

Mapping the Game Related Coaching Principles and Beliefs of a
Youth Ice Hockey Coach Using Stimulated Recall Interviews

by

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Abstract

Despite theoretical support for a link between people's beliefs and their behaviors, it seems the link has yet to be empirically corroborated by studies conducted with coaches. Recently, Gilbert and Trudel (1994) suggested that stimulated recall could be used to better understand the hidden cognitive processes that contribute to coaches' behaviors. However, the technique's potential for effectively accessing coaches' beliefs has yet to be examined. As a result, the present study's purpose was to determine whether or not coaches would refer to their beliefs and/or principles of coaching to explain their game related behaviors during stimulated recall sessions. In so doing, the present study sought to a) empirically examine the theoretical link between coaches' beliefs and their behaviors, as well as b) determine the usefulness of stimulated recall as a means of accessing coaching principles and/or beliefs.

Data were obtained from five youth ice hockey coaches in accordance to Trudel, Haughian and Gilbert's (in press) research protocol. An inductive analysis of 28 stimulated recall interview transcripts revealed nearly 200 statements in which the subjects expressed coaching principles and/or beliefs to explain their actions. With the statements expressed by Martin, the study's main subject, 16 categories of coaching principles and beliefs were produced and then depicted on a conceptual map. Overall, results suggest that a) coaching principles and beliefs are important determinants of coaches' behaviors, b) stimulated recall provides an accurate means of accessing coaching principles and/or beliefs, and c) overly simplistic accounts of coaches' convictions, opinions or views may be rather inaccurate, and should thus be avoided.

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Mapping the Game Related Coaching Principles and Beliefs of a Youth Ice Hockey Coach Using Stimulated Recall Interviews

According to Statistics Canada (1994), approximately four million Canadians between the ages of six and eighteen take part in some sort of organized youth sport. Researchers have also estimated that each year, organized youth sport attracts more than 70 million children from Canada, the United States, the Soviet Union, Australia, Britain and Brazil (Petlichkoff, 1993). As a result, it is obvious that organized youth sport has come to play a significant role in the modern day lifestyles of our youth. In fact, Gummerson (1992) has even suggested that the desire to learn, play and enjoy a sport has become one of the most fundamental of human needs.

With the enhanced status of organized sport in society, the provision of quality instruction has become increasingly important. According to Woodman (1993), youth sport coaches must ensure that participants are continually provided "with a practice and competition environment, that ensures sequential development and mastery of basic skills, as well as fun and participation" (p. 3). As a result, volunteer coaches are said to play an extremely important role in shaping the success or failure, satisfaction or frustration, and joy or sadness of the sport experience for youngsters (Vernacchia, McGuire & Cook, 1992).

According to Strean (1993), the various links between coaching behaviors and outcomes for children have been well established. Youth sport coaches' behaviors have been shown to influence the attitudes (Smoll & Smith, 1989), motivation (Petlichkoff, 1993), self-esteem (Weiss, 1993) and perceptions of physical competency (Horn, 1985) of young athletes. On the other hand, Strean claimed that few researchers have sought

to determine the motives for coaches' behaviors, therefore suggesting that the study of coaching could benefit from greater consideration of coaches' personal characteristics. Streaan specifically argued that coaches' beliefs are important determinants of their actions.

The link between people's beliefs and their many behaviors has already received support from researchers in the field of education (e.g., Clark & Peterson, 1986) and in social psychology (e.g., Ajzen, 1985). In fact, the link has even received attention from researchers who have expressed supportive opinions throughout the coaching literature (e.g., Côté, Salmela, Trudel, Baria & Russell, 1995; Jones, Wells, Peters & Johnson, 1988; Martens, 1987, 1990). Despite this theoretical support, it appears that the link between coaches' beliefs and their behaviors has yet to be empirically corroborated by studies in the field of coaching.

To substantiate the belief/behavior relation in coaching, past empirical studies would have likely examined both the beliefs and the behaviors of coaches. As a result, a complete review of the studies on coaches' behaviors would likely reveal the studies that empirically examined the aforementioned link. Trudel and Gilbert (1995) recently compiled an exhaustive bibliography of studies related to coaches' behaviors. They included all North American studies in which coaching behaviors had been captured through the use of direct observation during practices and/or games. Though 28 of these studies were published in refereed journals from 1976 to 1994, only one included inquiries regarding coaches' beliefs. Most of the studies were simply conducted to better describe, compare and/or improve the behavior of coaches.

The single study to have empirically examined both the beliefs and the behaviors of coaches was the study conducted by Strong (1992). Though the lack of studies alone would warrant further investigation, additional studies are especially required since the results from Strong's study refute the theoretical support for a link between coaches' beliefs and their behaviors. However, it is possible that Strong's study did not reveal it's subjects' true beliefs, since the method used to obtain them was a simple questionnaire. As a result, there exists not only a need to further examine the belief/behavior relation, but also the need for a more reliable method of accessing the true beliefs of coaches.

Researchers recently suggested that stimulated recall interviews could offer a viable means of better understanding the hidden cognitive processes that contribute to the behavior of coaches (Gilbert & Trudel, 1994; Trudel, Côté & Bernard, 1994). Since Reiken's (1982) study is the only published study in which stimulated recall interviews were conducted with coaches (Trudel, Haughian & Gilbert, in press), their potential for accessing coaches' beliefs has yet to be examined.

Purpose of the study

The present study's purpose was to determine whether or not coaches would refer to their beliefs and/or principles of coaching to explain their game related behaviors during stimulated recall interviews. In so doing, the present study sought to a) empirically examine the theoretical link between coaches' beliefs and their behaviors, as well as b) determine the usefulness of stimulated recall as a means of accessing coaching principles and/or beliefs.

Review of Literature

Section I

In Section I, the review of literature will serve to provide specific examples that were drawn from three fields of research (social psychology, education and coaching) to theoretically support the link between coaches' beliefs and their behaviors. To attain this objective, (a) the theory of reasoned action (Ajzen, 1985), (b) the model of teacher thought and action (Clark & Peterson, 1986), (c) the coaching model (Côté et al., 1995), and (d) some general literature on coaching philosophy shall be presented.

The Theory of Reasoned Action

According to the theory of reasoned action (Ajzen, 1985), any human volitional behavior can be explained in terms of a limited number of concepts. In short, the theory traces the causal links of a person's behavior, from beliefs, through attitudes, norms, and intentions, to various actions or behaviors (see Appendix A). The theory postulates that a person's intention to perform a behavior is the immediate determinant of his or her actions. However, the theory also suggests that a person's intention is a function of two more basic determinants: the person's attitude toward the behavior and the subjective norm.

The person's attitude toward a behavior is determined by his or her behavioral beliefs, which refer to the individual's evaluation of the outcomes associated with the behavior in question. When a person believes that a given behavior will lead to mostly positive outcomes, he or she will usually have a favorable attitude toward performing that behavior. On the other hand, the subjective norm is a function of the individual's

normative beliefs. These beliefs reflect the person's perceptions of the social pressures to perform or not to perform a behavior. A person will perceive added social pressure when significant others choose to exercise their influence.

Overall, the theory suggests that people intend to perform behaviors when they evaluate them positively and when important others want them to be performed. Both behavioral and normative beliefs are thus considered to be important determinants of people's behavior. Consequently, the theory of reasoned action clearly supports the premise that "a person's behavior is explained by reference to his or her beliefs" (Ajzen, 1986, p. 14).

Nonetheless, the theory clearly stresses the notion that many factors can obstruct the link between people's beliefs and their behaviors. Personal deficiencies, such as a lack of knowledge or motivation, and external obstacles, such as financial problems, can sometimes interfere with the performance of an intended behavior. According to Ajzen (1985), the successful performance of any behavior therefore depends upon the person's control over the many factors that may prevent it.

A Model of Teacher Thought and Action

As part of their review of the literature concerning teachers' thought processes, Clark and Peterson (1986) developed a model which clearly represents two important domains involved in the process of teaching. The first refers to the thought processes of teachers, whereas the second refers to teachers' actions and their observable effects (see Appendix B).

The first of these two principal domains encompasses three major categories of teacher thought processes. These categories include (a) teacher planning, (b) teachers' interactive thoughts and decisions, and (c) teachers' theories and beliefs. On the other hand, the second principal domain includes three other categories regarding teachers' actions and their observable effects. Those categories include (a) teachers' classroom behavior, (b) students' classroom behavior, and (c) student achievement. To complete the model, constraints and opportunities are also included and their effect upon both principal domains is clearly depicted.

Within each of the two principal domains, all three categories are presented as having an effect upon one another. Though each of these relationships carries its own importance, the relation between both of the principal domains is of particular interest in this case. Since the model depicts a reciprocal relationship between the domains of teacher thought and action, it therefore supports the relation between teachers' beliefs and their behaviors during class. However, it is important to note that the model also clearly depicts the effect that external constraints and opportunities may have on this relation.

The Coaching Model

Côté et al. (1995) recently developed a model in which the components are defined to describe the coaching process as viewed from an expert coach's perspectives (see Appendix C). Though the model was initially developed in view of gymnastic coaches, the authors have suggested that its major components may also be applied to coaching in general.

At the centre of the model is the coaching process. It includes the competition, training and organization components. Also present are three peripheral components or variables that affect the coaching process. These components consist of (a) the coach's personal characteristics, (b) athletes' personal characteristics and level of development, and (c) contextual factors. The coach's mental model of the athletes' potential and the coach's goal of developing athletes are two additional factors that serve to complete the model.

Among the model's constituents, the coach's personal characteristics component is of particular interest. According to Côté et al. (1995), coaches' personal characteristics include variables that relate to the beliefs, perceptions, philosophies or personal lives of coaches that could ultimately influence the coaching process. Since the coaching process is comprised of the coach's actions in the organization, training and competition components, one may conclude that the model supports a possible relation between coaches' beliefs and their behaviors.

Coaching Philosophy

A coaching philosophy is essentially defined as a set of values or beliefs that serve to guide the actions of a coach (Jones et al., 1988; Martens, 1987, 1990). According to Lyle (1986), these values and beliefs are translated into a coherent set of principles which govern the coaching process. Coaches' beliefs, principles and philosophies are thus reflected in the behavior of coaches towards their athletes, in their communication style and in their ethical behavior. In short, they are considered to be an ever present behavioral influence.

Coaching philosophies are said to incorporate a number of beliefs which usually relate to topics such as (a) winning, (b) fun, (c) coaches' responsibilities, and (d) the physical, social and psychological development of athletes (Jones et al., 1988; Martens, 1990; Sabock, 1991). According to Lyle (1986), two principal philosophies tend to emerge in coaching. The first reflects a more humanistic approach that relates to the athletes' personal growth and development through sport. The second is a performance based philosophy which clearly values competitive success.

Nonetheless, what is essential is the notion that all coaches develop their own personal philosophies, which in turn, dictate most of their actions (Sabock, 1991). Since coaching philosophies are said to encompass a number of principles and beliefs, it is apparent that this part of the coaching literature provides further support for a relation between coaches' beliefs and their behaviors.

Overall, there appears to be many researchers who support the belief/behavior relation, whether it applies to people in general, or more specifically to teachers and coaches. Though the literature presented in Section I entirely consisted of examples that were (a) drawn from other fields of research, or (b) based upon the expert opinions of researchers in sport, together they provide strong theoretical support for a link between coaches' beliefs and their behaviors.

Section II

To help corroborate the theoretical support provided in Section I of the review of literature, past empirical studies would have likely examined both the beliefs and the behaviors of coaches. As a result, a complete review of the literature on coaches'

beliefs or on coaches' behaviors would be likely to reveal the studies that empirically examined the belief/behavior relation with coaches.

In Section II, the review of literature will include a brief review of the major objectives of 28 North American studies in which direct observation techniques (systematic observation, participant observation and/or non-participant observation) were used to capture the behavior of coaches in their natural settings. Since these studies include all such studies published in refereed journals from 1976 to 1994, the review will reveal the lack of studies that empirically examined the theoretical link between coaches' beliefs and their behaviors. The use of stimulated recall interviews shall then be suggested as a possible means of accurately examining this theoretical relationship.

The Direct Observation of Coaches' Behaviors

Over the past two decades, a considerable number of studies have used direct observation methods (systematic observation, participant observation and non-participant observation) to analyze the behavior of coaches from a number of different sports. Trudel and Gilbert (1995) recently compiled a total of 111 of these North American studies reported throughout the sport literature. Together, they discovered 36 masters' theses, 32 doctoral dissertations, 15 articles in congress proceedings, and 28 articles in refereed journals.

Since refereed journals are not only highly accessible, but are also known to contain the more renowned studies from the various fields of research, they make up what Trudel & Gilbert (1995) have termed the highway of information for scholars.

The 28 articles that Trudel and Gilbert discovered in refereed journals shall therefore be used to provide a general picture of the direct observation studies conducted over the past twenty years. Though much could be drawn from these studies, the following review has a simple objective. The review shall be used to demonstrate that coaches' beliefs have rarely been included as part of the studies on coaching behaviors. As a result, the emphasis of the review shall only be placed upon the primary objectives of each study. Only the studies that included coaches' beliefs shall be further examined.

Based upon their primary objectives, the studies published in refereed journals can be regrouped into five specific categories. The first of these categories contains seven studies whose main objective was to observe various coaches and to provide an accurate account of their behaviors. For example, studies from the first category were used to describe the overall practice behaviors of (a) an expert basketball coach (Tharp & Gallimore, 1976), (b) winning high school football coaches (Lacy & Darst, 1985), and (c) collegiate women's volleyball coaches (Lacy & Martin, 1994).

Studies from the first category were also used to describe (a) the quantity and quality of verbal feedback provided by youth baseball coaches during competition (McKenzie & King, 1982), (b) the learning conditions provided by youth ice hockey coaches during training (Trudel & Brunelle, 1985), and (c) coaching behaviors related to players' aggressive or violent actions during games (Trudel, Guertin, Bernard, Boileau & Marcotte, 1991). The two remaining studies presented the task systems and accountability in an elite junior sport setting (Hastie & Saunders, 1992), and the

usefulness of systematic observation for the improvement of teaching and learning in sport (Darst, Langsdorf, Richardson & Krahenbuhl, 1981).

The second category includes nine similar studies whose main objective was not only to describe, but also to compare coaches' behaviors with respect to specific factors. Though most of the studies observed and described many of the same behaviors, nearly all of them based their comparisons upon very different factors. For example, the second category's studies compared the practice behaviors of (a) high school tennis and football coaches (Claxton & Lacy, 1986), (b) successful and non-successful high school tennis coaches (Claxton, 1988), (c) male and female high school basketball coaches (Lacy & Goldston, 1990), and (d) two successful collegiate coaches versus a successful pop warner football coach (Seagrave & Ciancio, 1990).

Studies from the second category also compared (a) the feedback provided by successful and non-successful high school volleyball coaches during practice (Markland & Martinek, 1988), (b) the instructional behaviors of high school baseball coaches and high school physical education teachers (Rupert & Buschner, 1989), (c) the actual and perceived behaviors of minor level soccer coaches in training and in competition (Wandzilak, Ansorge & Potter, 1988), (d) coaching behaviors exhibited towards high- and low-expectancy youth basketball players (Rejeski, Darracott & Hutslar, 1979), and (e) the behaviors of elementary, junior high and senior high school basketball coaches during games and practices (Chaumeton and Duda, 1988).

The third category is comprised of studies whose aim was to observe coaching behaviors to properly assess the efficiency of behavior improving strategies, programs

or techniques. This category contains five such investigations. Two of them examined the effects of complex strategies or training programs, whereas the others examined the effects of individual techniques.

