

Effective Behaviors of Expert Rowing Coaches: A Qualitative Investigation of Canadian Athletes and Coaches

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Ten Canadian expert rowing coaches and 10 Canadian elite rowers were interviewed regarding their perceptions of effective coaching behaviors. The questions of the interview guide focused on coaches' behaviors in training, competition, and organization settings. Qualitative data analyses revealed seven behaviors elicited by coaches and athletes. Effective coaching behaviors perceived as important by both athletes and coaches were: 1) plan proactively, 2) create a positive training environment, 3) facilitate goal setting, 4) build athletes' confidence, 5) teach skills effectively, 6) recognize individual differences, and 7) establish a positive rapport with each athlete.

INTRODUCTION

In recent years studies on coaching effectiveness have followed a variety of approaches. Mainly, studies have been conducted using: 1) systematic observation (e.g. Smith & Smoll, 1996; Solomon, Striegel, Eliot, Heon, Maas, & Wayda, 1996), 2) surveys (e.g. Gould, Hodge, Peterson, & Petlichkoff, 1987; Sullivan & Hodge, 1991; Weinberg & Jackson, 1990), 3) questionnaires (e.g. Chelladurai & Saleh, 1980; Zhang, Jensen, & Mann, 1997), and 4) qualitative methods (e.g. Côté, & Salmela, 1996; Salmela, 1996).

Douge and Hastie (1993) summarized the findings of the studies which used systematic observation to examine coach behaviors and suggested that effective coaches: "a) frequently provide feedback and incorporate numerous prompts and hustles, b) provide high levels of correction and reinstruction, c) use high levels of questioning and clarifying, d) are predominantly engaged in instruction, and e) manage the training environment to achieve considerable order" (pp.15-16). Similarly, Smith and Smoll's (for a review see Smith & Smoll, 1996) extensive program of research has shown that coaching behavior has a significant influence on a child's psychological development, affecting such characteristics as self-esteem, satisfaction, and enjoyment. In sum, studies using systematic observation instruments have identified specific coaching behaviors likely to have a positive impact on athletes' development.

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Another line of research on coaches' effectiveness focused on strategies used by coaches to help their athletes develop psychological skills. For instance, Gould, Hodge, Peterson, and Petlichkoff (1987) surveyed 101 wrestling coaches about their perception of 21 different psychological skills. The results indicated that mental toughness, positive attitude, individual motivation, and attention-concentration were judged to be the most important skills for coaches to develop in their athletes for success in wrestling. The areas in which wrestlers most frequently experienced problems were reported as: anxiety-stress control, attention-concentration, lack of confidence, and difficulty achieving mental toughness. Coaches also indicated that the strategies most easily developed were: goal setting, team cohesion, and mental practice-imagery. Finally, the areas coaches felt they were most successful in enhancing were: team cohesion, communication, sportsmanship, and goal-setting. The same survey was conducted with 46 national coaches in New Zealand and the authors reported similar results (Sullivan & Hodge, 1991). Although these studies provided useful insights on coaches' practices, the psychological strategies given to coaches were drawn from the literature and may not adequately represent "real" strategies used by coaches. For instance, there may have been other psychological strategies not listed in the questionnaire that might have been even more important to some coaches.

The development of the multidimensional model of leadership (for a review see Chelladurai, 1990; Chelladurai & Reimer, 1998) has generated a large number of studies on coaching effectiveness. The central component of this model features three states of coaches' behaviors: actual behavior, coach behavior preferred by athletes, and required behavior. These are influenced by three "antecedent" variables which are the characteristics of the coach, the athletes, and the situation. The model's main supposition is that the outcome, or the performance and satisfaction are positively related to the degree of congruence among the three states of coach behavior. The Leadership Scale for Sport (LSS) was developed by Chelladurai and Saleh (1980) to test the relationships specified in the multidimensional model and the applicability of the model to the prediction of leadership effectiveness in sport. The LSS consisted of five dimensions of coaches' leadership behavior: 1) training and instructional behavior, 2) democratic behavior, 3) autocratic behavior, 4) social support behavior, and 5) rewarding behavior. These five dimensions of coaches' behavior were validated from items chosen and modified from an existing leadership scale used to assess managers' behaviors in formal organizations. The LSS was designed on the premises that sport teams are formal organizations and that coaches' behaviors are similar to managers' behaviors. Given its origins, it would be wise to verify if the LSS dimensions of coaches' behaviors represent what coaches really do and what happens in an athletic setting. Zhang, et al. (1997) tested the construct validity and reliability of the LSS with athletes and coaches and proposed the Revised Leadership Scale for Sport (RLSS). The RLSS adds a new factor to the original LSS labeled as "situation consideration." Items from "situation consideration" focused on the coaches' ability to deal with various types of athletes, contexts, and circumstances. Similarly, qualitative research with coaches shows that they have different leadership role in competition (Côté, Salmela, & Russell, 1995) and in organization (Côté & Salmela, 1996) neither of which are assessed by the original LSS.

