequent analyses, the two types of positive comments were combined (general and specific), for ease of interpretation.

### Spectators' Comments as a Factor of Players' Age, Gender and Competitive Level

A multivariate analysis of variance (MANOVA) was conducted to examine differences in the overall types of comments made by onlookers based on age of players, gender of players and the game level being played. Results revealed a significant effect only for level,  $F(4, 58) = 2.98, p < .05$ , Wilks's  $\Lambda = .83, \eta_p^2 = .17$ .

An examination of univariate tests for each of the dependent variables indicated that differences as a function of level existed for the proportion of negative comments made. More specifically, there were proportionally more negative comments made at competitive games ( $M=.06$ ) than at recreational games ( $M=.03$ ).

### Analysis of Male and Female Spectators' Comments

A series of  $t$  tests were conducted to compare the comments of male and female spectators. Only differences significant at the  $p < .01$  level were interpreted to take into account the number of  $t$  tests run. All significant differences reported were at the  $p < .001$  level.

Consistent with Randall & McKenzie (1987), females made significantly more comments per game ( $M = 61.12$ ) than did males ( $M = 38.16$ ),  $t(68) = 4.75, p = .001$ . To control for possible differences in the rate of verbal comments made per game, proportion scores were calculated separately for males and females. Males made proportionally more corrective ( $M = .40$ ),  $t(68) = -5.16, p < .001$ , and more negative comments ( $M = .08$ ),  $t(68) = -4.39, p < .001$ , than did females ( $M = .28$  and  $M = .03$ , respectively). Females made proportionally more positive comments ( $M = .73$ ) than did males ( $M = .58$ ),  $t(68) = 5.50, p < .001$ .

Given the significant differences as a factor of spectator gender, subsequent analyses were run separately for male and female spectators to examine differences at the player level with regard to age, gender and competitive level.

**Comments of Male Spectators as a Factor of Players' Age, Gender and Competitive Level.** A MANOVA was conducted to examine differences in the type of comments made by males based on age of players, gender of players and game level. The dependent variables were the proportion of positive, corrective and negative comments made by males. Results revealed a significant effect for level,

**Table 2** Comment Type as Proportion Scores

	Mean	SD
Nature of Comments		
Positive General	.41	.11
Positive Specific	.23	.11
Corrective	.32	.11
Negative	.04	.04

$F(4, 58) = 4.70, p < .01$ , Wilks's  $\Lambda = .76, \eta_p^2 = .25$ . An examination of the univariate tests showed that significant differences as a function of level existed for the proportion of negative comments made,  $F(1, 61) = 17.22, p < .001, \eta_p^2 = .22$ . Consistent with the earlier analysis on the entire sample, there was a significantly larger proportion of negative comments made by males at competitive games ( $M = .12, SE = .02$ ) than at recreational games ( $M = .04, SE = .02$ ).

**Comments of Female Spectators as a Factor of Players' Age, Gender and Competitive Level.** A MANOVA was also conducted to examine differences in the type of comments made by females based on level being played, age of players, and gender of players. Although there were no significant main effects, there was a significant gender by competitive level interaction,  $F(3, 59) = 3.26, p < .05$ , Wilks's  $\Lambda = .86, \eta_p^2 = .14$ . An examination of the univariate analyses indicated a significant gender by competitive level interaction for positive comments ( $F(1, 61) = 3.79, p < .05, \eta_p^2 = .06$ ); corrective comments ( $F(1, 61) = 4.04, p < .05, \eta_p^2 = .07$ ); and negative comments ( $F(1, 61) = 3.78, p < .05, \eta_p^2 = .06$ ).

To interpret these interactions, we reran the analyses separately by competitive level. Females' verbal comments varied significantly by player gender, but only for competitive hockey games,  $F(3, 31) = 6.19, p < .01, \eta_p^2 = .38$ . More specifically, females made proportionally more corrective comments at girls' competitive games than at boys' competitive games ( $M = .33$  and  $.25$  respectively). However, females also made proportionally more positive comments ( $M = .77$  vs  $.69$ ) and more negative comments ( $M = .04$  vs  $.01$ ) at boys' competitive hockey games than at girls' competitive games.

## Summary of Results

The majority of the hockey comments were positive in nature. Differences were noted as a function of competitive level, with competitive hockey matches drawing more negative comments than recreational hockey matches. Furthermore, the type of comments varied significantly by the gender of the spectator, with males tending to make proportionally more negative and corrective comments, while females offered proportionally more positive comments. Males made proportionally more negative comments at competitive games as compared with recreational games, while female spectators' comments varied proportionally by player gender, but only when watching competitive hockey games.

## Discussion

Of particular interest to the current study was spectator behavior during youth hockey games, as parents are generally the spectators and parental participation in youth sporting events has gained growing attention in the media. One way to assess parental involvement is through direct observation at youth games. The popularity of hockey among Canadian youth and the forceful nature of the game make research in this area highly relevant, especially with regard to parents' verbal behaviors.

