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AGGRESSION IN HOCKEY: COMPARISONS OF DISPLAYED AGGRESSION, COACHES' AND TEAMS' PERCEPTIONS OF AGGRESSIONS

by

Todd M. Loughead

A thesis submitted in conformity with the requirements for the degree of Master of Science

Graduate Department of Community Health

University of Toronto

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Abstract

Aggression in hockey: Comparisons of displayed aggression, coaches' and teams' perceptions of aggressions. Master of Science, 1999. Todd M. Loughead, Graduate Department of Community Health, University of Toronto.

The purpose of this study was to examine minor hockey league coaches' and teams' perceptions of aggression and the recorded aggressive behaviour of those teams. Teams and coaches completed modified versions of the Bredemeier Athletic Aggression Inventory-Short Form (BAAGI-S). Game report sheets were used to determine recorded aggression levels. The Atom level were more approving of instrumental aggression, while the Peewee/Bantam group favoured the use of hostile aggression and received more hostile aggression penalties on the ice. Regardless of the level of play, coaches displayed similar levels of aggression for both instrumental and hostile categories. Teams' views were unrelated to coaches' attitudes on aggression. Coaches found instrumental aggression to be more acceptable than hostile aggression. Although teams also viewed instrumental aggression as more acceptable, their behaviour on the ice indicated otherwise by receiving more hostile-type penalties. Overall, the findings suggest that aggression continues to play a role in hockey.
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CHAPTER ONE

Introduction

In the last three decades, violent acts in society have begun to increase. The media often reports on the rise of violent crimes such as rape, homicide, child and spousal abuse, and juvenile delinquency. The realm of sport is also not immune to violence and aggression. Although society attempts to contain aggressive acts in daily life events through the justice system, sport is a context in which aggressive play is often encouraged or at least tolerated. As a result, those in the sports domain have witnessed an increase in violent acts by its participants (Smith, 1983).

Increased media coverage in recent years has brought aggression and violence to the forefront in sport. It is rare to have a day go by without some mention of a bench brawl, mound rushing, or stick swinging incident. However, the problem is not a recent phenomenon. There are numerous examples of sports violence that have been documented and generally accepted for decades (Luxbacher, 1986). The traditional arguments have been to dismiss aggression and violence with comments such as: "it's part of the game"; "no one ever gets hurt"; or "the athletes are just letting off some steam."

Contrary to these claims, a number of highly publicized incidents in the sport of hockey, have brought this issue to the forefront. Incidents such as the Green-Maki stick-swinging fight, the Paul Smithers minor hockey case, the Markus Quinn incident, and the Hamilton-Bramalea Junior B hockey game exemplify extreme cases of hockey violence. The Green-Maki fight happened in 1969 when Maki struck Green over the head with his hockey stick. Green's skull was fractured, almost killing him (Smith, 1983). The Paul Smithers
Case involved a fight outside an arena between two teenage minor hockey players following their game. Smithers was convicted of manslaughter and received a six month jail sentence (Smith, 1983). The Markus Quinn incident involved a pre-game brawl between two rival Junior A tier II hockey teams. During the pre-game warm-up members of the opposing team crossed the centre line and began a fight. During the altercation, Markus Quinn received a punch to the side of the head resulting in a severe concussion (Kalchman, 1998). The final incident involved Hamilton and Bramalea hockey teams. The game was marked by a brawl that involved players, officials, and spectators. Fourteen police officers were brought in to restore order (Smith, 1983).

The province of Ontario commissioned an inquiry into violence in amateur hockey. Toronto lawyer William McMurtry oversaw the inquiry which produced a 1,256 page transcript. McMurtry (1974) concluded the major cause of violence in amateur hockey was the influence of professional hockey.