Most recently, researchers have focused on expert coaches using interviews and qualitative data analysis. Using a qualitative methodology, Côté and colleagues (Côté, 1998; Côté, Salmela, Trudel, Baria, & Russell, 1995) provided a cognitive model of the process and variables involved in the development of athletes. They suggested that

central to the coaching process are coach's behaviors in training, competition, and organizational settings. Affecting these three variables are the coach's personal characteristics, athletes' personal characteristics and level of development, and contextual factors. In line with this study, the knowledge and strategies used by coaches in competition, training, and organizational settings were reported (Côté & Salmela, 1996; Côté, Salmela, & Russell, 1995). A recent study in ice hockey (Gilbert & Trudel, 2000) showed support for the components of the Coaching Model. Other studies on coaching expertise have focused on the career development of expert coaches (Salmela, 1994; Schinke, Bloom, & Salmela, 1995). The studies on coaching expertise have helped to build a knowledge domain grounded in coaches' reality. However, because the qualitative studies on expert coaches were exploratory in nature, the focus was broad and resulted in findings that may lack depth in certain areas (Côté & Salmela, 1996). Another limitation of these qualitative studies on expert coaches resides in the fact that the only source of information was the coaches, while the athletes' perceptions of effective coaching behaviors were not investigated.

The purpose of the present paper is to develop a comprehensive outline of the strategies and behaviors which are most effectively applied by Canadian expert rowing coaches. This outline will be devised by obtaining and integrating athletes' and coaches' perceptions. The number of Olympic and World Champion rowers developed in Canada support the fact that the participants of this study are among the best coaches and athletes in the world. A qualitative research methodology based on the tradition of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990) was utilized. The Coaching Model (Côté, 1998; Côté, Salmela, Trudel, et al., 1995) served as a framework for this study. Specifically, in-depth interviews with athletes and coaches explored the behaviors and strategies used by coaches in training, competition, and organizational settings, the three central components of the Coaching Model which have a direct impact on athletes' development.

METHODS

Participants

The participants in this study were 10 Canadian elite rowing coaches and 10 Canadian elite rowers. Each coach had a minimum of 10 years of coaching experience, had developed several international athletes, and was recognized by the Canadian Amateur Rowing Association (CARA) as one of the best coaches in Canada. Eight of the coaches interviewed were male and two were female. This gender imbalance reflects a gender equity problem in coaching currently faced by the CARA (Barteux, 1996). All coaches interviewed had coached male and female athletes.

Six of the athletes were males while four were females. All the athletes interviewed had experience competing at the international level. Each athlete had competed in one or more of the following international events: Commonwealth Games, World Championships, and Olympic games. All coaches and athletes were active as part of the Canadian National Team and at the peak of their career at the time of the interview. To guarantee the participants' anonymity, a coding system for quotation attributions was used. The first letter identified the participant as a coach (C) or an athlete (A) and the second letter referred to the gender of the participant (male = M; female = F).

Interview Guide

The same format was used for each interview. An interview guide was built based

on the guidelines provided by Patton (1990) for in-depth interviews. The questions in the interview guide focused on coaches' behavior in training, competition, and organization. The interview guide was designed based on the Coaching Model (Côté, 1998; Côté, Salmela, Trudel et al., 1995) and was aimed at providing in-depth information on coach behaviors which had a direct impact on athlete development. Although the interview guide provided themes to be addressed, any new topics that emerged from each interview and that were relevant to the objectives of the study were explored. The major task when interviewing coaches was to explore responses and have them reconstruct their experiences in developing elite rowers.

The same interview guide was used when interviewing athletes, however, the questions were altered so that the athletes' perceptions of coach behaviors were obtained. For example, the question addressed to coaches, "What kinds of things do you do to keep your athletes motivated to train on a daily basis?" was asked in the following way to athletes: "What kinds of things does your coach do to keep you motivated to train on a daily basis?" The task was to have athletes reconstruct their experiences with their coaches.

Interviewing techniques were used to assure depth and authenticity of the participants' responses. To assure depth of responses Rubin and Rubin's (1995) guidelines for in-depth interviews were followed. Essentially, Rubin and Rubin suggested the use of three types of qualitative questions: main questions, probe questions, and follow up questions. First, the main question, outlined in the interview guide, initiated and guided the conversation. Second, probe questions served to deepen the interviewer's understanding of a question and to enhance the richness of the data being obtained. Finally, follow up questions were used to help pursue topics discovered in the interview process. Probe questions clarified and completed answers while follow up questions explored new issues or new lines of inquiry that emerged from participants' responses (Rubin & Rubin, 1995). For example, "goal setting" emerged in each interview as an important issue that was followed up with every participant.

Because of availability, accessibility, and time constraints, some participants were interviewed together. On two different occasions two coaches were interviewed together. In one instance two athletes were interviewed together. Finally, four athletes who row in the same boat and who consequently have the same coach were interviewed as a focused group. A total of 14 different interviews were, therefore, conducted. Each interview lasted between one and two hours. A full verbatim transcription of each interview was done and introduced into the Q.S.R. NUDIST (Lau, 1994) software for qualitative analysis.