## The Nature of Spectators' Comments

On average, spectators made over 100 comments per hockey game, which was much higher than had been reported in previous research (see Randall & McKenzie, 1987). However, this may be due in part to differences in methodology whereby all spectators are observed, and to growth in the sport itself attracting more onlookers per game.

Perhaps surprisingly, most (>50%) of the comments made by spectators were positive and directed at the players. This is in stark contrast to recent media reports, which paint a grim picture of aggressive spectators and out of control parents abusing players and officials. Perhaps the attention drawn by the media to exceptional instances serves to remind parents of what constitutes appropriate behavior.

Negative comments (an average of five per game) were mostly directed at the referee and, contrary to findings in previous research (Averill & Power, 1995; Kidman et al., 1999; Wuerth et al., 2004), the number of negative comments was not as high as expected. Indeed, judging by media reports and anecdotal accounts from hockey parents, the low number of negative comments was striking. At the very least it suggests that such aggressive behavior is relatively rare, making such conduct that much more salient and inappropriate when it does occur. Indeed, observer anecdotes suggest that while most spectators were positive and enthusiastic in their comments, there was sometimes just one parent who 'stood out' for his/her (usually a female) intense, voluble and aggressive comments.

Of equal importance is the finding that, if hockey spectators are making negative comments, they are more likely to be yelling at the referees, as opposed to the players. While it is good to know that young hockey players may be largely spared such negative comments, the verbal abuse of on-ice officials is another serious issue in sport and such spectator behavior can set a dangerous precedent, setting a bad example for the players to emulate.

A complete picture of game comments must include the use of corrective comments, all of which were directed at the players and comprised about 1/3 of the total comments made. We kept corrective and negative comments separate, reasoning that comments that suggested general ways to improve a player's performance: for example, "Skate faster!", might carry less of a negative valence than a more severe critique of a player's performance such as, "My grandmother could skate faster than that!" However, the use of corrective comments tends to focus on mistakes or lack of player ability, as opposed to praising positive game behavior and emphasizing the child's strengths and there may well be a 'fine line' between corrective and negative commentary, depending on the speaker's tone.

We attempted to code the intensity with which the spectators made their comments. It may well be that a corrective comment made with a high intensity tone, carries a much more negative impact than the same comment, made with a low intensity tone. However, we were unable to code this variable reliably, so we are left to merely speculate on the importance of considering this variable in future studies. It is certainly possible that, if intensity was coded reliably, some of the corrective comments might have been classified as 'negative ones', suggesting a possible underestimation of negative spectator behavior.

Nonetheless, even if all the corrective and negative comments were combined, we are still left with over 60% of the game comments being positive ones. Why, then, do media reports give us such a different picture? Possibly, as is frequently the case with the media, it is unusual, yet novel, events that receive attention. Given the level of media interest and the fact that all hockey personnel (i.e., players, spectators, officials) can remember witnessing at least one aggressive incident, it is perhaps not surprising that we tend to exaggerate this phenomenon. In addition, it is unusual to witness an assault, so perhaps the fact that individuals have observed even one incident is remarkable. People tend to overestimate the likelihood of vivid but infrequent events that receive heavy media coverage, termed the *availability heuristic* by Weiten (2001). This, coupled with the dearth of empirical research which measures fan behavior systematically, could conceivably result in a distorted perception of actual hockey fan behavior.

### **Variations in Spectator Comments as a Function of Player Age, Level and Gender**

The frequency with which positive, corrective and negative comments were made, did not differ significantly by the age of the player and indeed varied little by gender and level as well. The only main effect was for negative comments, which were generally more frequent at competitive, as opposed to recreational, hockey games. This differential use of negative comments is consistent with our expectations, given the greater rivalry and competitiveness found at higher competitive levels. As noted earlier, competitive sports are typically focused on 'winning at all costs', with greater expectation placed on player skill level and performance (Duda, 1989; Fortier et al., 1995). Male comments were certainly consistent with this overall finding. Female spectator behavior, however, was found to vary as a function of both the players' gender and the competitive level.

### **Variations by Spectator Gender**

Although we controlled for the possibility of a greater number of female spectators at the games by using proportion scores in the analyses, it is certainly possible that the spectator 'climate' may well have been affected by a gender imbalance. For example, females may have felt more comfortable making comments, surrounded by other females. It can also be argued that there may be a spectator 'contagion' effect, whereby one person's comments are affected by the frequency and tone of others' comments.

Female spectators did make more comments overall than did male spectators. Although this is consistent with the previous studies, given the 'male hockey culture' in Canada it is perhaps rather surprising. However, the idea that mothers might be more involved in youth sporting activities than fathers is consistent with the concept of *intensified mothering*, in which mothers are obliged by societal expectations to represent a faultless version of motherhood (Bell, 2004). In the context of hockey, this may manifest as overt and unstinting support. While females made more comments, they were also more likely to be positive in nature, which may also be illustrative of the ideal of maternal nurturance. Males, on the other hand, made more corrective and negative comments. Thus with respect to

parental involvement, mothers and fathers may demonstrate their involvement and interest in different ways, with mothers generating a steady stream of encouraging commentary, while fathers offer less frequent commentary but of a more evaluative and critical nature.