Strategies or training programs assessed during these studies were comprised of various experimental procedures. The first study's strategy included (a) self-recording, (b) cueing, and (c) fading and leaning (Rushall & Smith, 1979), whereas the second study's strategy consisted of (a) behavioral guidelines, (b) modeling, (c) feedback, and (d) self-monitoring (Smith, Smoll & Curtis, 1979). Individually examined techniques consisted of (a) systematic supervisory feedback (Mancini, Clark & Wuest, 1987), (b) self-monitoring (Brunelle, Spallanzani, Tousignant, Martel & Gagnon, 1989), and (c) practical training sessions for new volunteer coaches (Boudreau & Tousignant, 1991). For the most part, the efficiency of training programs and individual techniques was measured according to increases in positive feedback, instructional content and motor engagement time provided by coaches.

The fourth category encompasses five studies whose goal was to examine the relation between coaching behaviors and some other factor. For instance, these studies examined the relationship between coaching behaviors and (a) team performance (Dubois, 1981), (b) team climate (Fisher, Mancini, Hirsch, Proulx & Staurowsky, 1982), and (c) children's attitudes regarding their sport, their coaches and their teammates (Smith, Zane, Smoll & Coppel, 1983). Other studies examined the relation between (a) coaches' feedback and children's perceptions of their physical competency

(Horn, 1985), as well as (b) coaches' expectations and their athletes' self-perceptions (Sinclair & Vealey, 1989).

Since the objectives from 27 of the 28 studies have already been presented and none have included the beliefs of coaches, it is obvious that very few published studies have ever investigated the beliefs of coaches and their relation to observed coaching behaviors. Though the studies from the first four categories thoroughly examined the behaviors of coaches and their many effects, they never really investigated any of the possible motives for such behaviors. Even when studies recognized the importance of changing coaches' behaviors and assessing the various ways to do so, emphasis was clearly placed on changing external actions instead of the possible underlying motives. Nevertheless, the fifth and final category contains a single study (Strong, 1992) whose objectives also included inquiries into the motives for observed coaching behaviors. Since this study is of particular interest in this case, its methods and results shall also be presented.

The purpose of Strong's (1992) study was to determine whether or not youth sport managers to achieve its stated goals. To attain this objective, a middle weight football team for players ranging from nine to thirteen years of age was observed through an ethnographic field study. Data regarding the behavior of the team's three co-coaches was gathered over a six week period (six games and eighteen practices). At the conclusion of the team's seven week season, all three coaches were asked to personally rate the importance they attribute to the five following goals of organized

youth football (a) development of skills, (b) winning, (c) discipline, (d) having fun, and (e) sportsmanship.

Results from the study indicated that all three coaches rated sportsmanship and having fun as their primary goals for the season. Despite these claims, Strong (1992) argued that neither of those goals had been seriously pursued by the coaches. In fact, Strong maintained that winning, rated last by the coaches, was actually the primary goal for the team, since lesser players had received little attention and playing time. Status differentiation, perpetuated elitism, intimidation and team conflict were among the most notable observations. As a result, Strong concluded that the study's three co-coaches failed to attain their stated goals.

When considering the results from Strong's (1992) study, it is quite obvious that the three co-coaches behaved in a way which clearly opposed their externally stated beliefs regarding the importance of the objectives that they rated. It would thus appear that the only empirical study to have considered the link between coaches' beliefs and their behaviors actually contradicts the theoretical support provided in Section I of the review of literature. Nevertheless, it is possible that Strong's study did not effectively reveal the co-coaches actual beliefs. If all three coaches rated their goals in an attempt to convey, what they hoped would be a better image of themselves, it is possible that the subjects did not really behave in a way which opposed their true goals or beliefs. Since Strong's study was not designed to preclude this possibility, there is an obvious need to further investigate the link between coaches' beliefs and their behaviors using a more reliable method for accessing their true internal beliefs.

Trudel et al. (1994) recently addressed the importance of better understanding the hidden cognitive processes that contribute to coaches' behaviors. To attain this objective, these researchers suggested the use of stimulated recall interviews in which coaches would observe their behaviors on videotape. Following a thorough review of the literature concerning the use of stimulated recall interviews in the field of education, and especially in physical education, Gilbert and Trudel (1994) clearly confirmed the utility of using such an approach with coaches. Since Reiken's (1982) study is the only published study in which stimulated recall interviews were ever conducted with coaches (Trudel et al., in press), their potential for accessing the true beliefs of coaches has yet to be examined.

Finally, as a result of (a) the theoretical support provided in Section I, (b) the contradictory evidence presented in Section II, and (c) the suggested use of stimulated recall as a means of exploring the hidden cognitive processes that contribute to coaches' behaviors, the present study's purpose was established. This study sought to determine whether or not coaches would refer to their beliefs and/or principles of coaching to explain their game related behaviors during stimulated recall sessions. In so doing, the present study sought to a) empirically examine the theoretical link between coaches' beliefs and their behaviors, as well as b) determine the usefulness of stimulated recall as a means of accessing coaching principles and/or beliefs.

Method

The present study of coaching principles and beliefs was conducted as part of an ongoing research project concerned with the cognitive aspects of coaching in amateur ice hockey. As a result, this study was based upon an extensive data base, commonly used in all parts of the main research project, and assembled by members of the main project's research team.

Data Collection

During the 1994-1995 ice hockey season, six youth ice hockey coaches agreed to volunteer as subjects for the research project on the cognitive aspects of coaching. Each coach was given a letter of information regarding the overall project (see Appendix D) and each was asked to sign a form of consent (see Appendix E). After consent was obtained, four research assistants, including myself, proceeded to collect the data in accordance to Trudel et al.'s (in press) research protocol.

Overall, data was gathered using (a) background interviews, (b) pre-game and pre-practice interviews, (c) videotaping of games and practices, (d) post-game and post-practice interviews, and (e) stimulated recall interviews, all separately conducted with each one of the six volunteer coaches.

Background Interviews

The initial step in the data collection process was to query each coach using a pre-established background interview guide (see Appendix F). During each of these interviews, the guide was used to elicit information regarding the subject's (a) coaching experience, (b) playing experience, (c) present team, (d) short and long term planning,

(e) typical games, and (f) typical practices. All background interviews were audiotaped and later transcribed for analysis in other parts of the main research project.

Pre-game and Pre-practice Interviews

Prior to both games and practices, subjects took part in a short on-site interview designed to elicit information regarding their intended game or practice plan. Prior to games, subjects were also questioned regarding their pre-game speech. All pre-game and pre-practice interviews were initially audiotaped and later transcribed for analysis in other parts of the main research project.

Videotaping of Games and Practices

All six coaches were videotaped in action during four games and four practices each. However, one of the six subjects was videotaped for an additional eight games to allow for further analysis.

During each game, taping began prior to the opening face-off and ended at the conclusion of the third period. To allow both the game and the coach to be captured simultaneously, as well as discretely, video equipment was set up across the rink from the subject's bench and a wireless microphone was used. Training sessions were also filmed from beginning to end, using a similar approach.

Videotapes obtained during games and practices were later used to conduct stimulated recall interviews with the coaches. Each coach was interviewed separately using the tape of the last session in which he or she took part.

Post-game and Post-practice Interviews

At the conclusion of both games and practices, subjects took part in a short on-

site interview designed to elicit information regarding the game or practice plan they implemented, and the decisions they remembered having to make. All post-game and post-practice interviews were initially audiotaped and later transcribed for analysis. Post-session interviews were also used in conjunction with the videotapes to conduct stimulated recall sessions with the coaches.

Stimulated Recall Interviews

Approximately one or two days following games and practices, the subjects took part in stimulated recall interviews which were designed to elicit the coaches' reasons for taking various decisions, and in turn, exhibiting selected behaviors. Each coach was interviewed separately using the tape of the last session in which he or she had been filmed. To help obtain accurate information, each coach was interviewed prior to any subsequent on-ice session with his or her team. All of the interviews were conducted according to Trudel et al.'s (in press) research protocol which suggests the use of three types of events (Type I, II and III) during stimulated recall sessions.

Type I events referred to exact moments or occasions during which the coaches carried out decisions that they reported during the post-game or post-practice interviews. Since type I events were related to previously reported decisions, their selection entirely depended upon the coaches. Stimulated recall sessions generally began with the presentation of type I events, unless no decisions were reported during the previous post-game or post-practice interviews. For each of these events, the interviewer would offer a brief description, while attempting to limit the number of cues required to remind the coach of the exact event. The interviewer would then ask

the coach to elaborate on the situation, thus confirming recollection, and to explain his or her decision taken during the event. After conveying his or her initial explanation, the coach would view a video clip of the aforementioned occasion. He or she was then given the opportunity to further discuss the underlying reasons for the decision in question.

Type II events referred to exact moments or occasions during which the coaches carried out decisions that they didn't report during the post-game or post-practice interviews. Since type II events were related to decisions that hadn't been reported, the interviewer was entirely responsible for their selection. Though type II events differed from those of type I, both were presented to the coach in the exact same manner. The interviewer would offer a brief description of the exact occasions, while attempting to limit the number of cues that he or she revealed. For each type II event, the coach was asked to elaborate on the situation and to explain the decision that he or she had taken. The coach was then shown a video clip of the exact occasion before being asked to further explain if he or she felt it was necessary.

Finally, type III events referred to exact moments or occasions during which the coaches carried out specific decisions that hadn't been selected as part of the type I or II events. However, contrary to the first two types of events, type III events were not determined in advance. The interviewer would simply select three five minute video segments that did not contain type I or type II events. Without offering descriptions or comments, the interviewer would simply playback all three video segments and the coach would elaborate at will on the various events that were taking place as the tape

continued to run. Though the coaches were free to comment about anything they were observing, they were urged to focus upon the decisions that they had taken during the five minute segments.

Subjects

Though the overall project's data base contained information regarding a total of six volunteer subjects, only five were selected for analysis in this study of coaching principles and beliefs. Since data regarding the excluded subject was entirely collected during a pilot study, it was deemed preferable to completely omit the subject in question. As a result, only the five following coaches were selected for analysis:

Coach A

During the 1994-1995 ice hockey season, this subject was the head-coach of a competitive ice hockey team for Bantam aged boys (ages 14-15). Prior to that, Coach A had acquired two years of experience as the head-coach of competitive teams for Midget aged boys (ages 15-16), and four years of experience as an assistant with competitive teams for boys of various ages.

In addition to his coaching experience, Coach A had acquired approximately ten years of experience as a youth ice hockey player at the competitive level. Furthermore, he had obtained his level III coaching certification through the National Coaching Certification Program (N.C.C.P.).

Coach B

During the 1994-1995 ice hockey season, this subject was the head-coach of a non-competitive (house league) ice hockey team for Bantam aged girls (ages 14-15).

Prior to the 1994-1995 season, Coach B had acquired a total of five years of experience as a head-coach and as an assistant at the house league level. Four of those years were spent coaching Novice (ages 8-9) and Atom (ages 10-11) aged boys, whereas the other was spent coaching Peewee aged girls (ages 12-13).

Apart from his coaching experience, Coach B had also acquired several years of playing experience as a youth ice hockey player at the house league level. In addition, Coach B had obtained his level I coaching certification through the N.C.C.P.

Coach C

During the 1994-1995 ice hockey season, this subject was the head-coach of an elite ice hockey team (competitive A) for Bantam aged girls (ages 14-15). Prior to coaching this elite level team, Coach C had acquired a total of three years of coaching experience as an assistant, and one year of experience as a co-coach. His first three years were spent coaching house league teams for Atom and Peewee aged boys (ages 10-11 and 12-13 respectively), whereas the last was spent coaching an elite team (competitive A) for Peewee aged girls (ages 12-13).

In addition to his coaching experience, Coach C had acquired several years of playing experience as a youth ice hockey player at the house league level. He had also obtained his level III coaching certification through the N.C.C.P.

Coach D

During the 1994-1995 ice hockey season, this subject was the head-coach of an elite ice hockey team (competitive A) for PeeWee aged girls (ages 12-13). Prior to coaching this elite level team, Coach D had acquired a total of four years of experience

as an assistant with various competitive and non-competitive teams. Overall, Coach D had been an assistant with an Atom house league team for boys (ages 10-11), an Atom house league team for girls (ages 10-11), a Pee wee competitive team for boys (ages 12-13) and a Pee wee competitive team for girls (ages 12-13).

Apart from his coaching experience, Coach D had also acquired seven years of experience as a youth ice hockey player at the house league level. In addition, he had obtained his level II coaching certification through the N.C.C.P.

Coach E

During the 1994-1995 ice hockey season, this subject was the head-coach of an elite (competitive AA) Major Pee wee (age 13) ice hockey team for boys. Prior to that season, Coach E had acquired a total of two years of experience as an assistant with other elite teams for boys (competitive AA). The first was spent with a Major Pee wee team (age 13), and the second, with a Minor Bantam team (age 14).

In addition to his coaching experience, coach E had acquired a total of six years of experience as a youth ice hockey player at the competitive AA level. He had also obtained his level III coaching certification through the N.C.C.P.

Data Analysis

Part I

The first part of the data analysis process was designed to determine whether or not coaches refer to their beliefs and/or principles of coaching when asked to explain their game related behaviors during stimulated recall interviews. To accomplish this objective, only the transcripts of stimulated recall interviews, conducted following the

five subjects' games, were selected from the overall project's data base. All 28 of these transcripts (>275 single-spaced pages of text) were then analyzed using an inductive analysis process.

Within each interview transcript, the statements pertaining to beliefs and/or principles of coaching were identified. All statements referring to similar beliefs and/or principles were then tagged and sorted into appropriate categories. For instance, all statements that described Coach A's personal beliefs and/or principles regarding the allocation of ice-time were grouped into a playing time category. Once the subjects' statements had been identified, tagged and properly sorted, four statements from each coach were selected. Though an effort was made to select statements which would reflect various categories, these statements were mainly selected according to the clarity with which they described the beliefs and/or principles in question. All 20 statements and the behaviors from which they derived were then used to produce a brief account which would demonstrate that the statements had been expressed by the subjects to personally explain their conduct.

Part II

The second part of the data analysis process was designed to examine the game related coaching principles and beliefs of a youth ice hockey coach using stimulated recall interviews. To obtain this objective, only the transcripts of stimulated-recall interviews, conducted with Coach E following games, were selected from the overall project's data base. In this second part of the data analysis process, preference was awarded to Coach E, since three times more interviews had been conducted with him

than with each of the other four subjects. To ensure accurate results, it was deemed preferable to choose the subject who had been interviewed most often.

Coach E's 12 stimulated recall interview transcripts (> 125 single-spaced pages of text) were analyzed using an inductive analysis process. Within each of Coach E's 12 transcripts, statements pertaining to his beliefs and/or principles of coaching were identified. All statements expressed by the coach were then tagged and sorted into appropriate categories. For example, all statements that described Coach E's principles and/or beliefs regarding the social development of players were regrouped into a player development category.

The process of identifying, tagging and sorting all of the statements pertaining to Coach E's beliefs and/or principles of coaching was conducted with the help of a fellow researcher. As a member of the overall project's research team, this fellow researcher was already quite familiar with the present study. It was hoped that his vast experience as a youth ice hockey coach, player and referee would allow him to function as what Trudel and Donohue (1993) have termed "un ange-gardien". This assistant was used to prevent the researcher from taking a narrow or biased focus when analyzing, therefore providing a form of credibility to the inductive analysis process.

Over a four week period, both researchers independently analyzed all 12 interview transcripts using the aforementioned data analysis process. During this time, weekly meetings were held to allow the researchers time to compare and to discuss findings that they had obtained. Three interview transcripts were reviewed during each of the four weekly meetings and various categories were formed until a saturation

point was obtained. The identification and categorization of each and every statement was discussed until a general consensus was reached.

Once the process of identifying, tagging and sorting was complete, statements contained in each of the categories were analyzed to produce a brief account of the beliefs and/or principles included in each of the obtained categories. To provide credibility throughout the account, specific quotes or statements were taken from the interviews and included along with the behaviors from which they were derived. As a final means to ensure credibility, Coach E was asked to verify the accuracy of a final version of the account.