Data Analysis

Three investigators were involved in the data analysis process: the two investigators who were involved in the data collection process and an independent researcher who had not been involved with the project beforehand. Data analysis followed guidelines adapted from authors such as Strauss and Corbin (1990) and Côté, Salmela, Baria, and Russell (1993).

Each completed interview was transcribed verbatim and read carefully by the three investigators. Second, the three researchers agreed on dividing the text of each interview into specific meaning units that contained one idea or piece of information. Third, the meaning units were compared and regrouped into sub-categories which were later contrasted and reassembled into more embracing higher-level categories.

Sub-categories and categories were named according to the common features shared by each grouping of meaning units. Following is an example of a meaning unit entitled "prepare systematic training for the long and short term " included in the category "plan proactively."

We have a yearly training program based on the goals we have set for that program. Most training programs start in September and your goal would be the next August, so you have a whole year. You plan your general training, specific training, pre-competition training. You have phases that you take the athletes through, then you have levels of training within those phases so they're high and low days and off days. And the level of intensity to those go up over the weeks until you get to pre-competition and take your volume down and increase your intensity. Then you have the competition, so it becomes more and more specific and less volume as you go through the cycle (CF9).

The three investigators reached a consensus on the number of meaning units derived from the text, on the labels provided to the sub-categories and categories, and on the inclusion of each meaning unit to a specific category.

Assuring the Credibility of the Data

In addition to the rigorous techniques and methods used to gather and analyze the data, other measures were taken to enhance the quality and credibility of the results. First, all interview transcripts were sent back to the participants so they could verify the authenticity of their thoughts. Each participant responded to this phase of the project and sent back their interview transcripts with minor editorial comments. Second, the results were presented and discussed with a group of 15 Canadian certified course conductors from across Canada including four coaches who participated in the study. Each course conductor had extensive experience coaching rowing and had been involved with the National Coaching Certification Program (NCCP) for at least two years. The object of the intervention was to obtain feedback from the coaches, to provide checks on the data interpretation, and to assure that the inferences made from the data accurately represented coaches' reality. This phase of the project allowed the researchers to clarify the categories' names and to redefine categories. The group of coaches shared a consistent view of the results and agreed that the essence of effective coaching behaviors was captured in the results. A third measure taken to enhance the credibility of the data was to constantly compare the perspective of coaches and athletes. Essentially, information obtained from coaches was checked and validated with athletes and vice versa. Thus, consistency in overall patterns of coach behaviors was identified by both coaches and athletes, contributing to the credibility of the findings.

RESULTS

Table 1 reports the categories that emerged from the analyses of the interview transcripts, the number of coaches and athletes who elicited each category, and the number of meaning units included in each category. The total number of meaning units extracted from the interview transcripts was 705. Each participant was represented in each of the categories except the category "establish a positive rapport with each athlete," which was not elicited by three athletes. The representation of coaches and

athletes varied within each category of behavior. Nevertheless, although certain categories were not as highly represented as others, their inclusion was critical in providing the most complete assessment of effective coaching behaviors. Furthermore the number of meaning units provided in Table 1 provides an estimate of the complexity of each behavior. For instance, "build athletes' confidence" had 171 meaning units while "create a positive training environment" had only 59 meaning units, suggesting that building athletes' confidence may be more complex than creating a positive training environment. It is important, however, to note that the number of meaning units does not provide an estimate of the importance of each category of behavior.

TABLE 1
Number of Coaches, Athletes and Meaning Units Within Each Category of Coach Behavior

Category of Coach Behavior	Coaches (n = 10)	Athletes (n = 10)	No. MU
Plan proactively	10	10	78
Create a positive training environment	10	10	59
Facilitate goal setting	10	10	91
Build athletes' confidence	10	10	171
Teach skills effectively	10	10	111
Recognize individual differences	10	10	120
Establish a positive rapport with each athlete	10	7	75

Plan Proactively

This category was defined as coaching behaviors aimed at developing a progressive plan for training and competition. Coaches plan proactively by preparing systematic training for the long and short term and by preparing their athletes for unexpected situations that can occur in training and competition.

Create a Positive Training Environment

This category was defined as coaching behaviors aimed at creating positive situations which stimulate athletes' enthusiasm and competitive desire. Coaches create a positive training environment through the establishment of structured and competitive training sessions in which a tradition of hard work ethics is fostered. Coaches' own desire and excitement contribute to the positive atmosphere created within the group.

Facilitate Goal Setting

This category was defined as coaching behaviors aimed at helping athletes define their long and short-term goals. The process of goal setting begins with a coach-athlete agreement on an ultimate goal to strive for. Then coaches establish intermediate goals in collaboration with athletes.