McMurtry's (1974) report was the first of many empirical examinations involving aggression and hockey (e.g., Bloom & Smith, 1996; Faulkner, 1974; Smith, 1979b, 1979c; Vaz, 1976; Widmeyer & McGuire, 1993). These studies provided insight into the factors and sources of hockey violence. The majority of research in this area has examined whether participating in or observing hockey has any effect on aggressive behaviours. As a result, the majority of research has focused upon the players. However, there has been little documentation on hockey coaches, especially with issues pertaining to aggression. More specifically, there have been fewer studies examining the relationships among coach, athlete, and aggression.
The present study focused on this relationship. Using a modified version of the Bredemeier Athletic Aggression Inventory-Short Form (BAAGI-S), along with game report sheets, this study examined coaches' and teams' perceptions of aggression and the aggression displayed by teams.

Purpose

The sport of hockey impinges on the lives of Canadians like few other public events. Annually, over 500,000 players are registered in Canadian hockey (Gruneau & Whitson, 1993). Hockey reflects the national character of this country and the values it transmits. However, research in this area, particularly in regard to coaches and players, occurs sporadically. Hockey coaches, especially at the minor league level, have the opportunity to make an impact on a young player's sporting experience, including the amount of aggression displayed in the sporting environment. This study examined coaches' and teams' views on aggression and the displayed aggression of those teams.

Significance

The significance of this research project is threefold. First, the majority of research has focused on hockey players' perception of aggressions and violence. There is a need to examine the coach's view on this topic. Second, the research investigated the role of the coach in regards to hockey violence. It is hoped that a greater understanding of their attitudes can contribute to solutions aimed at the reduction of hockey violence. Finally, very little research has examined the coach/player relationship in regard to aggression and its impact on players. A coach has the power to quell sports violence. Only then will athletes have a more enjoyable and productive sporting experience.
Hypotheses

The majority of past research has examined whether participating in or observing hockey has any effect on aggressive behaviours. In addition, the research that has emerged on hockey coaches has been generated from a player's perspective. Research on hockey aggression from the coaches and teams viewpoint is now required. In addition, the coach is an influential individual in the eyes of players. Past research has also demonstrated that players' perceptions of coaches' approval or disapproval of aggression affects players' behaviour.

On the basis of the literature review, the following hypotheses were forwarded.

1. The level of play would influence the amount of perceived and recorded aggression, for both hostile and instrumental types of aggression. As the level of play increases from Atom to the Peewee/Bantam group, there would be higher amounts of perceived aggression (hostile and instrumental) by coaches and teams. In addition, there will be higher amounts of displayed aggression (hostile and instrumental) as the level of play increases from Atom to Peewee/Bantam.

2. There would be a positive relationship among coach, team, and recorded aggression. More specifically, teams' perceived aggression will correspond positively with recorded aggression. Also, teams' perception of its own aggression level will correspond positively with coaches' perceived aggression. Finally, coaches' perceived aggression will be positively associated with levels of recorded aggression.

3. There would be a significant difference between levels of instrumental and hostile aggression for each of the following: coaches, teams, and recorded aggression scores.
Definition of Terms

Aggression. A behaviour intended to injure another person either psychologically or physically (Smith, 1983).

Game report sheet. A formal account of what has occurred during a game. Included in this official game document are the name of the teams involved, goals scored, and penalties awarded. More specifically, it provides details on the type of penalty, who received it, and when it occurred.

Hostile aggression. Described as an aggressive act which has the goal of inflicting injury on another person (Alderman, 1974; Cox, 1994; Thirer, 1993).

Instrumental aggression. The purpose of instrumental aggression is to achieve a particular goal (Thirer, 1993). The aggression that occurs is a result of trying to reach a goal although the aggression may involve injury to an opponent.

Penalty. An act which the sport of ice hockey has sanctioned as a norm violation, and is awarded by trained judges (referees).