Results

Section I

In Section I, a total of 20 statements pertaining to the subjects' beliefs and/or principles of coaching shall be presented. Though nearly 200 statements were identified through the first part of the data analysis process, only four examples have been chosen for each of the five youth ice hockey coaches. In each case, a brief account of the events that led up to the statements shall be provided to demonstrate that the coaches revealed their beliefs and/or principles in response to their game related behaviors. Though an effort was made to select statements reflecting a variety of principles and beliefs, the statements were mainly chosen according to the clarity with which they described the coaches' beliefs and/or principles of coaching.

Coach A

During their second stimulated recall interview, the research assistant described

an event in which Coach A had inquired about the condition of an injured player. As a result of his behavior, the coach proceeded to explain that players sometimes attempt to participate in games despite the fact they are injured. Coach A then went on to express his personal views regarding the importance he attributes to the prevention of serious injuries.

One of my defensemen is going to be coming back from an injury on Saturday. [Assistant-coach]'s job will be to watch him the entire game to make sure he's alright. I don't want to see these kids ruin their future by risking injuries that will not only wreck their hockey career, but may also have larger implications.

During the same interview, the research assistant described an occasion during which Coach A had spoken to a player who had momentarily lost his cool. In response to his behavior, the coach briefly described the player in question, and then explained the intervention by referring to the relationship he tries to maintain with the players he coaches.

I try to be a friend and someone older who can act as a supervisor. I try to be an adult figure who is not there to shit on them, but who is there to be kind and to help out. I try to do that with all of the guys. They don't make mistakes on purpose. They are going to make mistakes, so there is no point in giving them shit. They aren't making a million dollars a year. They are just having fun.

Coach A was then asked to reflect upon an event in which he had kindly asked a parent to refrain from yelling at the officials. When invited to comment on this request, Coach A explained the importance he attributes to maintaining control of the parents, and a good reputation for his team.

My job is to run the team and part of the team are the fans and parents who attend the game. If I can't control myself, and I can't control the parents, then I can't control the boys. Afterwards, I told him that I did not want him to come to anymore of our games. I don't want my organization to look bad.

During the fourth game's stimulated recall session, the interviewer alluded to an event in which Coach A had quickly come between two players who had been arguing on the bench. After recalling the incident, Coach A explained his reaction by referring to the importance he attributes to team cohesion.

Those guys were yelling, arguing and stuff like that. Those emotions can ruin the entire bench. It hurts the team, and I would have benched them if they hadn't stopped. I don't like my guys arguing with one another. We're a team. We're on the same side.

Coach B

During their second stimulated recall interview, Coach B was invited to recall the speech he had given during the previous game's second intermission. When asked to elaborate on its contents, the coach explained that his team had been badly outplayed and that greater effort had been required. Coach B then proceeded to share his views on the use of criticism and the importance of instilling confidence in his players.

The girls sometimes yell if they see that one of their teammates isn't hustling. I don't mind that as long as it's constructive criticism. I'll never tell a girl that she played a terrible game. That just deflates the ego and destroys any confidence they have. You have to instill confidence in the kids.

During the same interview, Coach B was shown a video segment in which he observed the play of his team while in a short handed situation. When asked whether or not a penalty killing unit had been employed, the coach replied by unveiling his personal thoughts regarding the allocation of ice-time.

No. My adage on this is whoever is ready to go on, goes on. In an important game, the last two minutes allow me to put on a powerplay or a penalty killing unit. Otherwise, everyone pays the same amount of money, so they will all get the same amount of ice-time.

Near the end of the interview, Coach B was asked to reflect upon an occasion in which he had mildly questioned the disallowance of a goal. When queried regarding the way in which he had handled the occurrence, Coach B clearly expressed his support for officials and his tolerance of their occasional mistakes.

You'll get some calls for you and some calls against you. It's part of the game. Those guys aren't getting paid mega bucks to referee these games. It's just a little higher than minimum wage. So I tell the girls there's nothing I can do about it.

During their final stimulated recall interview, the research assistant referred to an occasion in which one of Coach B's players had fought with an opponent. When he was asked to comment about his reaction, Coach B explained the entire scenario and went on to express his strong disapproval of violence among players.

I was very happy to see our girls stay away from it. I've told them a few times that I never want to see anyone start a fight, a pushing match or anything like that.

Coach C

While conducting their first stimulated recall interview, the research assistant described an occasion during which Coach C had questioned a defenseman who had just come to the bench. As a result of his behavior, Coach C explained the events that led to their discussion and unveiled his approach when communicating with players.

As I watched from the bench, I could see that there was no pressure, and I wondered what her problem was. When she returned to the bench, I walked over to kind of address it. I think I was kind of soft about it. I can't start beating them over the head type of thing. I just tried to bring it to her attention in a semi-mild way. I'm not too firm with anyone.

Later in the interview, Coach C was shown a video segment in which one of his team's goals had been disallowed. Since the coach had barely reacted during the game,

the research assistant asked whether he would argue such a call in a different situation.

The coach replied by expressing his thoughts about arguing with officials.

I don't think you would win the argument. You could spend time sending your captain or your assistant over to find out what happened. Then you would know and you would get on with it. I don't think you would ever win the argument.

During their final stimulated recall interview, the research assistant referred to an incident in which Coach C had chosen to wait before using a powerplay unit. As a result of his decision, the coach proceeded to reveal his thoughts regarding the use of powerplays and the allocation of ice-time.

I'm looking to send them on when we have a face-off in the offensive zone. I don't want to give them any more time. I don't want it to imbalance the line changes and I'm trying to be as fair in ice-time as I can. I'd like them out there with as much opportunity to put one into the net in as short a time as possible.

A short time later, Coach C was asked to recall a specific occasion in which he had attempted to send on his better players in a short handed situation. Despite earlier claims of fairness, Coach C expressed his disapproval regarding equal player rotations.

That's where I have a problem with the assistant coach. If he had his way, he would have all of the players coming off through one door and going out the other, like they do in hockey school with four and five year olds.

Coach D

During their second stimulated recall session, the interviewer described an event which had taken place near the end of the previous regular season game. Coach D had gone down to two forward lines when he advised his assistant to use four defensemen if necessary. In response to this behavior, the coach proceeded to unveil his approach when allocating ice-time in various situations.

It was a league game and we were in tough. Down to the last couple of minutes, we just rotated the kids. So the purpose of telling him that was to confirm he had license to shorten the bench. We don't do it often. We really don't. When we do it, it's normally late in the game. When we get into tournaments, it's a different story. I normally don't do it at all in exhibition games, and in league play, I'll do it late in the third period.

During the next interview, the research assistant alluded to an occasion in which Coach D had suggested a way for his assistant to rotate the defensemen who were at the game. In reaction to his behavior, Coach D described the approach he prefers when working with the help of assistants.

I pretty much let them run the gates. We are a fair bit into the season now and they know what it is we are trying to do. I just made a suggestion and let her run it from there. I always find that the people helping you like to have the responsibility to do things. As long as it fits in with what you are doing overall, I think you have to cut them a bit of slack.

Later in the same interview, Coach D was shown a video segment in which he brought one of the opposing team's tactics to the attention of his players, by referring to plays as they occurred on the ice. After viewing the video clip, Coach D explained that he likes to refer to the play of opponents when teaching tactics in games.

I pointed out one of the things the boys did very well. I pointed out the way they ran interference. Their team was very effective at it. I took the opportunity to address it and say: "Look at what they are doing there". There is always something to be gained from watching your opposition.

While conducting a fourth interview with Coach D, the research assistant invited the coach to recall the speech he had given during the first intermission. After recalling the contents of the speech, Coach D proceeded to explain its purpose before expressing his thoughts regarding the appropriate length of speeches.

I don't tend to give long speeches. I say what I have to say and then let's go. I find at this age, their attention span is too short to listen for very long. I try to

deliver a short, crisp message. I usually try not to say too much because it just gets lost.

Coach E

During their third stimulated recall interview, the research assistant referred to an occasion in which Coach E had remained rather subdued despite his team being badly outplayed. In response to his behavior, Coach E explained his silent reaction by unveiling some personal thoughts regarding his approach when reproofing the play of his team.

There are times to speak and times to keep quiet. It's selective. If you make a big scene every time, the players will start to get bored of it. It won't have the same impact. That's why you have to pick and choose your times to blow up.

During the seventh stimulated recall session, Coach E was asked to reflect upon an occasion in which he had become upset with a player who had been penalized for retaliating. When asked to comment on his reaction, the coach was quick to share his feelings regarding retaliatory type penalties.

He retaliated and got called for a penalty. It pissed me off. It was as simple as that. I was upset with my player for retaliating and I was upset that something had gone unnoticed by the referee. I will always be upset with my players if they retaliate.

During their next interview, the research assistant referred to an occasion during which Coach E had strongly insisted that a goal against be disallowed. Despite the fact that the referee had committed a blatant mistake, Coach E maintained that the goal had originally been waved off and that the decision could not be overruled. In response to this behavior, Coach E strongly defended his position by referring to the importance of being competitive when coaching competitive hockey.

I don't think giving in to the referee would have shown class. I think it would have demonstrated competitive weakness. I don't know if it's right or wrong, but it showed competitive edge. You have to show competitiveness when you're coaching competitive hockey. I can't say it wouldn't be classy to be honest, but as a coach, I'm not losing any class or respect for not going to tell the referee it was a goal.

During the eleventh stimulated recall session, Coach E was asked to reflect upon an occasion in which he had advised his players to refrain from continually checking their opponents. When asked to comment, Coach E explained his request by referring to his views regarding the purpose of body contact in hockey.

The guys were getting too excited about the hitting. They weren't thinking about anything other than hitting. That's why I reminded them of the real purpose of hitting in hockey. You hit to gain control of the puck, not to knock people all over the place.

Section II

In Section II, the results obtained through the second part of the data analysis process will be presented. Coach E's beliefs and principles of coaching shall thus be fully recounted according to the 16 categories in which they were sorted. To provide credibility throughout this in depth account, specific statements or quotes have been drawn from the stimulated recall interviews, and included along with the behaviors from which they were derived. Upon conclusion of the account, a brief summary of Coach E's primary beliefs and principles shall be presented along with a conceptual map of the Section's 16 categories (see p. 59). To complete Section II, Coach E's comments regarding the accuracy of these findings shall also be presented. Since the coaches' names must remain confidential, Coach E has been referred to as "Martin" throughout Section II of the results.

Winning

Winning is without a doubt one of Martin's primary objectives as a coach. Along with player development, winning provides the foundation for most of his beliefs and principles of coaching.

Behavior: With the score tied at two, and approximately five minutes remaining in a game, Martin began to double shift the power line he had assembled with eight minutes to play in the third period.

I was going for the win. I don't like ties and especially not against this team. I was going for the win. That's all. I always go for the win.

Since competitive outcomes are of particular interest to Martin, he believes in referring to the season record as a measure of his team's success.

Behavior: After taking a 3-2 lead during the second period of a game, Martin emphatically spoke of climbing to the next level of play and creating separation between his team and their weaker opponents.

I don't want to be a God or anything, but they only won 10 out of 36 games last year. This year, out of 19, they have won 9. It's a huge change for them. They are just in the month of November and they will have as many wins as all of last year.

Though he is concerned with the outcome of each and every game, Martin's main priority is winning in the long run. Doing well in the playoffs is of primary concern to him. In fact, his ultimate objective is to prepare his team for the league championship in two years time, because to him, the major bantam year is the most important year in competitive minor hockey.

Though he would like to win as many games as possible, Martin is not only interested in the two points awarded for a win. He is deeply concerned with the level of effort and performance displayed during competition. To him, hard work and

performance are important indications of a team's competitive potential. Without them, Martin believes his team will surely lose in the end.

Behavior: When his team tied the score at two with approximately seven minutes remaining in a game, Martin showed no signs of excitement whatsoever.

The reason that there was no reaction was because I kept thinking that we didn't deserve to win. Even though I was playing for the win, there was no way that we deserved it. By pulling this one out, my players will simply think that we can always get away with playing for only twelve minutes per game. So what happens the next time?

As a result, Martin is sometimes displeased with a win. At times, he will even hope for a loss in order to increase his team's desire to achieve. Martin can also appreciate a tie or a loss in a hard fought game versus a superior opponent because such outcomes can be viewed as important mental victories by his players.

Overall, winning is important to Martin, but the ultimate goal is winning in the end. He is therefore willing to accept short term defeat in hopes of attaining eventual glory.

Effort

Due to his obvious desire to win, Martin unconditionally requires his players to exert maximum effort at all times. Believing in the importance of hard work and dedication, he strongly covets players who consistently demonstrate ultimate hustle.

Behavior: With the score tied at zero and approximately four minutes to play against the league's second best team, Martin spoke to his second line centerman during a stoppage in play. After inquiring about his level of fatigue, Martin implied that he would be playing a lot until the end of the game.

With the team I have, I would pick [Player's name] over my worst three forwards even if he was tired, because [Player's name] has more heart. His heart is bigger than his body. Even if he's tired, he'll give and give and give until he dies.

Whether winning or losing, Martin expects his players to set the tempo in each and every game. He expects his players to skate hard on offense as well as on defense in order to constantly pressure their opponents. Although this applies to every single game, it is especially true at the end of the season. During the playoffs, Martin's main priority is to get each and every player to exert 100% effort at all times.

Behavior: During the first intermission of a semi-final game, Martin gave a purely motivational speech about the importance of exerting maximum effort at all times.

There was nothing to teach that day. My only concern was to get them to work hard, to hustle and to double their efforts. The intermissions were simply used to pump them up and to keep them pumped. We couldn't afford to slow down. I couldn't afford to dwell upon their mistakes during the intermissions. I figured they could make up for them by working hard. If players work hard enough, mistakes often aren't crucial.

Since the playoffs provide little time to improve, effort becomes a key factor to Martin. When faced with elimination at such a crucial time of the season, he believes that hard work often means the difference between life and death for his team.

Performance

In addition to maximum effort, peak performance is also strongly desired. Since effort alone can not ensure victory, performance is absolutely essential to Martin. When a game is on the line, he believes that performance and effort must go hand in hand.

Behavior: With the score tied at two and approximately two minutes remaining in a game, Martin sent on his three best players in place of the third line forwards who were due to go on.

One of the three guys, [Player's name], works really hard. He's got a big heart but he won't put the puck in the net because he can't skate. He's a body. He gets in the way and stuff but he can't handle the puck and he can't make a pass. When the puck is on his stick, he has no idea what to do with it. So I'm not going to play him if I'm going for the win.

Though winning is definitely important to Martin, short-term outcomes aren't necessarily his main preoccupation. Since long-term success is his primary objective, Martin will be pleased with the play of his team as long as his players perform well.

Behavior: With a two goal lead near the end of a game, Martin displayed obvious elation when a wonderfully executed play resulted in yet another goal for his team.

To me, it wasn't really the goal that was important. You heard me say awesome play before the goal even went in. You are trying to teach them so much during the year and then this guy comes out of nowhere and plays like a hockey player. He is making the plays that you are trying to teach. It was an awesome play from A-Z. I would have liked the way it developed even if they hadn't scored.

On the other hand, Martin will often be displeased with a positive short-term outcome if his team's performance is poor.

Behavior: With a three goal lead near the end of a game, Martin displayed discontent when one of his players scored an empty net goal after shooting the puck from his own end of the rink.

It was the wrong play. They had pulled their goalie and there was a face-off in our end. I had told the guys not to ice it. Icing was the wrong play because there would have been a face-off in our zone. When he dumped it, he scored the fifth goal but he was in our zone when he shot the puck. If he hadn't hit the net, it would have been icing. It was the wrong play at that time because it could have been icing and we could have gotten screwed.