Build Athletes' Confidence

Although several coaching behaviors, such as "facilitate goal setting" or "teach skills effectively," could enhance an athlete's self confidence, coaches elicited specific behaviors targeted at building confidence. This category was defined as coaching

behaviors specifically aimed at building athletes' self-confidence. Coaching strategies to build athletes' confidence included: maintaining consistent attitude and behaviors in training and competition, regularly expressing confidence in athletes' performances, acting as a role model by exuding self-confidence, coordinating the logistics of training and competition, and introducing athletes to the use of mental preparation strategies.

Teach Skills Effectively

This category was defined as coaching behaviors aimed at developing athletes' technical and physical skills. Included in this category are coaches' behaviors aimed at communicating instructions and giving feedback.

Recognize Individual Differences

This category included coaching behaviors characterized by a concern for athletes' individual needs. Coaches need to consider individual differences when dealing with different genders, personalities, and physical attributes of their athletes, as well as each athlete's role on the team.

Establish a Positive Rapport with Each Athlete

This category was defined as coaching behaviors that nurture a positive rapport with each athlete. Meaning units included in this category focused exclusively on the personal relationship that coaches maintain with individual athletes. Coaches' behaviors that nurture understanding and respect emerged as an important factor in a coach's positive rapport with an athlete.

DISCUSSION

The objective of this study was to outline successful behaviors of expert rowing coaches. The discussion focuses on each behavior as it relates to real coaching applications and the existing coaching literature. Although some examples of meaning units are provided to illustrate the type of data underlying each category, they only represent a fraction of the large set of data from which the coaches' behaviors were conceptualized.

Although gender differences was an issue raised in the interviews with male and female coaches and later categorized in the "recognize individual differences" category, it was not a variable that was pervasive within each elicited category of behavior. Gender differences was not an issue in any of the data collected from athletes. In sum, despite the fact that coaches recognized gender differences, both athletes and coaches agreed on the importance of the same coaching behaviors irrespective of gender. Therefore, meaning units of both male and female coaches and athletes will be used to discuss the various categories of behaviors.

Plan Proactively

The planning aspect of coaching, although acknowledged as being important (Côté & Salmela, 1996), has received little attention from researchers. The important feature of this category is the coach's ability to make initiative plans, to make things happen rather than simply reacting to various situations in training and competition, as stated by CMI:

In the Olympic year, I am adding other things into the training program like

media training and psychology. Because of the pressures of the Olympic Games, because of the expectations of the country on this team, because of what happened (great success) in [XXXX], we are going to control the responsibility of what was created in [XXXX]. I mean that's fine but we need to prepare our athletes for that. So we are planning to have some tutorials on how to handle the media, how to prepare yourself for an interview so it doesn't become stressful. We are going to keep the media informed as to how often they can have access to the team.

By planning proactively coaches provide athletes with a sense of control over their environment as expressed by this athlete (AM10):

Our coach really prepared us for the unexpected. There's always going to be things when you travel and go to a major event that you're not expecting or you're not prepared for but you know they're going to be there so you're prepared for them now, and you're not going to let that affect you. The bottom line is you know what your event is and what you have to do to win that event. That's what matters, that 6 minutes of racing we have to do. There's going to be things outside you can't control...We're going to turn every unknown into a positive. We'll find something positive about everything that's negative.

The coaching behavior of planning proactively fits under the organization component of the Coaching Model (Côté, Salmela, Trudel, et al. 1995; Gilbert & Trudel, 2000) and is central to coaching effectiveness. However, instruments that measure coaching behaviors (e.g. Chelladurai & Saleh, 1980; Smith, Smoll, & Hunt, 1977) overlook the planning variable of coaching and thus, have no dimensions that solely tap coaches planning behaviors. Planning proactively emerged in this study as an important factor in coaching effectiveness.

Create a Positive Training Environment

The creation of an environment that fosters athlete's desire to learn and train hard emerged as a central component of coaching effectiveness. For instance one coach mentioned:

I believe that motivation starts by the coach acting like a salesperson, and a good salesperson will have their clients buy the product. So if you can have something that the rowers buy into, you are a motivator. If I say we want to win at the Olympics, it becomes my coaching responsibility to create an environment where they've bought into it...(CM2)

By demonstrating enthusiasm in training, establishing structured and competitive training sessions and challenging athletes to demonstrate personal improvement through creative drills, coaches foster a training environment that nurtures athletes' motivation, as illustrated by the following athlete:

I think a coach that is willing to be in training at 5:30 in the morning and always be there is a big motivator for an athlete. It makes a big difference compared to a coach that sort of comes out maybe three or four times a week and doesn't

really like coaching... I think if you see a coach that is willing to do everything that you are doing it just makes that much more drive, I mean you have to be down at practice because there is someone waiting for you...It's nice to have a coach that's as fully motivated as you. (AM2)

While researchers on teaching effectiveness have investigated optimal physical settings for teaching (O'Neill, 1988), studies on coaching effectiveness have been limited to the examination of coach instructional behavior when describing learning environment. For example, studies using systematic observation instruments have shown that children's self-esteem was enhanced by coaches who exhibited high levels of technical instruction, encouragement, and supportive behaviors (Barnett, Smoll, & Smith, 1992; Smith & Smoll, 1990). On the other hand, coaches and athletes in the present study have highlighted the importance that coaches have in crafting an optimal learning environment by organizing and structuring the setting in which athletes and coaches interact.