However, a more in-depth analysis of female comments suggests that they, more than males, were responding differently to the players' gender, particularly at higher competitive levels. While females did not differ in their verbal comments at boys' and girls' recreational games, they demonstrated significantly different verbal commentary when observing competitive hockey games. At competitive hockey games, females made significantly more negative comments (similar to males' behavior), and significantly more positive comments as well. This may represent a greater degree of emotionality and intensity at competitive hockey games.

However,, females were more likely to use corrective comments at competitive girls' hockey games. This leads us to argue that girls may receive more pressure from their mothers in competitive venues, particularly as most of the negative comments in boys games were addressed at on-ice officials, not players. Boys, on the other hand, received significantly more positive comments, and fewer corrective comments. These results highlight the differential roles that mothers and fathers may play in youth sports experiences, and the different on-ice experiences of girls and boys playing hockey.

## Limitations, Conclusions, and Future Directions

The present study offers a glimpse into the world of youth hockey and the role that parents play, specifically as spectators. There are several limitations of the current study that should be noted. First, comments recorded were restricted to parents and other spectators that were sitting within the observers' vicinity, therefore constraining the number and range of comments that could be recorded. Further, observers were unable to process and record comments that were made simultaneously or those that were made when background noise was high in volume.

Second, the measure of comment intensity was subject to personal interpretation, and the speed at which comments were verbalized may have been too fast to allow for precise measurement of intensity. Third, we observed fewer girls' hockey games, which may have influenced the number of significant gender differences. Fourth, a major limitation of the current study was that it was impossible to identify the spectators who were actually parents, and whether the spectators were making comments toward their own children on the ice.

A fifth limitation refers to the fact that it is unclear how much of an impact these comments might have had on the players. When the first author discussed this with her daughter's Bantam hockey team, the players indicated that they could not really hear what the spectators are yelling during games, so it is unclear what impact the comments actually have on player enjoyment and self-esteem. In addition, we were limited to game-time comments in this study, and the nature of comments made on the way home after the game are unknown.

Future directions include the refinement of a coding method to allow for more accurate and in-depth recording of spectator emotional involvement, possibly incorporating more technological means to record behavior accurately, such as a

Blackberry. It might also be informative to follow one particular team for an entire hockey season, specifically targeting parents of team members, and including pre- and postgame interviews with players and their parents. This would allow for a more complete picture of the nature of parental involvement, and its impact on children and adolescents, in a sports environment.

## Policy Implications

Results from the current study point to the advantage of educating parents and other adults who attend youth hockey games with respect to appropriate spectator behavior. Most parent spectators are positive and encouraging in their game comments. Thus the minority of spectators who do offer more negative and corrective comments are indeed an aberrant group, and minor league hockey should have no compunction about penalizing such behavior.

Minor hockey associations in Ontario have developed a mandatory seminar entitled, “*Speak-out against abuse and harassment*”, for all coaches, trainers and managers of minor hockey teams. Portions of this seminar feature acceptable parental and coach behavior toward players, including a focus on emphasizing the strengths of the child’s game, rather than pointing out only errors. Unfortunately, at the present time, this seminar is only available for the adults directly involved with the hockey teams, not for spectators commenting from the stands. Making such a seminar mandatory for all parents, perhaps as a precondition before their child can register for the hockey season, would be a good first step.

The fact that many of the most negative comments were directed at the referees raises another issue of concern; that of the treatment of referees in hockey, as well as in many other sports. According to Arnold (2002), at least 30% of on-ice officials quit the game each year in Canada. Clearly society has a responsibility to use education and sanctions to reduce the abuse of officials. The more we can decrease the acceptability of such conduct, the less likely it is that our children will engage in similar behavior.

Finally, we need to consider the differential expectations that we place on young hockey players, regardless on their level of play. While there are significant differences in skill level between recreational and competitive hockey players, there is no inherent need for spectators to be more negative and less encouraging toward competitive players. In the current study, it appeared that young female hockey players received less encouragement and more corrective comments from their mothers when playing at a competitive level. If we want to encourage the development of women’s competitive hockey, we need to ensure that young participants receive more praise and support from their parents than criticism. Research indicates that young male elite hockey players start dropping out as early as the Bantam level, in part because there is too much pressure and too many expectations placed on them at a young age (Arnold, 2002).

In conclusion, the results of the current study may contradict popular belief considering negative reports of spectator behavior at amateur hockey games. In this study, most parents practiced ‘good spectator behavior’; they were encouraging, they provided some instructional comments (which their child may or may not have heard) and they were generally supportive. Our research findings in the area of parental involvement and youth sports participation offer a further per-

spective on the important role that parents play in their children's sports experiences.

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