Overall, Martin expects his players to adequately perform the basic technical and tactical skills acquired by most players competing at the same level of play. If a player's performance does not meet these standards, it is generally considered unacceptable. As a result, the player in question may suffer a decrease in ice-time. If this lack of performance is accompanied by a lack of effort, then the player may even be benched.

Behavior: Midway through the third period of a semi-final game, Martin expressed his frustration with the play of a defenseman. He then turned to an assistant and requested that the player in question be kept on the bench.

[Player's name] was continually making mistakes that game. I was getting really frustrated with him. I'm not usually like that with the kids, but he was making mistake after mistake and he wasn't working hard enough to correct them. That's why I told my assistant to sit him.

Nevertheless, Martin does not expect the impossible from his players. When they are obviously overmatched, he simply expects that they play to their full potential. When this potential is met, Martin is normally satisfied with their performance regardless of the final outcome.

Physical Play

In addition to maximum effort and peak performance, Martin seeks to obtain physical play on behalf of his players. Body contact and toughness are two important ingredients in his recipe for success.

body contact. Martin is a strong advocate of body contact at the competitive level of minor hockey. He believes bodychecking is essential in preparing players for the later stages of their careers. Though he strongly encourages body contact, he always insists that it be used within the confines of the rules.

Behavior: During the second period of a game, a forward asked for Martin's permission to check the best opposing player. Martin agreed without hesitation, but insisted that it be done in a legal fashion.

His intention wasn't to make a clean hit. That's why he came over to ask me. He was hoping that I had lost it and that I would give him permission to do it. He wanted me to let him do whatever it took to knock that guy out of the game. I let him know that you don't go after a player. If he's open for a hit, you take him out. If it's legal, there's no problem. I mean, you're not out there to hurt some thirteen year old kid. You're out there to play the game the way it's supposed to be played. So I told him to keep it legal.

Since Martin's team consists of many big players, he believes in using the contact to his advantage. He therefore demands that a physical tempo be set in each and every

game to intimidate the smaller teams and the best opposing players.

Behavior: Following the first shift of a game, Martin approached a defenseman who had begun the game as a forward and told him to return to his position on defense.

At the beginning of the game, I wanted them to dump the puck in and let him go chase it. I only wanted one guy to chase the puck but I wanted it to be him. He skates as fast as anyone on our team and he hits twice as hard. I wanted to set a physical tempo because the other team was small. I wanted to try to intimidate them. It's a part of the game so you use it. Any part of the game that works to your advantage, you use. I thought it would be to my advantage to have him play forward to bang some bodies.

Though he wants his players to finish their checks, Martin feels it is better to play a loose puck than to wait and make a hit. If his players can not be first on the puck, he tells them to take the opponents out of the play without attempting to hurt them. Martin prohibits illegal contact and discourages his players from going out of their way to hit an opponent. Nevertheless, he does not believe in reprimanding his players for hurting their adversaries with good, clean bodychecks.

toughness. Martin truly admires rugged, hard nosed hockey players. He respects the type of players who are tough along the boards, in the corners and around the nets. Though he enjoys coaching all types of hard working individuals, he truly covets players whose physical play is especially intense.

Behavior: Early in the second period, during the first game of the playoffs, Martin threatened to bench one of his key players for receiving too many selfish type penalties.

That's [Player's name]. He's an intense guy. He's often selfish, but he's an intense competitor. You don't want him playing against you. You want him on your side because of the intensity, the toughness and the grit that he brings.

When referring to toughness, Martin stresses the importance of withstanding rough play on behalf of opposing players, since he believes that toughness does not

only apply to the aggressor.

Behavior: During the second game of the quarter finals, Martin reproached his players for whining about the rough play of their opponents.

I told them to shut up and take it like men. They were being wimps. If they couldn't take it, they could have stayed on the bench until the end of the game. They are playing competitive body contact hockey. Hockey is a physical game and it's supposed to be played tough. You're supposed to be tough even at this level. They like to dish it out, but this time, the other team was doing it.

Though Martin believes in advocating toughness, he never encourages violent play. To him, fighting and cheap shots simply aren't condonable.

Penalties

Since winning is a major objective, Martin usually frowns upon his penalized players. Unless their infractions prevented a goal, the resulting penalties are always unacceptable. Though sanctions are all unwelcome, Martin regards some as being better and some as being worse than others. According to Martin, penalties resulting from hustle are among the best, whereas selfish, retaliatory penalties are among the worst.

Behavior: Early in the second period, during the first game of the playoffs, Martin threatened to bench one of his key players for receiving too many selfish type penalties.

I told him I would bench him if he took one more stupid penalty. He was taking stupid penalties just because we was frustrated. That pissed me off. He kept putting us at a disadvantage. The penalties he'd been taking weren't even aggressive penalties resulting from hard work. They were selfish penalties. He lost one of his face-offs, so he punched the other centerman in the face. He was being selfish. Had he been forechecking hard or working hard in the corner, I might have accepted him taking a penalty.

In addition to selfish, retaliatory type penalties, Martin also prohibits infractions committed late in a game. Since penalties received at the end of a game can sometimes

result in suspensions, he believes in warning his players to avoid them.

Behavior: During a stoppage in play with less than a minute remaining in a game, Martin called his players to the bench and warned them not to infringe any rules.

I called them over because I didn't want them taking any penalties. Two games ago in [City's name], two of our players got suspended because of incidents that happened late in the game.

Martin especially dreads penalties late in a game when the score is particularly close. Considering their potential impact on the outcome of a game, Martin believes in advising his team to avoid them at all costs.

Behavior: Leading the second place team by a score of 3-1 early in the third period of a game, Martin reproached a player who had committed an infraction that the officials luckily hadn't seen.

It was just to tell him I had seen what he did. He didn't get away with it with me and he's lucky he didn't get called. Had he been called for something like that, he would have had to suffer the consequences. It would have been a bad penalty for us to get at that time.

In addition to his players, Martin always warns his coaching staff about taking bench minors. Considering coaches are there to help and not hinder the players they coach, he insists that they also display self-control.

Rules

Martin is generally a strong advocate of the rules. Since penalties are normally unwelcome, players are usually advised to abide by the rules of the game. However, if sanctions are avoidable, Martin believes in slightly bending the rules. With winning in mind, he feels it is important to obtain every possible advantage.

Behavior: During the first period of a game, a player returned to the bench after kicking a stick away from an opponent who had dropped it. Though the action was illegal, Martin congratulated the player for being subtle enough to commit the infraction without drawing a penalty.

I don't find the game of hockey to be cut and dry. There are a lot of grey areas in hockey. You have to use those grey areas to your advantage. There are a lot of judgement calls made by referees. I don't know if you can measure good or bad by success, but I think you will be more successful if you use them to your advantage.

Though he likes to bend the rules, Martin believes in strictly enforcing those which are designed to ensure the safety of players. He also demands that rules be enforced when opponents stand to profit. In such a case, he insists that all rules be applied to a tee.

Behavior: With a two goal lead early in the third period of a quarter-final game, Martin shouted at the officials to stop the play when an opponent got hurt and the opposing team gained control of the puck.

As soon as the injured player's team controls the puck, you have to blow the whistle. The rule is meant to keep players from faking injuries when the opposing team has the advantage. In this case, the [City's name] player was down and his own team was coming in to score. The play should have been blown down immediately. The rule clearly states it, but the referee didn't want to blow it down. He obviously didn't want to take away [City's name]'s chance to score. I was just upset that he wouldn't blow the whistle. A rule is a rule.

In addition to the rules of hockey, Martin also believes in enforcing the rules he and his staff have designed for the team. Though he insists on respect for these rules, he tends to be lenient when players perform well.

Player Development

Apart from winning, Martin considers the development of players to be the most important of his coaching objectives. Along with his desire to win, it provides the basis for many of his beliefs and principles of coaching. Social development and the development of hockey skills are both intensely pursued.

social skills development. As a coach, a role model and a friend, Martin feels it is important to partake in the social development of his players. Class, sportsmanship, self-control and respect are just some of the things he advocates. As a result, Martin strongly discourages a host of shameful acts such as: fighting, taunting and swearing.

Behavior: At the end of a game, Martin reprimanded one of his players for punching an opponent in the final seconds of the game.

He's expected to do everything for his team, but throwing punches does not show class. It's not proper conduct. Things happen on the ice. You have to work and work to give your team the advantage, but once the buzzer sounds, you shake hands with everyone. It's over.

Martin works hard to build a good reputation for his team. By instilling proper values and beliefs, Martin believes he can have a positive influence on the future of his players inside as well as outside of hockey.

Behavior: In the midst of a league game, Martin severely warned a player to control his language on the bench.

You can't let your emotions rule your language. I mean, I'm not only there to develop hockey players, I'm also there to develop young adults. Later on, their emotions might start running high on the job, but they won't be able to start swearing at their bosses. That would be ridiculous. They'll still have to use the proper words. But like I said, I've been a little lax too.

However, Martin is far from being perfect. In fact, he is quick to point out his faults. Nevertheless, Martin tries to be conscious of his mistakes and tries to lead his players in the right direction.

hockey skills development. The development of technical and tactical hockey skills is of prime concern to Martin, but there are two principal reasons for which he attempts to convey this knowledge. The first is to prepare his players to excel in future

hockey careers, and the second is to attain his goal of winning, by producing the best possible team each and every year.

In any case, Martin feels he should never be completely satisfied with his team's performance. He clearly maintains there is always room for improvement. As a result, Martin especially tries to emphasize the mistakes which aren't apparent in the outcome.

Behavior: Late in the second period of a game, Martin's team scored their fourth goal to take a two goal lead over their opponents. Despite the fact that a goal had been scored, Martin reproached his three forwards for simultaneously retrieving the puck from the corner of the offensive zone.

I wasn't happy about the goal even though we scored. If you're always happy with the way you're playing, you'll never get better. There are things you have to improve on all the time. I may have been happy about the goal, but they still didn't do what I wanted. I had to let them know that even if we scored, it wasn't the right play.

Though he is never completely satisfied, Martin recognizes the importance of acknowledging improvements in the play of his team.

Behavior: With a two goal lead near the end of a game, Martin displayed obvious elation when a wonderfully executed play resulted in yet another goal for his team.

I thought it was so good because of the way it happened. I was so impressed. It felt like they had actually learned something.

Despite his will to drastically improve the team, Martin believes in progressing slowly with players. He attempts to ensure proper development by granting his players the time to assimilate and practice newly acquired skills.

Teaching

Martin feels that teaching is an essential process needed to ensure proper player development and increase the odds of winning. Though teaching mostly occurs during practice, Martin strongly believes in teaching throughout the duration of a game.

Behavior: With one minute remaining in a game, Martin referred to an on-ice example to help clarify the explanation he had given a player nearly thirty minutes before hand.

You can't stop teaching. Even if there's two seconds left in a game. Even if the game is over, you can't stop teaching.

When observing his players and their opponents in action, Martin often provides feedback with regards to proper and improper plays, as they unfold. The players on the bench are immediately informed of such occurrences, whereas those on the ice are also advised, but normally after their shift. In any case, Martin deems it's important to use on-ice examples to convey appropriate feedback to his players.

Behavior: After witnessing a proper and an improper play committed during a defensive pairing's shift, Martin offered some feedback upon their return to the bench.

I congratulated that player for backchecking hard on the last play. They had a breakaway and he motored back. The breakaway occurred when the other defenseman tried to play a bouncing puck with his skate instead of with his hand. So I congratulated one defenseman for hustling back and then I told the other one to move up and play the puck with his hand.

Though he feels it's appropriate to teach during games, Martin does not believe in introducing new skills during competition. With the need for high performance, he prefers to correct and to perfect previously acquired skills through the use of repetition and clarification. New skills are taught and rehearsed in practice where mistakes are not considered costly. When teaching occurs during games, Martin chooses to provide descriptive and prescriptive feedback using both verbal and visual means.

Behavior: With one minute remaining in a game, Martin pointed out an on-ice example to help clarify the oral explanation given to a player before hand.

If the guys see something, I think that they'll remember it more than if they just hear it verbally. When I saw a perfect visual example of what I had said, I really wanted to point it out. I think he knew what I meant and I think he'll do it right the next time.

Despite his will to teach in games, Martin sometimes finds it difficult to do. When the score is close and the end of the game is near, he feels he must shift his attention towards other priorities. In such a case, unless a mistake is severe, he will note the need to intervene and address it at the end of the game.

Playoff games are another good example of times when teaching is sometimes left aside. With so much at stake, Martin prefers to focus upon crucial decisions and therefore has less time to teach. Nevertheless, he does not perceive this as presenting a problem. Though teaching is thought to be essential, Martin believes that too much teaching can sometimes be counter-productive. Since he does not believe in flooding players with input, he prefers to lessen the teaching at times. In addition, Martin feels it is profitable to encourage his assistants to teach. He encourages them to partake in the teaching of skills as long as their input does not contradict his own.

Sport Psychology

By applying sport psychology concepts during games, Martin believes he can increase his team's chances of winning. To build the best possible team, he feels he must exploit both the physical and psychological attributes of his players.

Behavior: After taking a 3-2 lead during the second period of a game, Martin emphatically spoke of climbing to the next level of play and creating separation between his team and their weaker opponents.

I work them hard physically and I try to work them as hard as I can mentally. I try to give them new mental images with mental imagery and I psych them up for games. I try to use some of the sport psychology that I read. I'm not really good at it, but I try to use it. I don't think anyone has ever done it with them.

Martin's prime psychological concern is motivation. In order to work and to perform, he feels his players must always be highly aroused. Consequently, Martin

spends much of his time trying to motivate players in games.

Behavior: Having acquired a one goal lead against a superior opponent, Martin encouraged his players to build on the goal and to not stop working.

I find the guys aren't emotional hockey players. They get happy when a goal is scored, but then they stay at the same level. We get scored against and they start going down. We're not fighters. When we get scored against, it doesn't piss us off to make us go out harder. When we score, it doesn't get us excited to make us go out harder. I try to tell them not to stop.

When attempting to inspire his players, Martin employs various motivational tactics. He believes in mixing his lines, displaying excitement, using analogies, being optimistic and often providing encouragement. Nevertheless, Martin doesn't believe in constantly trying to motivate. When players are really discouraged, he does not feel that they can instantly change their emotions. As a result, he prefers to spark their enthusiasm when positive plays occur.

Though Martin truly covets arousal, he deems it's important to shade players from anxiety. Since players are often anxious when motivated to win, Martin believes in trying to decrease the feelings of pressure. In so doing, he feels he can maintain their level of effort without compromising performance. Martin attempts to ease the stress by setting simple short-term objectives for his team.

Behavior: With a one goal lead during the second period of a game, Martin stressed the importance of winning one shift at a time.

I wanted to bring down the anxiety level. I wanted them to be loose and I wanted them to realize that their job was to go out and win one minute of hockey. It appears less complicated in their minds because one minute is easier to win than twelve. You don't have to win while your on the bench. I wanted them to relax on the bench and give it all on the ice. They were too focused on winning the game, so I broke it down into shifts.

Finally, Martin believes in keeping his team constantly focused on the game and continually wary of opponents. He feels that over-confidence is a psychological state to avoid.

Team Unity

Martin strongly supports cohesion among his players. Since hockey is a team sport, he believes unity is required to win.

Behavior: During the second period of their first playoff game, Martin told the players on the bench to begin passing the puck rather than trying to do things single handedly.

I wanted to stress team-work. We can only win as a team, but they were playing as individuals.

To help create a bond, Martin requires his players to cooperate on the ice, to act with consideration and to encourage one another at all times.

Behavior: After taking a 3-2 lead early in the second period, Martin asked his players to encourage their goalie since the second goal against had been a weak one.