Facilitate Goal Setting

Goal setting has been shown to be an effective technique to positively influence psychological states such as anxiety, confidence, and motivation (Burton, Naylor, & Holliday, 2001). Coaches and athletes in the present study discussed personal strategies in implementing goal setting procedures. Before setting specific goals, coaches and athletes agreed on the importance for athletes to find the personal meaning and purpose that motivates them. Coaches and athletes emphasized the importance of being motivated by a deep sense of mission, which is different from the highly specific and measurable goals that a person sets. Essentially, the process of setting goals starts with a clear identification of an athlete's ultimate goal, as illustrated by the following coach:

As a coach, you have to have a plan to structure the goals for your athlete. I think you have to have a clear vision of what your athlete is trying to achieve. (CM6)

Similarly, an athlete said:

My coach helped me by giving me an end goal, like putting everything into perspective. It helps you to stay focused when you know what we are all going for and how we are going to get there. (AF5)

Other than taking time to discuss with their athletes, coaches in this study did not offer specific strategies to help athletes get in touch with their sense of mission. On the other hand, sport psychologists have provided strategies which coaches can use to help athletes form a philosophical basis that offers guidance and direction to one's pursuit (Corlett, 1996; Ravizza & Hanson, 1995).

Once that sense of mission is established, coaches help athletes to set a series of intermediate goals that will carry them towards the achievement of their ultimate goal. Consistent with the literature on goal setting (e.g. Burton, 1989; Gould, 1993) one athlete illustrated this process in the following words:

One of my coaches would always sit me down, I would come back in

September, and we'd have a meeting and sit down, he would show up in my room and we set short-term, long-term, mid-term goals. Every year we'd reevaluate and look at what I'd tried to accomplish the year before. (AF3)

Coaches believed that effective goals focused primarily on objective and personal outcome goals rather than vague and uncontrollable goals, as illustrated by this coach:

On a day in, day out basis you can have a task-oriented goal, as I call it, which would be six minutes and 55 seconds for 2000 meters; that's a personal goal that's sort of set for that week or for that month or for that season. The goal is never this vague idea of winning, or beat someone, or prove to someone, or go for the gold. It's more a specific individual sort of thing. That's what I refer to as a task oriented goal. It's very personal and specific goals that get you to the end process. It's a benchmark. (CM2)

As suggested by this coach, "task oriented goals" help athletes to identify where they want to be, and, in the process, help them determine where they are in terms of performance outcome. Coaches and athletes did not refer to setting process-oriented goals as opposed to outcome goals. In sum, other than focusing on outcome goals, coaches and athletes practices of goal setting are in line with most goal setting guidelines found in the literature and supported by empirical studies (Burton, et al., 2001; Gould, 1993).

Build Athletes' Confidence

While all coaches' behaviors discussed in this article are important in developing athletes' confidence, coaches and athletes evoked specific strategies used to enhance their athletes' confidence. Exuding self-confidence, expressing confidence in athletes, using mental preparation strategies, and keeping a consistent attitude in training and competition were recognized by athletes and coaches as directly influencing athletes' confidence. The following are examples of strategies mentioned by athletes and coaches:

Our coach mostly would tell us that we were ready for this and not pump us up but tell us how good we were. He mostly was just getting our confidence up. He would tell us, "We've done all the work, now just go out and do what you've done a hundred times before in practices." It was really good because it was my first time at a big international regatta and it helped me make sure that I wasn't all scared and looking around. He would say it's just another race, it doesn't mean anything, just go out and put your head down and row. (AF3)

I give positive feedback. Even if something goes wrong, I try to find a positive outlook to it. I'm also positive by the way I behave. I'm not coming into training in a negative mood. So it's also how I carry myself. (CM3).

Most of the strategies compiled by Gould, Hodge, Peterson and Giannini (1989) were elicited by coaches and athletes in the present study. In addition, other strategies such as keeping a consistent attitude in training and competition were also discussed by coaches and athletes and are reported in detail elsewhere (Sedgwick, Côté, & Dowd, 1997).

Overall, "building athletes' confidence" emerged as a very important characteristic of coaching behavior. Surprisingly, this topic was not evaluated by quantitative measures of coaching behavior such as the LSS or the Coaching Behavior Assessment System (CBAS; Smith, Smoll, & Hunt, 1977). Although "building athletes' confidence" is partially represented in the "positive feedback" dimension of the LSS or the "reinforcement" behavior of the CBAS, it certainly lacks depth in its measurement. For instance, the LSS or the CBAS do not have any item dealing with mental preparation strategies used by coaches to build confidence.