Recorded aggression. Norm violations (penalties) awarded by the referees which are then divided by McCarthy and Kelly's (1978) framework into those that slow down the play of the opponent (instrumental aggression), and those norm violations deemed excessively aggressive (hostile aggression).
CHAPTER TWO

Literature Review

Defining Aggression

Although aggression is a term frequently used in today's society, there seems to be confusion surrounding its meaning. The term is used to depict violent outbreaks such as fighting, but is also used when athletes compete hard and give one hundred percent efforts. According to Thirer (1993), there are many variables affecting the application of the term aggression that may be leading to this dilemma. One way to alleviate this confusion is to separate the concept of aggression from the notion of violence (Thirer, 1993). Smith (1983) noted that aggression is "defined as any behaviour designed to injure another person, psychologically or physically. Violence is behaviour intended to injure another person physically" (p. 2).

Further confusion is added when a value judgement or emotional connotation is attached to the term aggression (Leith, 1991). For instance, some aggressive behaviour is considered bad, while some is considered good. As well, value judgements are often inconsistent regarding aggressive behaviour. As a result, it is acceptable to fight in certain situations but not in others. Thus, all these inconsistencies have served to perpetuate the confusion (Leith, 1991).

Nonetheless, many definitions of aggression have been forwarded since the turn of the century. For example, Dollard, Miller, Doob, Mourer, and Sears (1939) defined aggression as a behaviour in which the goal is to injure another person. Cratty (1989) and Leith (1991) defined aggression as a behaviour that seeks to inflict psychological and/or physical harm,
either on another person or on individual possessions such as property or equipment.

Despite the numerous definitions over the years, a number of similarities can be seen in the many examples of aggression. First, aggression involves behaviour (Leith, 1991). Thinking about inflicting harm is not aggression. Second, there must be intent to inflict harm on the target. Accidental harm does not qualify as an act of aggression. Finally, there is an expectation that aggression will be successful and the target will be harmed (Cox, 1994).

Despite this outline of aggression, one final distinction would prove beneficial. Two kinds of aggression have been identified in the sport psychology literature: instrumental aggression and hostile or reactive aggression. In both types of aggression, the intent is to harm. However, there is a distinction in terms of the goals being sought. Instrumental aggression serves as means to a particular goal, such as winning, money, or prestige, in which injury to the opponent is involved. This type of injury is impersonal and designed to limit the effectiveness of the opponent (Russell, 1993). On the other hand, the primary objective of hostile aggression is to injure another person deliberately. The intent is to make the victim suffer, either physically and/or psychologically (Cox, 1994). For instance, an example of hostile aggression occurs when a baseball pitcher throws a high inside fastball at a batter who has angered him. The clear attempt to injure is present, and the goal is to cause suffering.

**Classical Theories of Aggression**

Several psychological theories have potential to explain the phenomenon of aggression in sport. These theories can be classified into four groups: instinct, frustration-aggression, moral reasoning, and social learning. Each theory will now be discussed.

**Instinct theory.** Based on the writings of Sigmund Freud, instinct theory offered the
earliest explanation of why humans engage in aggressive behaviour (Thirer, 1993). Freud believed that aggressive behaviour was an innate, natural response in all individuals that primarily evolved through a struggle for survival. According to this theory, aggression builds up naturally and must be released. Freud believed numerous socially approved methods existed for releasing this pent-up aggression. Sport was viewed as one such technique that may curtail the negative results of aggression (Cratty, 1989). This process was termed catharsis. According to this theory, hitting an opponent serves as a catharsis or release of built up aggression.

Further support for an instinctual model of aggression is derived from the consistent findings from ethologists. The work of Konrad Lorenz contends that the aggressive nature evolved from an animal's desire to survive (Scherer, Abeles, & Fischer, 1975). He believed that the aggressive instinct fulfilled four important functions (Scherer et al., 1975). First, it insured the stronger animals a better chance for survival. Second, during mating it insured that the strongest and best animals mate. Third, it is involved in the defense of the species. Finally, it provided motivational energy to activities unrelated to aggression, such as hierarchies in animal societies.