The second goal he let in was a really weak goal. I noticed nobody went to see him, so I told them to go see their goalie and give him support. He had let in a bad goal, but nobody went to see him. I told them to go see him and tell him to relax because he was playing a good game.

Since cohesion is strongly desired, Martin does not tend to accept bickering among players, nor does he accept selfish individual acts. Though unity is stressed throughout the entire season, it is deemed especially crucial during the playoffs.

Behavior: Early in the second period, during the first game of the playoffs, Martin threatened to bench one of his key players for receiving too many selfish type penalties.

If he didn't want to play for the team, he should simply have sat down. The rest of the team would have played without him. Maybe then he would have come back in the next game and played for the team. He's been doing it all year long, but I really couldn't accept it during the playoffs. It takes a team effort.

Favoritism

Martin publicly claims he does not tend to favor any of the players he coaches. Though his treatment of players is generally fair, he sometimes tends to secretly favor some of his highly talented players.

Behavior: During a stoppage in play, Martin called one of his best players over to the bench to secretly congratulate him on the excellent play he had made.

I don't want to lose him because he's a good player. I really want him back next year. I wanted to get a smile on his face more than anything else. I don't think I would have done it for just anyone. He sometimes doesn't like coming out to play, so I wanted to cheer him up a little bit quicker than I might have for some of the other players.

Though they are never mistreated, less talented players are sometimes regarded as less important participants. Since winning is of primary importance, Martin finds it acceptable to occasionally show less consideration to his lesser skilled players than to their highly skilled counterparts.

Behavior: Early in the second period, during their second semi-final game, Martin gave a severe warning to one of his best offensive players who had shot the puck after the whistle. When the player returned to the bench, Martin immediately approached him and gently explained his reaction.

When [Name of highly skilled player] returned to the bench, I explained why I didn't want him shooting the puck after the whistle. I couldn't afford to have him on my bad side. He's one of my better players. I couldn't care less about [Name of lesser skilled player].

Despite his requests for player cohesion, Martin doesn't always abide by his rule. With winning in mind, he feels it is not realistic to remain entirely impartial in games.

Playing time

His distribution of ice-time provides the clearest example of Martin's occasional partiality towards highly skilled individuals. Though he claims all participants are

awarded equal time to play, he admits the allocation is not necessarily fair.

Behavior: With the score tied at two and approximately two minutes remaining in a game, Martin sent on his three best players in place of the third line forwards who were due to go on.

The association says to grant equal ice-time, not fair ice-time. To them, equal ice-time means that everyone gets about the same amount of ice-time over a period of games and I think that they do.

Martin believes in utilizing all of his players throughout most parts of a game. In most cases, he chooses to simply rotate all of the lines on his team. However, there are many specific exceptions to the rule which ultimately make it unfair.

The first such exception relates to powerplays and penalty killing situations. Most of the time, Martin selects five of his ten best players to take part in a powerplay. When his team is short-handed, he tries to include his weaker players, but only if the occasion is not considered crucial.

Behavior: Late in the second period of a 0-0 game versus the second place team in the league, Martin sent on both of his best penalty killers, though others were due to go on.

It was a really important game, so I used my best players to kill penalties. In a normal situation, I would select the two best players from the line that's up next. Then, the third guy would go on with the best player from the following line. That's what I would usually do to ensure equal ice-time for everyone. But in that game, I was going with my best players no matter what the situation was.

The second exception relates to the end of games in which the score is close. On such occasions, Martin feels he must assemble a line using only his best players. In so doing, he feels he increases the odds of obtaining or protecting the lead for his team.

Behavior: With a one goal lead and approximately five minutes remaining in a game, Martin sent on two of his best penalty killers in place of those who were due to go on.

It was too late in the game to give them a shot. You just don't take chances like that. At the end of a close game, I have to go with my best, so I sat those guys out.

The last exception relates to important games and especially to those in the playoffs. In such cases, Martin sometimes decides to increase the use of his better players throughout the entire game. As a result, the team's highly skilled players are either double shifted or the length of their shifts is increased.

Behavior: Leading 3-2 against the second last place team which they had never managed to beat, Martin kept his best player on the ice for approximately four straight minutes in the third. The player in question was used for the duration of a powerplay and an ensuing two player disadvantage.

I just didn't want to give up a goal. I didn't want to lose that game, period. I was doing everything I could so my best players would get the most ice. That's all.

When wins are ensured and losses are inevitable, Martin awards additional ice-time to his lesser skilled players. Playing time is thus balanced, but certainly not fair. Though he admits to this injustice, Martin maintains that it's a necessity in competitive minor hockey. In order to win, he believes he must favor the use of his highly skilled players.

Communication

As the team's leader, Martin considers communication to be absolutely indispensable. Though he recognizes the importance of continually communicating with players, assistants and referees alike, his approach varies widely according to the context and to his personal intentions.

communication with players. As a rule, Martin varies his approach in order to be effective. He deems it's important to use many means to efficiently convey his thoughts.

Behavior: With the score tied at one, Martin remained totally silent for approximately thirty seconds near the end of a game's first period.

It's really bizarre. You have to try a lot of different techniques to get through to the kids. Sometimes silence is good, sometimes barking at them is good. It all depends.

Martin varies his approach according to the player with whom he is speaking.

He believes that some players react to a harsh approach whereas others enjoy a more gentle persuasion.

Behavior: During the third period of a game, Martin encouraged one of his less talented players following the completion of his shift.

I think he needs a lot of encouragement. Many kids on the team feel that I give a lot of shit and that I'm really tough. But he's the only one who doesn't react to that. He's the only one I need to pat instead of kick.

Martin also believes in varying his approach according to the play of his team.

Player performance and level of effort often determine his method of communication.

Behavior: With a 3-2 lead in the second period of a game, Martin remained silent while carefully observing the play of his line on the ice.

If I'm not talking, it's because everything is being done approximately the way I want it to be. If I'm praising them, it's because they're doing things better than I expected them to. If I'm yelling, they probably aren't doing what they should be doing.

Though he will resort to shouting and may even swear at times, Martin does not believe in being overly mean or negative with players. When upset, he may be stern, sarcastic or blatantly direct, but he always tries to avoid losing control. As a precaution, Martin lets angry players calm down before attempting to communicate. In such a case, he also tries to be more subdued. If he thinks he has crossed the line, Martin does not hesitate to ask forgiveness of his players.

During games, Martin prefers to communicate with players on the bench. He will shout instructions out onto the ice, but only if necessary, and only if play has been stopped. Once play has resumed, Martin will only shout the simplest of instructions to those on the ice. He feels players in action must learn to decide for themselves. As a result, Martin clearly values the opportunity to speak to all of his players during the intermissions.

Overall, Martin tries to respect his players when communicating and expects the same from them in return. When Martin has something to say, he demands their total, undivided attention.

Behavior: Early in the second period of a game, Martin became angry with his players on the bench when they ignored his request for their attention.

If I have something to say, it takes precedence over the game. When I have something to say, it's because they aren't doing something right on the ice. All they have to do is turn around and listen to me for ten seconds. I don't ask a lot from them, so I was really upset that they didn't turn around.

communication with assistants. Martin believes in consulting with his assistants during games. In so doing, he feels he can ensure that he and his staff are working in a common direction. By conferring with them, he feels he is also able to obtain necessary information that is sometimes missed during the course of a game. Though opinions are often exchanged, Martin reserves the right to make all final decisions.

Behavior: Early in the third period of a game, Martin conferred with an assistant before deciding to match his two best lines against the opposing team's best player.

By the middle of the second, I found that he was dominating the play. Others didn't agree, but I'm the coach and I make the decisions. I decided to play only my top two lines against him. I asked my assistant if it was o.k. Had he said no, I wouldn't have changed my mind. I wasn't looking for his approval. I just wanted some reassurance in case some of the parents put up a fuss.

Despite being in charge, Martin believes in discussing with his assistants. He finds relief in sharing ideas with knowledgeable counterparts.

Behavior: With the score tied at one and only three seconds remaining in their second semi-final game, Martin conferred with an assistant before deciding not to remove his goaltender in exchange for an additional attacker.

I just like having sounding boards. I like to hear what they have to say. It doesn't really change my mind, but it's nice to hear their opinions. You need that as a coach because there's a lot of pressure involved. It's kind of like being in a relationship. It isn't good to keep everything inside. You just blurt it out and see what kind of feedback you get.

Though he clearly speaks more to his players, Martin feels it is essential to keep all lines of communication open during the entire course of a game.

communication with officials. Unlike his approach with players and assistants, Martin will sometimes communicate indirectly with officials. On occasion, he will instruct the team's captain or assistant captains to relay a message on his behalf.

Despite this viable option, Martin prefers direct verbal communication, especially when upset with a call.

Behavior: After an opponent's third period goal, Martin publicly voiced his anger at the official who had called two simultaneous penalties against them, thus creating a two player advantage for the opposing team.

I made sure to let the referee know that that goal was his fault and nobody else's. It wasn't our team or our goalie's fault. It was his fault and that was the last goal that I wanted to have scored against us because of him. I was sick and tired of his bad calls so I wanted him to know that the goal was his fault and nobody else's. It was a direct result of his stupid, incompetent calls during the game.

Most often, Martin will not hesitate to inform an official if a mistake appeared to be made. When calls are consistently wrong and penalties unfairly awarded, Martin believes in displaying disgust and publicly voicing disapproval. However, he does not

believe in contesting legitimate calls. In addition, he will not argue a call or the absence of a call, if he did not see the play or if the play was obviously unseen by the referee.

Behavior: About midway through a game, one of Martin's players received a punch to the head and immediately fell to the ice. Though no penalty was awarded, Martin remained surprisingly calm and asked his players to settle down.

When he got hit, the referee was skating this way. I noticed that he had his head turned so he saw nothing of the incident. I reacted calmly because I knew that the referee hadn't seen it. If the referee hadn't seen it, then what was I supposed to do. He couldn't call something that he hadn't seen. Had I not seen the referee and the play at the same time, I probably would have blown up.

Though outbursts aren't uncommon to Martin, he generally tries to avoid taking penalties and especially game suspensions. In close games, Martin will use different means or tactics to communicate frustrations without taking penalties. However, when losing is inevitable, he believes in taking a direct approach.

Behavior: During the third period of a game in which his team enjoyed a sizeable lead, Martin laughed, clapped his hands and directed a sarcastic remark towards the referee for having penalized one of his players.

Since we were winning, I chose a more subtle way of getting my point across. A way that didn't allow him to call a penalty. I wasn't being loud or anything. I was just making sure that he remembered that one. I was being very laid back about it, but had we been losing, I would have used the direct way of getting my point across.

Despite his respect for most referees, Martin believes in criticizing their work. Since they are paid, he feels they should endure his remarks unless they are totally objectionable. Though he sometimes shouts at officials, he does not accept shouting in return.

Behavior: With a four goal lead near the end of a game, Martin asked his players to refrain from taunting the opposing team's players.

I feel you can taunt the referee because he's the only one getting paid. People don't take that into consideration. A lot of people criticize the way volunteer coaches act behind the bench. They complain about the example being set for the kids and I agree. But look at the problem here. The referees are getting paid to do a competent job and they aren't. I don't think it's right to taunt players or coaches from other teams, but I think that the referees should be able to take criticism when they aren't doing a competent job.

As a rule, Martin reduces his amount of shouting during the playoffs. With so much at stake, he does not believe in taking chances.

Officials

Martin's approach to communication has revealed some of his thoughts regarding officials. However, there exists more such thoughts that have not yet been unveiled.

According to Martin, officials should always be impartial when working in a game. Unfortunately, he believes that many officials aren't as objective as possible.

Behavior: During a very physical quarter-final game which took place in the opposing team's rink, Martin maintained there was no use in complaining to the officials since they were biased in favor of the opponents.

It's a well known fact throughout the league that the referees from [City's name] and [Other city's name] are never on your side. We're luckier than most other teams that go to [City's name] because our coaching staff speaks french. If your coaching staff is english, you're in an even worse position.

In addition, Martin feels that many officials do not display adequate skills despite the fact they are paid. He feels he must constantly watch to ensure that they do an adequate job. As a result, he believes officials should be held accountable for their actions.

Behavior: During the second period of a game, Martin took part in a heated discussion with a linesman who he felt had been purposely nullifying icing infractions committed by the opponents.

They're out there to do their job. They get paid to do it. I don't. The only thing that everybody in hockey hates is that they're out there doing their job, but they can't get suspended if they call a bad game. They don't have people watching them all of the time. They can't get thrown out for purposely blowing calls. The people who get paid in minor hockey aren't held accountable for the mistakes they make. The volunteers are the ones who get in trouble. That's what's ridiculous about the whole situation.

Though he expects a lot from officials, Martin gives credit where credit is due.

When a warranted penalty is called, he believes in upholding the official's decision.

Behavior: During the third period of a game in which his team had already been awarded a great number of penalties, one of Martin's defensemen was penalized for committing an obvious infraction. When his players began to shout at the officials, Martin was quick to side with the referee.

The referee had been making so many bad calls that the players were blaming all of the penalties on him. But this one was not the referee's fault. This one was a big time bad play by my defenseman. It's something that he always does in practice and something that I always have to talk to him about. It frustrated me because it was a big time penalty. The players had no reason to blame the referee on that one. It was a good call.

Martin prefers officials who let the game unfold. He feels that officials should not attempt to steal the show by calling hordes of unwarranted penalties. As an advocate of clean but physical play, Martin relates to officials who let the kids play tough.

Behavior: Near the end of a game's second period, Martin turned to an assistant and shared his objections to a penalty called against an opposing player.

This game was being ridiculously controlled by the referee. We couldn't even establish a flow to the game. He didn't let the kids play hockey. He took total control and turned it into a game of chip, chip, chip. There was absolutely no flow to the game. It was a cheap call that he made against the [City's name] guy. He called a hook or a slash for no reason.

Despite his preference for physical play, Martin believes in encouraging officials who award strict sanctions when players commit dangerous infractions.

Parents

When making important decisions, Martin respects most of the parents' wishes.

Since they are the ones who pay for the kids, he believes in trying to please them.

Behavior: While playing five a side, with the score tied early in the third period of a game, Martin turned to speak to one of his assistants. With the opponents' best forward line on the ice, he considered the possibility of replacing his third line with another.

I didn't want to sit my weaker line in the middle of the game. The parents would have accepted it at the end, but they wouldn't have accepted it throughout the entire game.

Nevertheless, Martin feels that he is the coach and that he is responsible for making decisions. Though he tries to consider the parents, he believes he can not please them all. As a result, he tries not to take them too seriously.

Behavior: With a one goal lead in the third period of a game, Martin kept his best player on the ice for approximately four straight minutes. During this time, he turned to speak to an assistant and laughed at the probable reaction of the parents.

I just mentioned it and laughed because I didn't know he had been on for that long. When I realized it, I thought about how the parents must have been freaking. That's what made me laugh. The fact that the parents must have been going ballistic.

Overall, Martin maintains that parents should not be too critical of volunteer coaches. To those who are generally unsatisfied, he suggests that they volunteer as coaches themselves.

Fun

Though his prime concern is to win, Martin believes that playing should be fun for the kids. He thus attempts to limit the demands and the pressure he places upon them. Though he feels effort and performance are essential in games, Martin believes that all work and no play can prove to be counter productive.

Behavior: Early in the first period of a game, Martin jokingly warned one of his bigger players who had accidentally collided with one of his smaller teammates.

Though they weren't playing well, I wanted to keep things fun. I had been on their case for most of the weekend in Toronto. They ended up winning the tournament, so I wanted to take it a little bit easier on them. We played six games in four days with ten hours of travel. That was a lot. It was even a lot for the coaches.

Martin especially tends to be lenient when the kids are playing well. When it does not interfere with their play, he is the first to relax and promote having fun.

Behavior: With a three goal lead near the end of a game, Martin discussed a number of things that did not pertain to the game being played.