Teach Skills Effectively

The pedagogical role of coaches is an area that has received a lot of attention from researchers. The main method used to assess coaches' teaching effectiveness has been systematic observation instruments (for a review see Trudel & Gilbert, 1995) which include behavioral categories such as: questioning, praise, modeling, physical assistance, instruction, and feedback. Because rowing coaches mainly give instruction on the water from a coach boat, they are constrained in the type of teaching techniques they can use. For instance, modeling and physical assistance are two behaviors not typically elicited by rowing coaches. Essentially, effective coaches prioritize technical instruction, focus instruction on specific technical cues, and communicate and explain instructions using analogies as illustrated in the following meaning units.

Many times I use 5, 6, or 7 different ways of saying something. I tend to be very positive with my coaching where I'll sort of work on one aspect, I won't bounce around a lot, I try to stay with one aspect for a while during one workout. (CF7)

If you give an athlete fifteen things to concentrate on they'll be totally confused and nothing will be achieved. Give them one, maybe two technical points to focus on in training. (CM1)

...[My coach] implements techniques in really neat ways, he has different ways of making it make sense. He can be technical and it will go right over my head, or he can actually say things using an analogy of different things away from rowing that allow me to sort of think, o.k., that works. Having something else brought into the picture makes you learn skills better. (AM2)

Providing immediate, honest, and constructive feedback was another instructional behavior stressed as being important by coaches and athletes.

I need some sort of feedback whether it's telling me I'm doing it wrong or I'm doing it right. I like to hear, "that's it!" just to get a feeling. That's a big part of coaching. A lot of coaches will tell you what they want you to do but they don't tell you right away "that's it!" That's probably the best thing about feedback, as soon as you've changed something, to let the athlete know that that's the proper motion because a lot of times it's hard to feel. (AM8).

The positive dimension of feedback did not emerge as being a critical element of teaching in this study. Similarly, Solomon et al. (1996) found that college head basketball coaches issued mainly mistake-based feedback while their assistant coaches

delivered more positive feedback. The type of feedback elicited in this study is consistent with the results of Markland and Martinek (1988) who found that the feedback most frequently used by successful high school volleyball coaches was auditory, immediate, and corrective. Overall, the emergence of a "teaching" category reinforces the important pedagogical roles that coaches have in developing technical and physical skills.

Recognize Individual Differences

A coach's ability to recognize and integrate the individual needs and personalities of the athletes emerged as an important characteristic of effective coaching. This category of behavior was characterized by the following meaning unit:

The coaches who had the greatest influence on me are those who adapted their program to what I can do and what I set out to do. It appears that they were able to adjust to different individuals and goals. (AF6)

The Multidimensional Model of Leadership (Chelladurai, 1990; Chelladurai & Reimer, 1998) received empirical support that the preferred leadership behavior of athletes varies according to group member characteristics (e.g., age, ability) and situational characteristics (e.g., cultural factors, type of sport). Although, the LSS does not specifically address coaches' adaptability to various situations, the RLSS (Jambor & Zhang, 1997; Zhang et al., 1997) "situation consideration" factor specifically addressed different coaching methods for various situations and athletes' level. Accordingly, this factor was salient in the present study as coaches and athletes agreed that effective coaches are able to recognize and adapt their coaching style to different individuals and situations.

Establish a Positive Rapport with Each Athlete

In a retrospective portrait of six outstanding coaches, Walton (1992) revealed that great coaches do not simply master their sport but are also champions of wisdom and understanding. The coaches examined by Walton not only produce excellent athletes, but also educated and contributed to the human development of these athletes. The positive personal rapport that coaches have with their athletes was also described in this study as a very important factor of coaching effectiveness:

When you are working one on one with a person you've become not just a coach, you've become a friend and an assistant. It's amazing how you get into personal life and things like that, because you need to figure out what's distracting them. You need to get to them on a personal level so that everything they do is leading towards their goal. (CF7)

Again, I think it is important that you make people feel very worthwhile, that you encourage their sense of self worth, that they stand tall in their own eyes; that you never put down anybody, especially for limitations. People have strengths, people have weaknesses, and people have limitations. You should optimize the strengths, you should work on their weaknesses, but they should never be put down on their limitations. Limitations such as how tall they are, or something like this, things that they have absolutely no control over. You have

got to be very, very careful. Make them feel strong. (CM1)

Several authors agreed that the relationship between coaches and athletes is an important determinant of the way in which athletes are ultimately affected by their participation in organized sport (Côté & Salmela, 1996; Petlichkoff, 1993; Vanden Auweele & Wylleman, 1993). The coach-athlete relationship can ultimately influence the athletes' sport enjoyment and their decision to continue participating in the sport. The only study, to date, examining the relationship between coach behavior and sport attrition was done by Barnett, Smoll, and Smith (1992). Their results indicated that when coaches were trained to increase coach-player interaction and intra-team cohesion, and to promote participation in sport as an opportunity for achievement rather than for failure, their players dropped out significantly less than when coaches did not receive such training. Further research is needed to assess the influence of the coach-athlete relationship in predicting other outcome measures such as athletes' performance and satisfaction.