This theoretical stance has far more detractors than supporters (Thirer, 1993). Bandura (1973) indicated that a large amount of research involving either direct or vicarious aggressive experiences has demonstrated that aggression will actually be maintained at its original level rather than reduced. Also, Bandura noted that the probability of subsequent aggression will increase rather than diminished. Ryan (1970) found that there was no simple draining of aggressive tendencies through participation in physical activities. Cheren (1981) concluded
that exposure to violence in sports serves as a reinforcer, not as a catharsis. Cataldi (1980) rejected the instinctual theory and suggested that athletics provided a better framework for the learning than it does for the venting of aggression. Furthermore, Coakley (1981) stated that the team and player violence was a catalyst for spectator violence.

Frustration-aggression theory. The frustration-aggression theory was first proposed in 1939 by Dollard, Miller, Doob, Mourer, and Sears, rejecting Freud's notion of an aggressive instinct. Instead, this viewpoint linked aggressive behaviour to motivational antecedents, especially incidence of frustration (Johnson, 1972).

Originally, it was hypothesized that all aggression was due to frustration; and frustration always leads to aggression. According to Dollard et al. (1939) aggression was the function of: (a) the strength of the instigation to the frustrated aggression, (b) the amount of interference with the response, and (c) the number of frustrated responses.

The following example will assist in illustrating the theory. Haner and Brown (1955) manipulated frustration by promising children prizes for pushing marbles through holes in a board. If the participants failed to do so in an allotted amount of time, they had to depress a plunger and start all over again. The strength of depressing the plunger was measured and served has the dependent variable for assessing aggression. It was found that the closer the subjects were to finishing and getting a prize the harder they depressed the plunger.

While this and other examples show that frustration can lead to aggression, they do not prove the theory, for proof lies in an adequate definition of each term (Johnson, 1972). For instance, whenever aggression appeared it could be claimed that components of frustration could be found in preceding events (Johnson, 1972).
Today, the frustration-aggression hypothesis is viewed as a less than definitive statement about aggression (Husman & Silva, 1984). Yet, although anecdotal evidence in support of this hypothesis is plentiful, empirical research is equivocal (Thirer, 1993).

**Moral reasoning theory.** Bredemeier and colleagues (e.g., Bredemeier & Shields, 1984; Bredemeier, Weiss, Shields, & Cooper, 1987; Bredemeier, 1994; Shields, Bredemeier, Gardner, & Bostrom, 1995; Stephens & Bredemeier, 1996) have been strong proponents of the relationship between moral reasoning and athletic aggression. Bredemeier and colleagues view aggression as unethical and rationalized that a relationship should exist between a person's level of moral maturity and acts of athletic aggression. Their findings have suggested a negative relationship between moral reasoning maturity and athletes' judgments regarding aggression (Bredemeier, Weiss, Shields, & Cooper, 1987), and an inverse relationship between moral reasoning and athletic aggression (Bredemeier & Shields, 1984). Despite their promising findings, the study of morality using a sport context is in its infancy. The measures that have utilized a moral context have been subjected to little analysis. There is a need to develop measures that are valid, reliable, and have potential to shed light onto issues of moral development. In addition, there is a need to develop new measures and methods to assess the relations between theoretical and practical constructs (Bredemeier & Shields, 1998). Future studies will need to address critical issues such as the parameters of this new field and the utilization of more rigorous controls in the research design.

**Social learning theory.** The most supported explanation of why aggression occurs has been social learning theory. According to Thirer (1993), social learning theory "proposes that an interactive relationship exists between a person and the environment" (p. 369). The
leading advocate for the social learning theory, relative to aggression, is Bandura (1973). In the social learning theory, a person is not driven by inner forces nor controlled solely by environmental influences. Instead, psychological functioning is best understood as a continuous reciprocal interaction between the individual and environmental influences (Bandura, 1973). As a result, behaviour in part creates the environment, which in turn influences the behaviour. In this two-way causal mechanism, the environment is influenced, just as the behaviour it controls (Bandura, 1973).