In this situation, you're behind the bench, you're leading 6-3, the game is in hand, so you've got to enjoy it. It's not always business. If it's 6-3 against [City's name], you don't relax. You're always thinking against big teams. But against a little team like [Other city's name], and you're up 6-3, you've got to enjoy it.

Overall, Martin deems it's important to have fun, but he feels work must come before play. He believes his players are there to compete, so they must earn the right to have fun.

Conceptual Map and Summary of Findings

To help summarize the findings presented thus far in Section II, a conceptual map of the section's sixteen major categories (see Figure 1) has been produced to accompany a brief summary of Martin's primary beliefs and principles of coaching.

Insert Figure 1

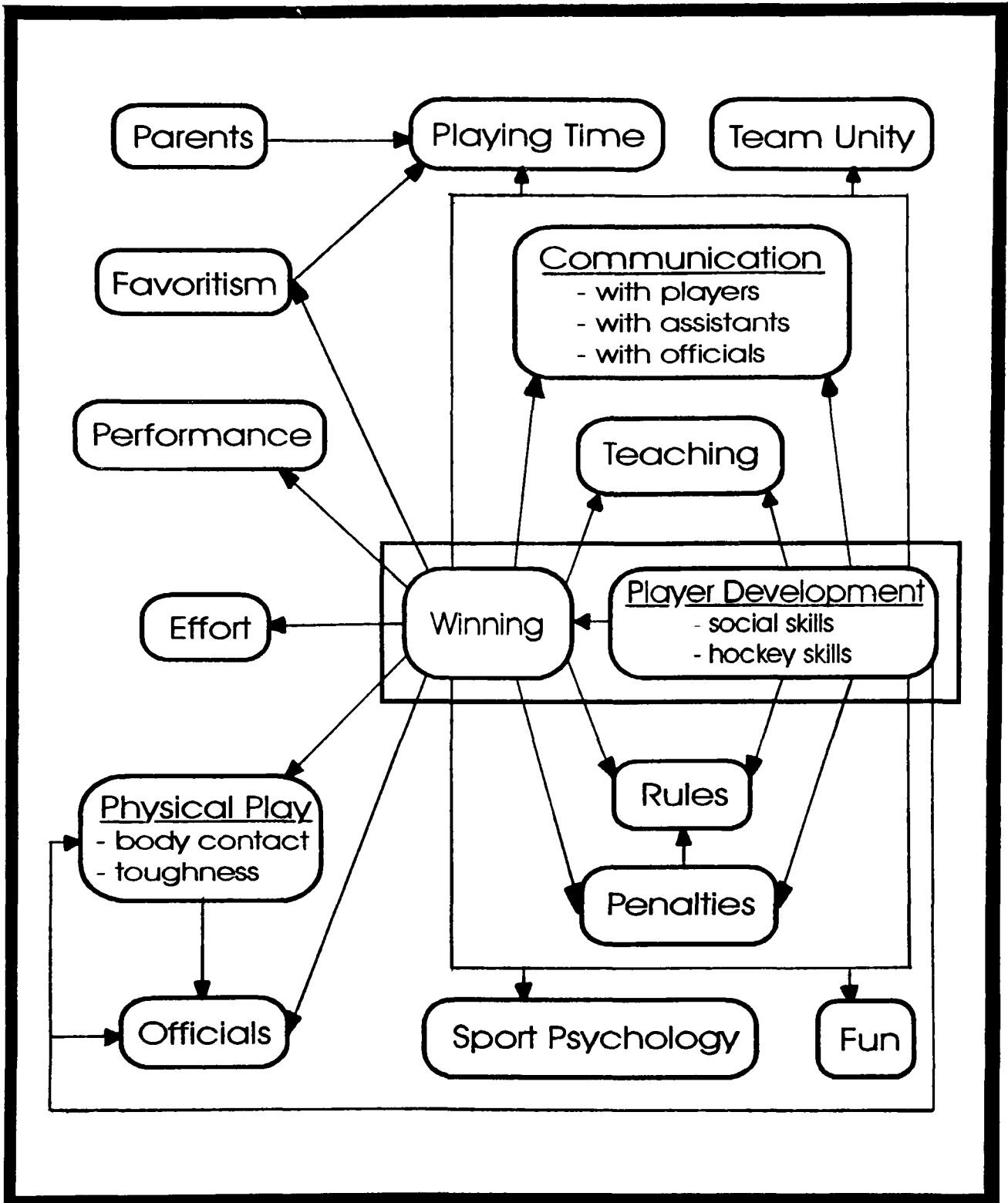


Figure 1. Conceptual map of Martin's 16 categories of coaching principles and beliefs.

As demonstrated by their central position on the conceptual map, winning and player development are two of Martin's primary concerns as a competitive level coach. Together, they constitute the core around which Martin's beliefs and principles of coaching revolve.

Since winning is of prime importance to Martin, he feels it is essential to obtain maximum effort, peak performance and physical play from his players. When players generally meet these requirements, they are sometimes favored through the allocation of ice-time. However, this tendency is generally countered by Martin's sincere desire to develop players and to respect the wishes of parents.

With both winning and the development of players in mind, Martin strongly believes in teaching and applying sport psychology concepts during games. He also believes in adapting his methods of communication and stressing the importance of team unity during competition.

Since winning is important to Martin, penalties are usually unwelcome and players are advised to abide by the rules of the game. However, if penalties can be avoided, Martin encourages players to bend the rules and increase their chances of winning. Selfish and dangerous infractions are never condoned because they oppose the social development of players.

Considering the potential impact of officials on the outcome of games, Martin believes they should be impartial and always held accountable for their mistakes. In addition, he feels officials should be tolerant of good clean hits, but strict regarding dangerous infractions.

Due to his obvious desire to win and to develop players in games, Martin does not believe in making fun a primary objective. Though he values the importance of having fun, he feels winning and player development must come first in competitive minor hockey.

Accuracy of the Findings According to Coach E (Martin)

Upon completion of the Results chapter, Martin was asked to verify the accuracy of the findings presented in Section II. According to him, the account of his beliefs and principles of coaching was remarkably accurate.

I thought everything was right on. It painted an accurate picture of what I think and the quotes were never taken out of context. I have no problems with any of the behaviors or quotes that I read. It's exactly the way I think, even though I've been away from coaching for almost a year.

Though some of these findings were painfully true, Martin maintained that they were precise. He made no effort to conceal his beliefs, even though some were opposed to public opinion.

Though the N.C.C.P. really promotes the importance of fun, I have no problems with your conclusion because it's true. Winning and developing players was more important to me than having fun. It's a lot more fun for players when they are winning than when they are getting creamed.

Despite being in agreement with all of the findings, Martin expressed minor concerns regarding the possible misinterpretation of the word favoritism.

I wouldn't change what you wrote because it was accurate. I liked to use certain players more than others, but it wasn't because I liked them more as individuals. It was favoritism based on hockey capabilities. I favored the players who would help the team win in those particular circumstances. I only want it to be known that my favoritism was not an indication of my feelings towards them as people.

Nevertheless, Martin confirmed that the results in Section II were really quite accurate.

Discussion

Section I

The 20 examples provided in Section I of the Results chapter demonstrate that the present study's coaches often referred to their beliefs and/or principles of coaching when asked to explain game related behaviors during stimulated recall interviews. In the first part of the discussion, this new finding's implications shall be presented. The emergence of empirical support for the belief/behavior relation, and the usefulness of stimulated recall in the study of coaching principles and beliefs shall therefore be discussed.

Support for the Belief/Behavior Relation in Coaching

Stimulated recall interviews have been designed to elicit reflective accounts of the interactive thought processes of subjects. It would thus seem logical to conclude that the coaching principles and beliefs of the present study's subjects were important determinants of their behavior, since the subjects often explained their actions by referring to their beliefs and/or principles of coaching during their stimulated recall sessions. However, Keith (1988) and Yinger (1986) have suggested that the reports given by subjects during stimulated recall interviews do not necessarily reflect the interactive thoughts that occurred at the time that their actions were performed. They argued that subjects may be inclined to recount thoughts that occur while viewing themselves on video, rather than those that occurred at the time that the behaviors in question were performed. If this were the case in the current study, there would be no way to confirm that the beliefs and/or principles recounted during the stimulated

recall sessions were actual determinants of the five subjects' behaviors. However, by carefully complying with the protocol suggested by Trudel et al. (in press), the present study appears to have prevented this significant problem from occurring.

During their stimulated recall interviews, the present study's subjects were asked to explain many of their game related behaviors, prior to viewing them on video. Since only a limited number of cues were given to help them remember the behaviors in question, all five coaches were forced to call upon personal recollection to provide reasons for which their actions had been performed. After providing reflective accounts of their motives, the coaches were shown video evidence of their behaviors so that they could either confirm, modify or completely alter their memory based reports.

In most cases, the coaches were easily able to describe their actions and the events in which they took place, prior to viewing the video segments. Since the stimulated recall sessions were held one to two days following games, the subjects' ability to remember both behaviors and events was shown to be quite accurate. Furthermore, the coaches rarely expressed the need to alter their initial accounts after viewing the video segments. Most often, they simply chose to decline the opportunity to elaborate on their motives, thereby suggesting that they hadn't been influenced while watching the tape. It would thus appear that the study's five coaches recounted the specific reasons that occurred to them at the time that they chose to perform their behaviors, rather than those which could have occurred while watching the video segments. Though it isn't very likely that the subjects remembered and reported their exact interactive thoughts, one may presume that the reported motives were accurate.

Based upon this presumption, it is possible to conclude that the principles and beliefs recounted by the present study's subjects were important determinants of their actions. As a result, it is also possible to conclude that the 20 examples presented in Section I of the results chapter provide empirical support for the link between coaches' beliefs and behaviors as depicted, for example, in Côté et al.'s (1995) coaching model.

Utility of Stimulated Recall Interviews

In addition to providing empirical support for the link between coaches' beliefs and their behavior, the 20 aforementioned examples help demonstrate that stimulated recall is an effective means of accessing both the beliefs and the principles of coaches. In Section II of the Results chapter, the findings not only suggest that this method is effective, but even preferable to more popular methods of accessing the beliefs and/or principles of subjects (e.g., regular interviews, questionnaires, etc.).

The principal advantage of using stimulated recall to study coaching principles and beliefs is that the interviews can be centred around actions that the subjects have actually performed. According to data obtained from Coach E (Martin), it seems that subjects may be more likely to share their true internal beliefs when asked to construe personal actions that are recorded on tape. For instance, Coach E was once asked to explain why he congratulated a player for committing an infraction without being penalized. Though his behavior was opposed to the popular notion of fairplay, Martin acknowledged that he wilfully encourages his players to commit minor infractions so that they may gain the upper hand. Had the issue of respect for the rules been brought up in a questionnaire or in a regular interview, Martin could have maintained that he

advocates total respect for the rules. However, when shown videotaped evidence of his behavior, Martin had very little choice but to be honest about his feelings. Though there is nothing to suggest that Martin would have lied about straying from fairplay, the use of stimulated recall provided an adequate means of insurance. Although most subjects would surely not hesitate to be honest at all times, stimulated recall could help to deter others from trying to convey, what they consider to be, a better image in the eyes of both the examiners and the general public.

A second advantage of using stimulated recall interviews in this area of research is that they enable researchers to access a wide range of coaching principles and beliefs. By observing the same coaches over a long period of time, researchers are able to select a great number of actions performed in a wide variety of contexts, thereby allowing them to unveil the beliefs and principles related to these specified conditions. For instance, Coach E was observed for a total of twelve ice hockey games. It was thus possible to have him explain his ice-time allocation in many different situations. Examples of these situations included a) various five on five situations (early in games, late in games, and in playoff games), b) various powerplay situations (against better opponents, against equal opponents, and against lesser opponents), and c) many short-handed situations (when winning, when losing, when game was in hand, and when losing was inevitable).

By asking Martin to explain his ice-time allocation in all of the above situations, a diversity of beliefs and principles were revealed. Had he been asked to describe his distribution on a questionnaire or in a regular interview, many beliefs and/or principles

which relate to specific conditions could have easily been overlooked, thereby resulting in an inaccurate picture of the coach's views. In other words, it could have appeared that Martin is a very strong advocate of fair and equal ice-time, when in fact, he believes that higher skilled players must sometimes be awarded additional ice-time to increase the chances of winning.

Section II

In Section II of the previous chapter, 16 categories of coaching principles and beliefs were presented. By comparing these findings with some of the existing literature, a number of interesting similarities and contrasts were discovered. In this second part of the discussion, the most notable congruities and counterpoints have been selected for discussion.

Winning vs. Player Development

Throughout the years, youth sport coaches have often been described as people for whom winning is of utmost importance. According to Vaz (1982), the hunger for victory varies from coach to coach, but winning usually obscures consideration for the individual player. Though values such as sportsmanship and fairplay are said to be encouraged at the youth sport level, Vaz claimed that winning is the primary objective in the dressing rooms, on the ice and at the player-coach level of activity. A second researcher to have expressed similar claims to those of Vaz is Martens (1988). In fact, Martens suggested that:

The most significant problems in children's sports are not in reducing injuries, in discovering ways to teach skills better, in finding better training methods, or in

employing innovative motivational techniques. The most significant task is changing the values society has imposed upon the coaches of America. If we want to improve children's sports, we must change the philosophy of coaches to athletes first, winning second. (Martens, 1988, p. 307)

The notion that winning is of prime importance to coaches has also been shared by the parents of a large number of young competitive hockey players, as well as by many officials, executives, representatives from the media and other interested citizens. As a result of their opinions, the Ontario Hockey Council and the Ministry of Culture and Recreation published a report containing a variety of recommendations for youth ice hockey coaches (McPherson & Davidson, 1980). Among those recommendations was the suggestion that coaches should concentrate on developing fundamental skills, sportsmanship, the acceptance of defeat and the spirit of competition, rather than the will to win.

Considering the popular notion that winning is of consuming importance to ice hockey coaches at the youth sport level, the present study has uncovered an interesting contrast. According to the results from Section II of the previous chapter, winning was undoubtedly found to be an important objective to Coach E (Martin). In fact, it's significance was clearly evidenced by the conceptual map presented in Figure 1. However, it is essential to point out that the influence of player development was also found to be quite substantial. Though Martin believes in coaching to win, he attributes equal concern towards developing the hockey skills and the social skills of his players. Though it's not always easy, he feels it's important to balance both of these objectives.

His distribution of ice-time during games is just one of the examples which may be used to demonstrate that Martin is truly concerned with both winning and player development. If his primary concern were to win, Martin would likely neglect his lesser skilled players and constantly favor the highly skilled ones. Instead, he believes in equally using all of his players, except in crucial situations. On such occasions, he feels he must use the best of his players, but he attributes much importance to making it up to the lesser skilled players at times that are said to be less crucial. In so doing, Martin attempts to be successful in games while ensuring that all players are awarded an equal opportunity to participate and to learn.

In addition to the assumption that winning is the primary objective of coaches (Martens, 1988; Vaz, 1982), the notion of balance between winning and development opposes yet another important presumption. Lyle (1986) suggested that coaches' philosophies tend to be divided into two general categories. The first reflects a more humanistic approach that relates to athletes' personal growth and development, whereas the other is a performance based philosophy which clearly values competitive success. However, the beliefs expressed by Martin would tend to suggest that winning and development should not be categorized dichotomously. Instead, it would seem appropriate to present them as opposite ends of a continuum to include coaches who believe in the importance of both winning and player development. Since the coaches from Streaan's (1993) study also reported that winning and development can be complementary, there seems to exist a distinct possibility that some coaches strive to attain both of these objectives.