CONCLUDING REMARKS

The coaches' behaviors that were elicited in this study ranged from non-interactive behaviors such as "planning proactively" to behaviors that characterized the close interaction between coaches and athletes such as "establish a positive rapport with each athlete." The results may be presented as a set of 3 circles, one inside the other, with each level corresponding to the different nature of the interaction between the coaches and athletes.

In the outer rings are two categories, "plan proactively" and "create a positive training environment," which emphasize coaches' organizational skills to set up optimal learning environments. Coaches' interpersonal skills have a minimal influence on the effectiveness of these behaviors. The middle circle is made of three coaching behaviors: "facilitate goal setting," "build athletes' confidence," and "teach skills effectively." The effectiveness of these behaviors is determined by a coach's specific knowledge of the sport and also by the way a coach transmits knowledge to his or her athletes in training or competition. Therefore, sport specific knowledge as well as interpersonal and communication skills are important at this level. Finally, the center circle is characterized by two behaviors, "recognize individual differences" and "establish a positive rapport with each athlete," which emphasize the coach-athlete interaction. Coaches' interpersonal skills and their ability to relate to athletes in a personal manner are essential at this level.

Although the seven categories of behaviors can be separated into three different levels, it is important to keep in mind that all the coaching behaviors are dependent upon each other. In other words, regardless of the level within which a behavior is located, that behavior will stand in a conditional relationship with respect to the levels above and below it, as well as to other behaviors within that level. For example, coaches' abilities to teach skills effectively is dependent upon their abilities to set goals, to organize an optimal learning environment, and to relate personally to their athletes. Therefore, it is important to look at the results of this study as a whole, as opposed to independent disconnected behaviors.

Finally, the results of the present study provide dimensions of coaching behaviors that have not yet been tapped with quantitative measures of coaching effectiveness such as questionnaires or systematic observation instruments. Mainly, quantitative

measures of coaching effectiveness have focused on coaching behaviors exhibited within the training or competition settings; these behaviors are located in the second level. However, coaches' organizational work and their personal relationships with their athletes are two areas representative of successful coaching that need further research. These two areas which fit under the organization component of the Coaching Model (Côté, Salmela, Trudel, et al., 1995) comprehend categories labeled as: "plan proactively," "create a positive training environment," "recognize individual differences," and "establish a positive rapport with each athlete." It appears important to re-evaluate existing instruments that measure coach behavior in light of the knowledge base acquired through qualitative studies with coaches and athletes. Accordingly an effort has recently been made through the development of the Coaching Behavior Scale for Sport (CBS-S; Baker, Côté, & Hawes, 2000; Côté, Yardley, Hay, Sedgwick, & Baker, 1999). The CBS-S was designed around the behaviors of coaching outlined in Table 1 and could be beneficial both for research and intervention with coaches at various levels.

ACKNOWLEDGMENT

Support for the writing of this manuscript was given by a standard research grant from the Social Sciences and Humanities Research Council of Canada (SSHRC Grant #410-99-0525) to the first author. The authors gratefully acknowledged the constructive comments on an earlier draft of this manuscript by Wade Gilbert. The authors are also appreciative of Joe Dowd's valuable contributions to data collection and analyses.

Sections of this manuscript were written when Jean Côté was a visiting academic (March 1 - June 30, 2002) in the department of Human Movement Studies at The University of Queensland, Brisbane, Australia.

REFERENCES

- Baker, J. R., Côté, J., & Hawes, R. A. (2000). The relationship between coaching behaviors and sport anxiety. *Journal of Science and Medicine in Sport*, 3, 110-119.
- Barnett, N. P., Smoll, F. L., & Smith, R. E. (1992). Effect of enhancing coach-athlete relationships on youth sport attrition. *The Sport Psychologist*, 6, 111-127.
- Barteaux, A. (1996, January). *Gender equity in coaching*. Paper presented at the 1996 Rowing Coaches Conference, Niagara-on-the-Lake, Ontario.
- Burton, D. (1989). Winning isn't everything: Examining the impact of performance goals on collegiate swimmers' cognition and performance. *The Sport Psychologist*, 3, 105-132.
- Burton, D., Naylor, S., & Holliday, B. (2001). Goal setting in sport. In R. N. Singer, H. A. Hausenblas, C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd ed.) (pp. 497-528). New York : John Wiley & Sons.
- Chelladurai, P. (1990). Leadership in sports: A review. *International Journal of Sport Psychology*, 21, 328-354.
- Chelladurai, P. & Reimer, H. A. (1998). Measurement of leadership in sport. In J. L. Duda (Ed.), *Advances in sport and exercise psychology measurement* (pp. 227-256). Morgantown WV: FIT.