Bandura (1973) believed people aggress because they have learned it is profitable to do so. Bandura theorised that "two forms of social interaction can lead to the development of aggressive behaviours" (Thirer, 1993, p. 369). The first method is a result of modelling. In its simplest, form modelling suggests that people can acquire aggressive behaviours from observing aggressive models, and can retain these aggressive tendencies over time (Bandura, 1973). The other and foremost method is learning, or acquiring new responses as a result of reinforcement. When a behaviour is performed and then positively reinforced, the behaviour is strengthened, whereas a response that causes an unrewarding or punishing effect will be discarded.

In short, the social learning theory is a strong force in contemporary research, linking aggression to the environment and the individual. It is a model that contains provisions for direct learning and also for vicarious learning. Furthermore, Bandura's theory contains a cognitive dimension that had been previously missing from other theories regarding aggression. Finally, since aggression does not originate internally and its environmental determinants are alterable, social learning theory holds a more optimistic view of reducing
aggression in humans.

Four major theoretical frameworks have been utilized in the study of aggressive behaviour. These theoretical frameworks have attempted to explain, predict, and channel or modify aggressive behaviour. It is important to note that both the frustration-aggression theory and instinctive theory have had an impact upon the sporting sphere. As Husman and Silva (1984) have suggested:

We hear people say that little can be done to change violence in sport; "It's the nature of man" clearly reflects an instinctual view of aggressive behaviour. Statements such as, "Let them get it out of their system" obviously show support for the idea of a catharsis being an outcome of aggressive behaviour. Others would argue that fighting and slashing in ice hockey are severe enough. (p. 254)

Even though Bredemeier and her colleagues have conceptualized and investigated aggression with respect to an individual's level of moral reasoning, much research is needed. Nonetheless, social learning theory has received a considerable amount of empirical research establishing a link between the environment and the individual. Bandura (1973) has provided considerable support for the social learning position, which views aggression as a learned response pattern, influenced by modelling and reinforcement. Both of these components of the social learning theory will now be discussed.

Reinforcers and Aggression in Sport

To comprehend how aggression in sport might be reinforced, it is important to examine how behaviours in general are reinforced. In general, a reinforcer is anything that happens after a specific behaviour that affects the probability of reoccurrence (Rushall &
Siedentop, 1972; Leith, 1983). If an action is reinforced, the likelihood of the response occurring again has changed (Rushall & Siedentop, 1972). Reinforcers can be categorized as either positive or negative. Positive reinforcement occurs when a satisfying consequence, such as praise, is presented contingent upon some behaviour with the result of strengthening that behaviour. On the other hand, when an aversive consequence (negative reinforcer) is presented following an undesirable behaviour, this decreases the future occurrence of that behaviour. Within the sporting context, for example, if an athlete behaves aggressively and is positively reinforced, the chances that the athlete will aggress again is increased (Leith, 1983). If negative reinforcers follow, then the behaviour is less likely to be repeated (Skinner, 1953).

In the realm of sport, it is important to note that there are many types of reinforcers. The following is a brief description of the different types of reinforcers.

**Social reinforcers.** According to Rushall and Siedentop (1972) the most common source of positive reinforcement in sport is social by nature. This type of reinforcer is characterized by praise, affection, encouragement and attention, and differs among the various age groups. In addition, social reinforcers are the type of reinforcer most used by coaches with their athletes. As a result, coaches need to consider the stage of social development of their athletes when selecting appropriate social reinforcers (Rushall & Siedentop, 1972).

In a sport setting, a strong social reinforcer involves the consequences of living up to team responsibility (Leith, 1983). For instance, coaches should reiterate the point that bad penalties hurt the team. In doing so, coaches stress the individual's role in the overall team play and, more importantly, the significance of avoiding unnecessary aggression (Leith, 1983).

**Performance reinforcers.** There are two types of performance reinforcers. The first is
labelled intrinsic and refers to bodily sensations of "feel." The primary function of an intrinsic reinforcer resides in the feedback performers receives to evaluate their performance (Rushall & Siedentop, 1972). It provides a frame of reference so that errors can be detected and corrected. When a hockey player executes a hard shot and describes it as "feeling good", this would be an example of an intrinsic reinforcer.