Rule Infringements, Aggression and Violence

According to many researchers, youth sport coaches often choose to ignore the illegitimate tactics of their players as long as such actions increase their chances of winning (e.g., Silva, 1984; Vaz, 1982). Others have even suggested that youth sport coaches encourage their players to perform both aggressive and violent actions (e.g., Néron, 1977; Smith, 1983). The following clearly exemplifies this belief.

Field data suggest that hockey coaches, like hockey fathers, encourage physically aggressive play, including fighting and other assaultive acts, both for what it symbolizes (gameness and strong character) and for its utility in winning games and enhancing players' occupational careers. (Smith, 1983, p. 86)

Though results from the present study suggest that Martin encourages the use of rather intense bodychecking and even some illegitimate tactics, they clearly oppose the notion that aggressive and violent behaviors are encouraged or even tolerated during games. Results from the present study are therefore opposed to the findings of both Smith (1983) and Néron (1977). However, they closely resemble those of more recent studies conducted with ice hockey coaches at the Bantam level (Côté, Trudel, Bernard, Boileau & Marcotte, 1993; Trudel, Dionne & Bernard, 1992; Trudel et al., 1991). Like the present study's primary subject (Martin), coaches from these three studies were shown to advocate assertive behavior such as hard clean bodychecks while continually encouraging players to control themselves and to avoid taking penalties. Some were even shown to personally impose sanctions such as benching or suspending players for committing vicious infractions.

Despite demonstrating that coaches often disapprove of their players' aggressive and violent actions, Trudel et al. (1992) questioned the motives for such coaching behavior. Like Vaz (1982), these researchers implied that it may not be the illegitimate actions of their players, but rather the penalties they incur that are of main concern to the coaches. According to the present study's results, penalties are usually unwelcome by Martin because of the threat that they pose to his objective of winning. However, the results also suggest that Martin is as concerned with the illegitimacy of aggressive and violent actions as with the sanctions associated with such conduct.

For example, on one particular occasion, Martin severely reprimanded one of his players for punching an opponent in the final seconds of a game. Though the officials did not see the infraction and no penalty was awarded, Martin immediately reproached the player and insisted on the impropriety of his unsportsmanlike conduct. When asked about his reaction during the following stimulated recall interview, Martin clearly revealed the importance he attributes to developing players who play with class. Hence results from the present study suggest that some coaches may encourage assertive behavior and illegitimate tactics without necessarily advocating aggressive and violent actions. Furthermore, they suggest that coaches who oppose aggressive and violent behaviors may be inclined to do so for fear of the penalties they incur, but also because their beliefs and/or principles are opposed to such unsportsmanlike behavior.

Categorization of Coaches According to Their Beliefs and/or Principles

As briefly discussed in the first part of this chapter, the use of stimulated recall made it possible to unveil a wide range of coaching principles and beliefs. By asking

Martin to explain his behaviors in a host of diverse situations, it soon became apparent that both his beliefs and his principles are closely related to the various conditions he encounters as a coach. Though Martin possesses beliefs and principles that he abides by in almost every situation, many seem to relate to very specific circumstances. For example, Martin's approach when communicating with players may vary considerably depending upon various situational factors such as a) the player or players with whom he is speaking, b) the level of effort and performance displayed by his team, c) the amount of time remaining in the game, and d) the game score differential. As a result, it is quite difficult to categorize Martin according to his beliefs and/or principles of communication. In fact, it is quite hard to categorize Martin according to many of his beliefs and/or principles of coaching.

The present study's findings therefore suggest the distinct possibility that coaches abide by different beliefs and principles in different situations. Researchers should thus attempt to reveal the beliefs and/or principles that coaches abide by in the many situations they encounter, rather than trying to overly simplify coaches' convictions and orientations as in Lyle's (1986) dichotomous classification of coaches (winning vs. player development).

Conclusion

Though the present study's findings were primarily obtained from an individual subject and thus may not be generalized to all youth sport coaches, some important conclusions may be drawn from these results. The first is that coaching principles and beliefs appear to be important determinants of coaches' volitional actions. Though

external factors such as the players' parents can sometimes interfere, the link between coaches' beliefs and their behavior seems to be quite strong. The second conclusion pertains to the utility of stimulated recall interviews. Based upon comments obtained from Coach E (Martin) during the validation interview, stimulated recall seems to be an effective method of accessing coaching principles and beliefs. Not only does it enable researchers to unveil a wide range of beliefs and principles by which coaches claim to abide, but it also provides an effective means of ensuring that they reveal their true internal convictions.

Results from the present study also seem to suggest that coaches are often likely to abide by different beliefs and principles in different situations. Researchers should thus be advised to fully explore the beliefs and/or principles that coaches tend to abide by in the many situations they encounter. In turn, researchers should avoid trying to overly simplify coaches convictions, opinions and views. It may be inaccurate to imply, for example, that coaches favor winning over player development, or aggression over sportsmanship. Depending upon the conditions, coaches may favor either one of these options or even look for balance. In any case, it seems that to clearly understand the motives for many coaching behaviors, coaches must be encouraged to honestly report the beliefs and/or principles that they abide by in very specific situations. Additional studies of this nature shall thus be required to gain greater insight into the motives for coaching behaviors.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), Action control: From cognition to behavior (pp. 11-39). Berlin, Germany: Springer-Verlag.

Boudreau, P., & Tousignant, M. (1991). Efficacité de l'intervention d'entraîneurs bénévoles en formation. Canadian Journal of Sport Sciences, 16(2), 134-141.

Brunelle, J., Spallanzani, C., Tousignant, M., Martel, D., & Gagnon, J. (1989). Effets d'une stratégie d'autosupervision sur les composantes du temps d'apprentissage dans l'enseignement de deux sports. Revue canadienne de l'éducation, 14(2), 189-201.

Chaumeton, N. R., & Duda, J. (1988). Is it how you play the game or whether you win or lose? The effect of competitive level and situation on coaching behaviors. Journal of Sport Behavior, 11(3), 157-174.

Clark, C. M., & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), Handbook of research on teaching (pp. 255-296) (3rd ed.) New York: Macmillan.

Claxton, D. B. (1988). A systematic observation of more or less successful high school tennis coaches. Journal of Teaching in Physical Education, 7, 302-310.

Claxton, D. B., & Lacy, A. C. (1986). A comparison of practice field behaviors between winning high school football and tennis coaches. Journal of Applied Research in Coaching and Athletics, 1(3), 188-200.

Côté, J., Salmela, J., 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), 1-17.

Côté, J., Trudel, P., Bernard, D., Boileau, R., & Marcotte, G. (1993). Observation of coach behaviors during different game score differentials. In C. R. Castaldi, P. J. Bishop, & E. F. Hoerner (Eds.), Safety in ice hockey: Second volume (pp. 78-87). Philadelphia: American Society for Testing and Materials.

Darst, P. W., Langsdorf, E., Richardson, D. E., & Krahenbuhl, G. S. (1981). Analyzing coaching behavior and practice time. Motor Skills: Theory into Practice, 5(1), 13-22.

Dubois, P. E. (1981). The youth sport coach as an agent of socialization: An exploratory study. Journal of Sport Behavior, 4, 95-107.

Fisher, A. C., Mancini, V. H., Hirsch, R. L., Proulx, T. J., & Staurowsky, E. J. (1982). Coach-athlete interactions and team climate. Journal of Sport Psychology, 4, 388-404.

Gilbert, W., & Trudel, P. (1994, March). Stimulated recall interviews as a data collection technique in physical education and sport environments. Paper presented at the 7th annual A.Q.S.A.P. Conference, Ottawa, ON., Canada.

Gummerson, T. (1992). Sports coaching and teaching. London: A & C Black.

Hastie, P. A., & Saunders, J. E. (1992). A study of task systems and accountability in an elite junior sports setting. Journal of Teaching in Physical Education, 11(4), 376-388.

Horn, T. S. (1985). Coaches' feedback and changes in children's perceptions of their physical competence. Journal of Educational Psychology, 77(2), 174-186.

Keith, M. J. (1988, November). Stimulated recall and teachers' thought processes: A critical review of the methodology and an alternative perspective. Paper presented at the annual meeting of the Mid-South Educational Research Association, Louisville, KY.

Jones, B. J., Wells, L. J., Peters, R. E., & Johnson, D. J. (1988). Guide to effective coaching: Principles & practice (2nd ed.). Boston: Allyn and Bacon.

Lacy, A. C., & Darst, P. W. (1985). Systematic observation of behaviors of winning high school head football coaches. Journal of Teaching in Physical Education, 4(4), 256-270.

Lacy, A. C., & Goldston, P. D. (1990). Behavior analysis of male and female coaches in high school girls' basketball. Journal of Sport Behavior, 13(1), 29-39.

Lacy, A. C., & Martin, D. L. (1994). Analysis of starter/nonstarter motor-skill engagement and coaching behaviors in collegiate women's volleyball. Journal of Teaching in Physical Education, 12, 95-107.

Lyle, J. (1986). Theme discussion paper (paradigm paper). Coach education: Preparation for a profession. In Coach education: Preparation for a profession (pp. 1-25). Proceedings of the VIII Commonwealth and International Conference on Sport, Physical Education, Dance, Recreation and Health. Glasgow, July 18-23, 1986. London: E. & F. N. Spon.

Mancini, V. H., Clark, E. K., & Wuest, D. A. (1987). Short- and long-term effects of supervisory feedback on the interaction patterns of an intercollegiate field hockey coach. Journal of Teaching in Physical Education, 6(4), 404-410.

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, 7 (4), 289-301.

Martens, R. (1987). Coaches guide to sport psychology. Champaign, IL: Human Kinetics Publishers.

Martens, R. (1988). Helping children become independent, responsible adults through sports. In E. W. Brown & C. F. Branta (Eds.), Competitive sports for children and youth: An overview of research and issues (pp. 297-307). Champaign, IL: Human Kinetics Books.

Martens, R. (1990). Successful coaching (2nd ed.). Champaign, IL: Leisure Press.

McKenzie, T. L., & King, H. A. (1982). Analysis of feedback provided by youth baseball coaches. Education and Treatment of Children, 5(2), 179-188.

McPherson, B. & Davidson, L. (1980). Minor hockey in Ontario: Toward a positive learning environment for children in the 1980's (D759-3/802m, ISBN 0 7743 4847 X). Ministry of Culture and Recreation, and the Ontario Hockey Council. Ottawa, Ontario.

Néron, G. E. (1977). Violence in hockey. Québec: Government of Québec, High Commission for Youth, Leisure and Sport.

Petlichkoff, L. M. (1993). Coaching children: Understanding the motivational process. Sport Science Review, 2(2), 48-61.

Reiken, G. B. (1982). Description of women's gymnastic coaches' observations of movement (Doctoral dissertation, Columbia University Teachers College, 1982). Dissertation Abstracts International, 43, 397A.

Rejeski, W., Darracott, C., & Hutslar, S. (1979). Pygmalion in youth sport: A field study. Journal of Sport Psychology, 1, 311-319.

Rupert, T., & Buschner, C. (1989). Teaching and coaching: A comparison of instructional behaviors. Journal of Teaching in Physical Education, 9(1), 49-57.

Rushall, B., & Smith, K. (1979). The modification of the quality and quantity of behavior categories in a swimming coach. Journal of Sports Psychology, 1(2), 138-150.

Sabock, R. J. (1991). Coaching: A realistic perspective (4th ed.). San Diego, CA: Collegiate Press.

Seagrave, G. O., & Ciancio, C. A. (1990). An observational study of a successful pop warner football coach. Journal of Teaching in Physical Education, 9(4), 294-306.

Silva, J. M. (1984). Factors related to the acquisition and exhibition of aggressive sport behavior. In J. M. Silva & R. S. Weinberg (Eds.), Psychological foundations of sport (pp. 246-260). Champaign, IL: Human Kinetics.

Sinclair, D. A., & Vealey, R. (1989). Effects of coaches' expectations and feedback on the self-perceptions of athletes. Journal of Sport Behavior, 12, 77-91.

Smith, M. D. (1983). Violence and sport. Toronto, ON., Canada: Butterworths.

Smith, R. E., Smoll, F. L., & Curtis, B. (1979). Coach effectiveness training: A cognitive-behavioral approach to enhancing relationship skills in youth sports. Journal of Sport Psychology, 1, 59-75.

Smith, R. E., Zane, N. W., Smoll, F. L., & Coppel, D. B. (1983). Behavioral assessment in youth sports: Coaching behaviors and children's attitudes. Medicine and Science in Sports and Exercise, 15(3), 208-214.

Smoll, F. L., & Smith, R. E. (1989). Leadership behaviors in sport: A theoretical model and research paradigm. Journal of Applied Social Psychology, 19, 1522-1551.

Statistiques Canada. (1994). La pratique des sports au Canada (H24-1/1994F, ISBN 0-662-99416-7). Ministère des Approvisionnement et Services Canada.

Strean, W. B. (1993). Coaching Ideology: Contextual factors and implications for practice. (Doctoral dissertation, University of Illinois at Urbana-Champaign, 1993). Dissertation Abstracts International, 54-11, 4031A.

Strong, J. M. (1992). A dysfunctional and yet winning youth football team. Journal of Sport Behavior, 15(4), 319-326.

Tharp, R. G., & Gallimore, R. (1976). What a coach can teach a teacher. Psychology Today, January, 75-78.

Trudel, P., & Brunelle, J. (1985). Les situations d'apprentissage offertes aux joueurs inscrits dans des ligues de hockey mineur. L'Association canadienne pour la santé, l'éducation physique et le loisir, 51, 18-25.

Trudel, P., Côté, J., & Bernard, D. (1996). Systematic observation of youth ice hockey coaches during games. Journal of Sport Behavior, 19(1), 50-65.

Trudel, P., Dionne, J-P., & Bernard, D. (1992). Étude qualitative de la violence au hockey: Perceptions d'entraîneurs et de joueurs. Canadian Journal of Sport Sciences, 17(4), 320-332.

Trudel, P., & Donohue, J. (1993, November). Étude des procédures de collecte et d'analyse de données présentées aux lecteurs dans les articles de recherche qualitative. Paper presented at the conference for the North American Society for the Sociology of Sport, Ottawa, ON., Canada.

Trudel, P., & Gilbert, W. (1995). Research on coaches' behaviors: Looking beyond the refereed journals. Avante, 1(2), 94-106.

Trudel, P., Guertin, D., Bernard, D., Boileau, R., & Marcotte, G. (1991). Analyse des comportements de l'entraîneur par rapport à la violence au hockey mineur. Canadian Journal of Sport Sciences, 16(2), 103-109.

Trudel, P., Haughian, L., & Gilbert, W. (in press). L'utilisation de la technique du rappel stimulé pour mieux comprendre le processus d'intervention de l'entraîneur en sport. Revue des sciences de l'éducation.

Vaz, E. (1982). The professionalization of young hockey players. Lincoln, NE: University of Nebraska Press.

Vernacchia, R. A., McGuire, R. T., & Cook, D. L. (1992). Coaching mental excellence: It does matter whether you win or lose. Dubuque, IA: Brown & Benchmark.

Wandzilak, T., Ansorge, C. J., & Potter, G. (1988). Comparison between selected practice and game behaviors of youth sport soccer coaches. Journal of Sport Behavior, 11(2), 78-88.