- Chelladurai, P. & Saleh, S.D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology*, 2, 34-45.
- Corlett, J. (1996). Sophistry, Socrates, and sport psychology. *The Sport Psychologist*, 10, 84-94.
- Côté, J. (1998). Coaching research and intervention: An introduction to the special issue. *AVANTE*, 4, 1-15.
- Côté, J. & Salmela, J. H. (1996). The organizational tasks of high performance gymnastic coaches. *The Sport Psychologist*, 10, 247-261.
- Côté, J., Salmela, J. H., Baria, A., & Russell, S. J. (1993). Organizing and interpreting unstructured qualitative data. *The Sport Psychologist*, 7, 127-137.
- Côté, J., Salmela, J. H., & Russell, S. (1995). The knowledge of high performance gymnastic coaches: Competition and training considerations. *The Sport Psychologist*, 9, 76-95.
- Côté, J., Salmela, J. H., Trudel, P., Baria, A., & Russell, S. (1995). The coaching model: A grounded assessment of expert gymnastic coaches' knowledge. *Journal of Sport and Exercise Psychology*, 17, 1-17.
- Côté, J., Yardley, J., Hay, J., Sedgwick, W., & Baker, J. (1999). An exploratory examination of the Coaching Behavior Scale for Sport. *AVANTE*, 5, 82-92.
- Douge, B. & Hastie, P. (1993). Coach effectiveness. *Sport Science Review*, 2, 14-29.
- Gilbert, W.D., & Trudel, P. (2000). Validation of the coaching model (CM) in a team sport context. *International Sports Journal*, 4, 120-128.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York, Aldine.
- Gould, D. (1993). Goal setting for peak performance. In J. M. Williams (Ed.), *Applied sport psychology*. Mountain View, Mayfield.
- Gould, D., Hodge, K., Peterson, K., & Giannini, J. (1989). An exploratory examination of strategies used by elite coaches to enhance self-efficacy in athletes. *Journal of Sport and Exercise Psychology*, 11, 128-140.
- Gould, D., Hodge, K., Peterson, K., & Petlichkoff, L. (1987). Psychological foundations of coaching: Similarities and differences among intercollegiate wrestling coaches. *The Sport Psychologist*, 1, 293-308.
- Jambor, E. A. & Zhang, J. J. (1997). Investigating leadership, gender, and coaching level using the Revised Leadership for Sport Scale. *Journal of Sport Behavior*, 20, 313-321.
- Lau, R. (1994). *Q.S.R. NUDIST: Qualitative data analysis software for research professionals*. Los Aptos, Aladdin Systems.
- Markland, R., & Martinek, T. J. (1988). Descriptive analysis of coach augmented feedback given to high school varsity female volleyball players. *Journal of Teaching in Physical Education*, 4, 289-301.
- O'Neill, P. G. (1988). Teaching effectiveness: A review of the research. *Canadian Journal of Education*, 13, 162-185.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury Park, Sage.
- Petlichkoff, L. M. (1993). Coaching children: Understanding the motivational process. *Sport Science Review*, 2, 48-61.
- Ravizza, K. & Hanson, T. (1995). *Heads up baseball: Playing the game one pitch at a time*. Indianapolis, Masters Press.

- Rubin, H. J. & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, Sage.
- Salmela, J. H. (Eds.). (1996). *Great job coach : Getting the edge from proven winners*. Ottawa: Potentium.
- Salmela, J. H. (1994). Learning from the development of expert coaches. *Coaching and Sport Science Journal*, 1, 1-11.
- Schinke, R., Bloom, G., & Salmela, J. H. (1995). The career stages of elite Canadian basketball coaches. *AVANTE*, 1, 48-62.
- Sedgwick, W.A., Côté, J., & Dowd, J. (1997). Confidence building strategies used by high-level rowing coaches, *AVANTE*, 3, 81-93.
- Smith, R.E. & Smoll, F. L. (1990). Self-esteem and children's reaction to youth sport coaching behaviors: A field study of self-enhancement processes. *Developmental Psychology*, 26, 987-993.
- Smith, R. E., Smoll, F. L. & Hunt, E. B. (1977). A system for the behavioral assessment of athletic coaches. *Research Quarterly*, 48, 401-407.
- Solomon, G. B., Striegel, D. A., Eliot, J. F., Heon, S. N., & Maas, J. L. (1996). The self-fulfilling prophecy in college basketball: Implications for effective coaching. *Journal of Applied Sport Psychology*, 8, 44-59.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, Sage.
- Sullivan, J., & Hodge, K. P. (1991). A survey of coaches and athletes about sport psychology in New Zealand. *The Sport Psychologist*, 5, 140-151.
- Trudel, P. & Gilbert, W. (1995). Research on coaches' behaviours: Looking beyond the refereed journals. *AVANTE*, 2, 94-104.
- Vanden Auweele, Y., & Wylleman, P. (1993). The interpersonal relationships between coaches and parents of young athletes. In S. Serpa, J. Alves, V. Ferreira, & A. Paula-Brito (Eds.). *Sport psychology: An integrated approach*, (pp. 184-187). Lisbon.