The second type of performance reinforcer is called artificial. It involves external information related to the task. Typically, this information is added by an instructor for training purposes (Rushall & Siedentop, 1972). For instance, comments from coaches would include "That was a nice shot, only next time try to snap your wrist at the point of contact." When utilizing artificial reinforcers, coaches should stress skill execution and not aggression (Leith, 1983).

Internal reinforcers. Vicarious and self-control are the two main types of internal reinforcers. Vicarious reinforcement alludes to an individual's change of behaviour as a result of observing someone else's behaviour and the resulting reinforcement (Rushall & Siedentop, 1972). For example, if an athlete observes another athlete's aggressive exchange and the aggressor is rewarded socially from coaches, teammates, and/or spectators, the observing athlete has inferred that the aggressive behaviour will be rewarded and is more likely to act aggressively in a similar situation (Leith, 1983).

Self-control reinforcement refers to the process of controlling one's behaviour through the development of self-generated reinforcers (Rushall & Siedentop, 1972). Attribution theory, or how one thinks other people will respond to their actions before one actually does them, is also responsible for certain aggressive behaviours (Leith, 1983). For example, an
athlete might internalize verbally "If I fight that player, my teammates and coaches will be impressed."

**Material reinforcers.** This type of reinforcer includes money, awards, and prizes. Many of these reinforcers are used in sport and physical education, but how they are employed is often inefficient (Rushall & Siedentop, 1972). The reinforcing strength of material reinforcers differs depending on the athlete and the type of reinforcer. In other words, what might be highly rewarding for one athlete will have no meaning for another.

Coaches are in a position to utilize material reinforcers (Leith, 1983). They could be used in the form of prizes for nonaggressive behaviour, providing the chance of curbing aggression in the sporting domain. For instance, medals could be distributed to players who, at the end of the season, displayed high levels of sportsmanship and skill development. For example, the National Hockey League awards annually the Lady Byng trophy to the player who demonstrated high levels of sportsmanship and fair play.

**Token reinforcers.** Token reinforcers have been utilized effectively in the educational settings for many years. Token reinforcers are objects that are collected and can be redeemed for reinforcers of greater value to the individual (McCown et al., 1996). In terms of reducing aggression, coaches could instruct players that if they play the game without receiving any penalties, in exchange they will receive a token. After an athlete earns a requisite number of tokens, these units are exchanged for some thing of value such as free time from training (Leith, 1983).

**Modelling and Aggression**

The notion of modelling is also an important element of the social learning theory.
Simply stated, modelling is the imitation of observed behaviours by individuals (Thirer, 1993). Bandura (1973) has suggested that people acquire complex patterns of aggressive behaviour from the observation of aggressive models, and these patterns can be retained over time. Various studies have investigated the effects of subjects' observation of aggressive behaviour on film (Berkowitz & Alioto, 1973; Celozzi, Kazelskis, & Gutsch, 1981; Hartman, 1969; Russell, 1992). In particular, Leith (1982) examined the effect of vicarious participation on subject aggressiveness. A sample of 60 secondary school males viewed either a co-operative, competitive, or competitive-aggressive film. The results indicated the three filmed physical activities differed significantly in the amount of aggression-eliciting potential. Further analysis revealed that subject aggressiveness was significantly greater after viewing a competitive-aggressive physical activity than the other two filmed physical nonaggressive activities.

Similar findings have emerged from field research, where it is more difficult to control the variables, but where behaviours can be observed in a more natural setting. DeNeui and Sachau (1996) examined whether aggression-related aspects of hockey, such as penalties, were more related to enjoyment of the game than nonaggressive aspects of the game, such as victory, saves, and shots. Subjects were asked to complete a survey after viewing a live intercollegiate hockey game, asking how enjoyable they found the game. In general, enjoyment was correlated more highly with aggression-related indices than nonaggressive indices. However, power play minutes were highly related to enjoyment of the game as an aggression index. Thus, the authors conceived that it was difficult to say whether hockey fans found the aggression enjoyable, or the mismatch (i.e., the awarding of a power play)
caused by the aggression enjoyable.