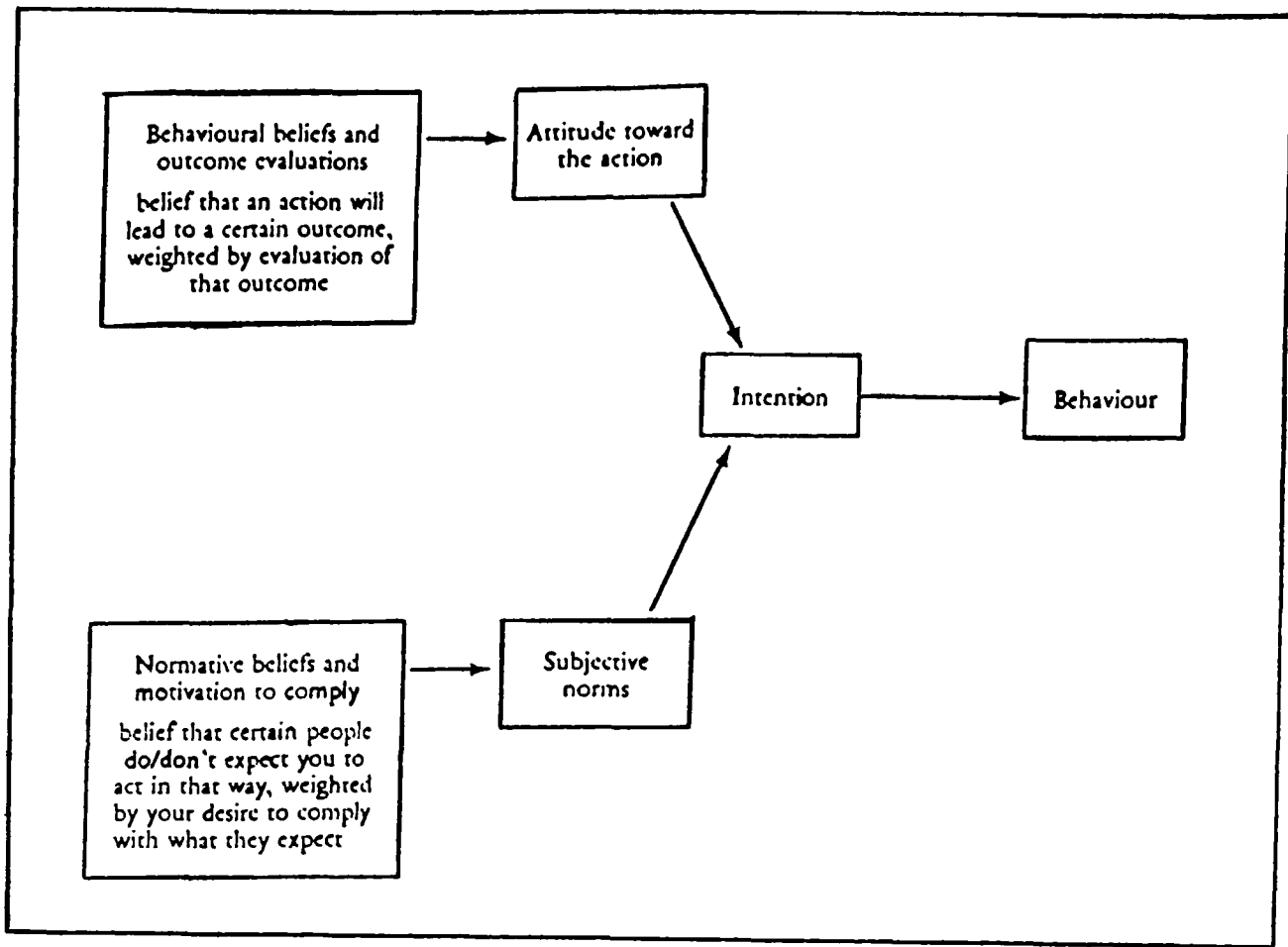
Weiss, M. R. (1993). Psychological effects of intensive sport participation on children and youth: Self-esteem and motivation. In B. R. Cahill & A. J. Pearl (Eds.), Intensive participation in children's sports (pp. 39-69). Champaign, IL: Human Kinetics.

Woodman, L. (1993). Coaching: A science, an art, an emerging profession. Sport Science Review, 2(2), 1-13.

Yinger, R. J. (1986). Examining thought in action: A theoretical and methodological critique of research on interactive teaching. Teaching and Teacher Education, 2(3), 263-282.

Appendix A

The Ajzen and Fishbein Model of Reasoned Action

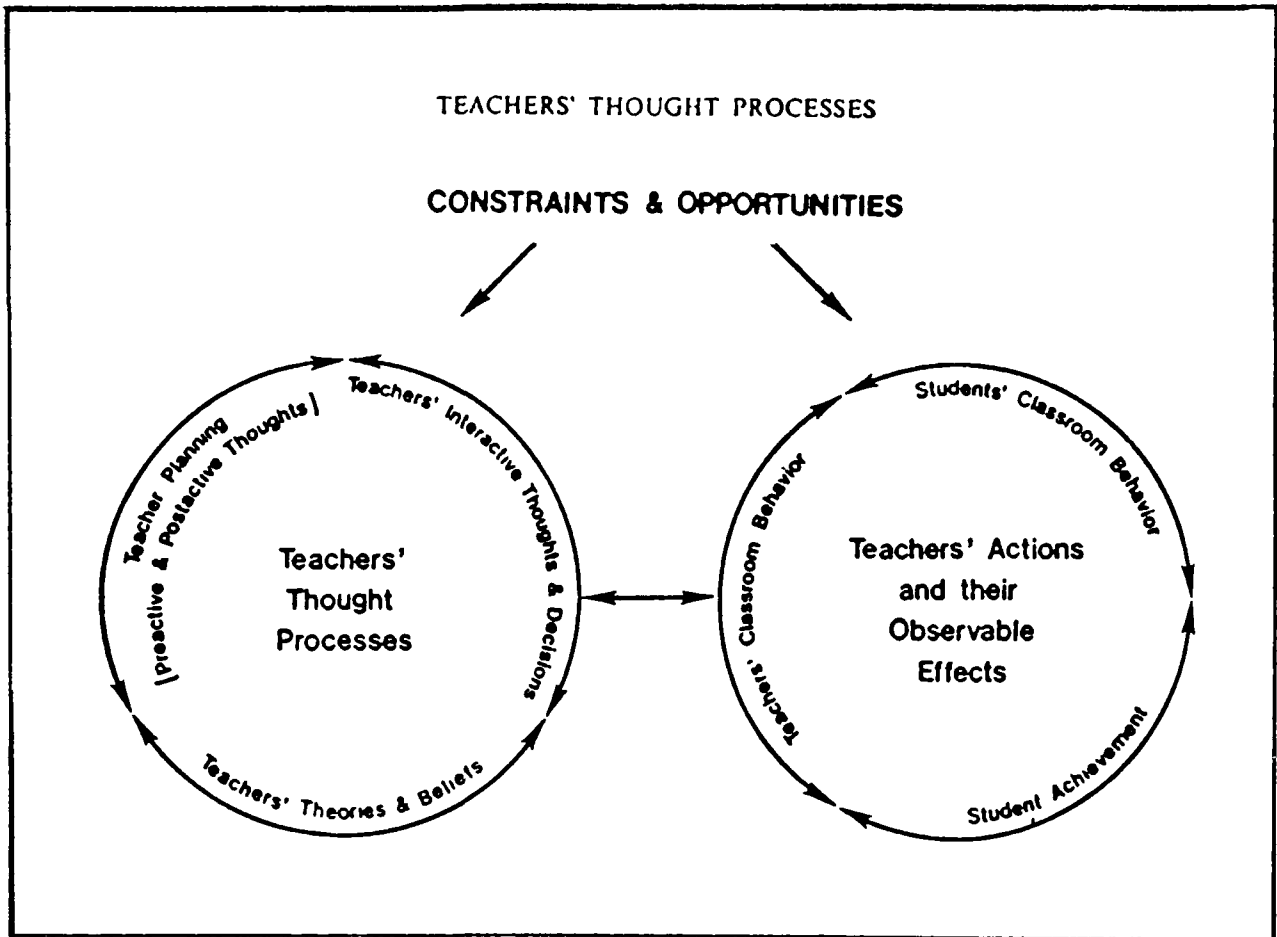


The Ajzen and Fishbein model of reasoned action.

Note. From A Textbook of Social Psychology (p. 145), by J. E. Alcock, D.W. Carmen and S. W. Sadava (Eds.), 1991, Scarborough, Canada: Prentice-Hall Canada.

Appendix B

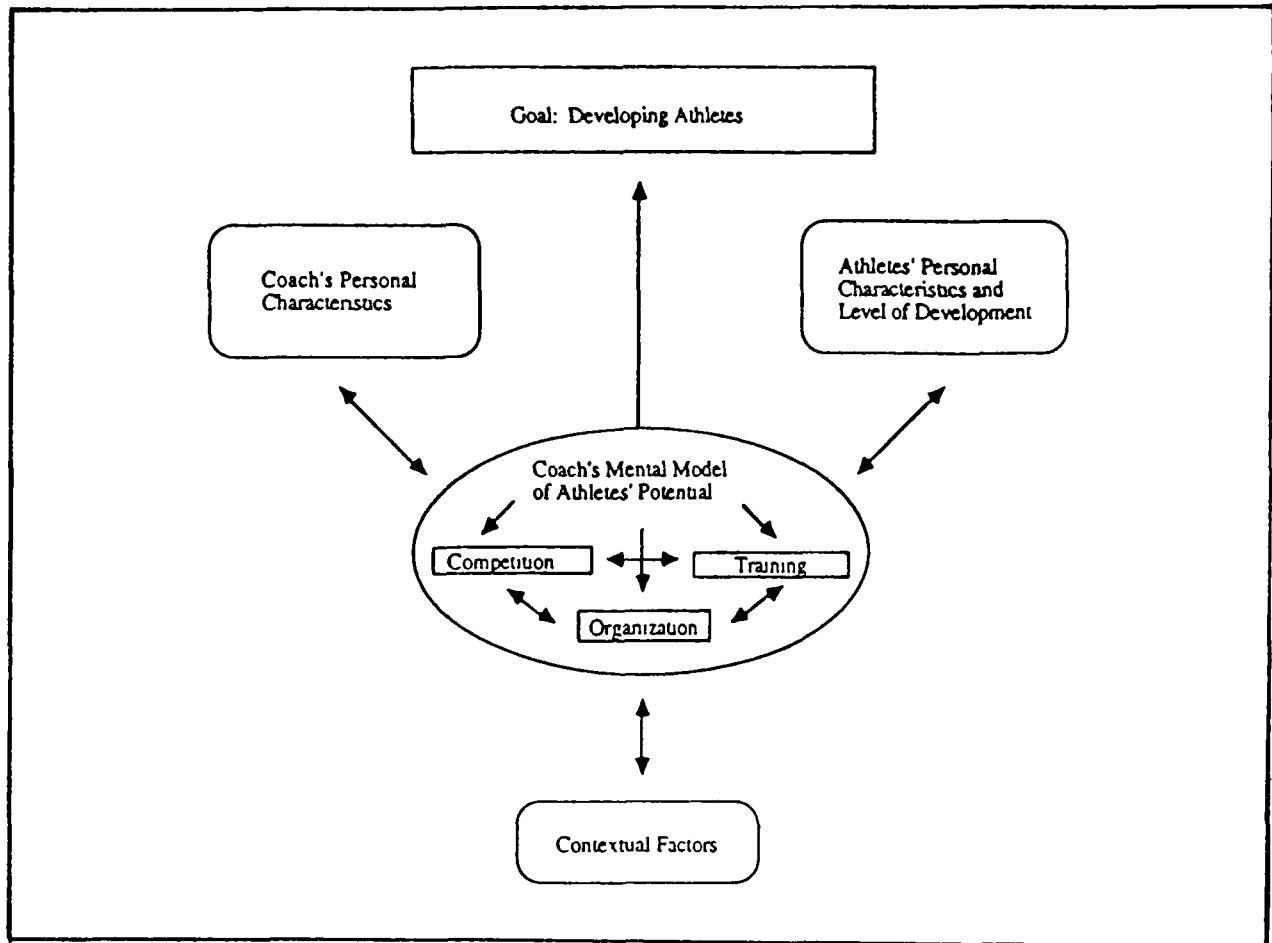
Clark and Peterson's Model of Teacher Thought and Action



Clark and Peterson's model of teacher thought and action.

Note. From Handbook of Research on Teaching (p. 257), by M. C. Wittrock (Ed.), 1986, New York: MacMillan.

Appendix C
The Coaching Model



The coaching model.

Note. From "The coaching model: A grounded assessment of expert gymnastic coaches' knowledge," by J. Côté, J. Salmela, P. Trudel, A. Baria, and S. Russell, 1995, Journal of Sport and Exercise Psychology, 17(1), p.10.

Appendix D
Letter of Information



UNIVERSITÉ D'OTTAWA
UNIVERSITY OF OTTAWA

FACULTÉ DES SCIENCES DE LA SANTÉ
FACULTY OF HEALTH SCIENCES

LETTER OF INFORMATIONS

When a research project that studies individuals is undertaken by a member of the University of Ottawa, the Ethics Committee of the University requires the written consent of the participants. This does not imply that the project is risky; the intention is simply to assure the respect and confidentiality of the individuals concerned.

This research project is directed by Professors Pierre Trudel, Jean-Paul Dionne of the University of Ottawa and François Tochon of the University of Sherbrooke. In this project, data will be collected on the way coaches teach ice hockey (during training sessions or games). Data will be collected in four distinct contexts.

- 1) Before the training session or game. The coach will describe the objectives of his/her interventions during a ten-minute interview.
- 2) During the training session or game. The intervention will be videotaped for further analyses.
- 3) After the training session or game. The coach, during a ten-minute interview, will assess whether his/her objectives were reached or he/she had to modify his/her plan.
- 4) During retrospective interview. The coach will look at a videotape of his/her game and comment on his/her teaching. This interview will last about 60 minutes.

For each coach participating in the research, data will be collected during 4 training sessions, 4 games and 8 retrospective interviews. Video cameras will be used to record the interventions while the coach will have to wear a cordless microphone. The coach will be able to turn it off if he/she wishes.

The main objective of this research project is to elaborate a coding system in order to analyze data collected in the four contexts. When the coding system becomes operational, it will be possible to obtain a general picture of the procedures used by coaches when they teach ice hockey to young people.

We want to inform you that you are free to participate and you may decline the invitation without consequential effect.

Please, feel free to contact us any time:

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Appendix E
Consent Form



UNIVERSITÉ D'OTTAWA
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FACULTÉ DES SCIENCES DE LA SANTÉ
FACULTY OF HEALTH SCIENCES

CONSENT FORM

After being informed on the goal of the research project directed by Pierre Trudel, François Tochon and Jean-Paul Dionne on: The analysis of the pedagogical intervention in ice hockey.

I consent to participate in this research project.

I know that, in this research project, my participation will be need for 4 training sessions, 4 games and retrospective interviews.

I can withdraw from the study at any time.

I understand that there is no direct benefit to me from participating in this study. I will be advised on my personal results when all analyses have been completed. A report of the investigation will be sent to me if I wish. Also, understand that a) the results will be kept strictly confidential and that my name will not appear in any publication and b) that the videotapes will be erased when analyses are completed.

If transcripts are appropriate to illustrate the data analysis procedures, I give my consent to have it used under the conditions that confidentiality and anonymity be safeguarded by the researchers.

Signature _____ Date _____

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Appendix F

Background Interview Guidelines

Interview Guidelines

Background Interview with Ice Hockey Coach

Explain to coach that there are no right or wrong answers. What we need to learn about is the coaching process at the minor hockey level. We want to tap into their expertise in this area.

1. Experience as a coach (head-coach, assistant, levels, clinics).
2. Experience as a player.
3. Talk about this year's team:
 - describe the team, the group of players you have.
 - expectations for the team.
 - any tournaments planned?
 - do you have any parents or assistants helping you?
4. Some coaches like to use season plans. Have you done anything like that with this team?
 - if yes, discuss.
5. Do you do any preparation for your practices. Do you make specific plans?
6. Same as above, but for games.
7. Could you describe a typical evening for you at the arena for a practice? When do you arrive? Does anything happen before the practice? Walk me through a typical practice session with your team? What happens afterwards?
8. Same as above, but for a typical game situation.
9. Thank you for assisting us in this project.