Thirer (1993) has suggested that if social learning is achieved through reinforcement and modelling, then aggressive behaviour in sport, and in particular hockey, is best explained through the socialization process. To examine how aggression receives societal approval, the social determinants of aggression must be examined.

**Social Determinants of Aggression**

According to Smith (1979b), social determinants of aggression and violence in hockey can be organized under three separate spheres: (a) the influence of player's interpersonal sources (coaches, parents, and teammates), (b) the social organization of the hockey system, and (c) the media's portrayals of violence. This section of the paper will now discuss each of these areas.

**Interpersonal Sources**

Interpersonal sources refer to persons and groups who influence directly another individual's attitudes or actions (Morra & Smith, 1995). Empirical data suggest that parents, teammates, and coaches are the most influential interpersonal individuals, especially for young hockey players (Smith, 1979b). Furthermore, according to Smith (1979b), players' perception of these others' approval or disapproval of aggression affects their own behaviour.

**Parents.** Parents communicate their attitudes on violence through various means which often include words and gestures (Smith, 1979b). In a thorough examination of this topic, Smith found that approval of violence existed for parents of hockey players. Six hundred and four hockey players were asked if their parents would approve of a minor hockey league player punching another player in four situations: (a) if ridiculed, (b) if threatened, (c) if
shoved, and (d) if punched by the other player. An index was created to rate the responses. Fathers had the highest level for approving hockey fighting. Moreover, approval increased with age and level of competition (i.e., house league versus select league). For instance, 41% of players aged eighteen to twenty-one years old said their father would approve of fighting in at least three of the four situations, compared to only 3% percent of players between the ages of twelve to thirteen. Also, 29% of select fathers would approve of their son's behaviour compared to 3% of house-league fathers. Mothers consistently did not approve of violent responses for their sons across all of the categories.

Smith (1979c) suggested "that players' perceptions of parental norms are essentially accurate" (p. 112). To understand this perspective, it helps to grasp the intensity of most parents' emotional involvement in their child's hockey, especially in the case of younger boys in competitive leagues. The majority of parents attended their child's game faithfully. They arrived at the arena, on average, an hour before game time. During games, parents from the same team sat together in the stands. They were completely immersed in the game and were attuned to the performance of their son (Smith 1979c). Catcalls and booing were directed at referees, opposing players, and opposing coaches. It was not uncommon to see verbal disagreements occurring between opposing parents. This type of behaviour suggested an overinvolvement from the parents.

At times, parents resorted to violent acts, such as hitting other adults. A CBC documentary "The Spirit of the Game" (Burman, 1993), showed the reactions of parents when their children were injured. A portion of the documentary focused on what happened to a 12-year-old boy during a Peewee game. An opponent hit the boy heavily from behind into
the boards, causing fractures to his left arm and shoulder. The game eventually turned into a free-for-all. The referee ended the game prematurely. One father, from the injured boy's team, approached the opposing coach, spat in his face and shoved him. Although this is one severe incident, it does highlight the importance of positive role models. Along the same line, parents have an effect on their son's behaviours. For example, Smith (1983) found that in the eyes of some parents, fighting has a character-building function. Some parents believe today's society is tough and hockey teaches their youngster how to take his "lumps."

**Teammates.** For many young hockey players violence is not an issue. However, as the athletes gets older, there is a greater likelihood that the games will become more violent and aggressive. Around the age of twelve, players begin to evaluate one another's gameness (Smith, 1979c). This is similar to the types of behaviours that occur with peer approval of violence in prisons, gangs, and the issue surrounding masculine identity (Horowitz & Schwartz, 1974). Respect is the goal and is achieved by courage, gameness, and a readiness to fight (Morra & Smith, 1995). Faulkner (1974) stated that "honor revolves around a player's capacity to move into trouble and command deferential treatment (i.e., respect)" (p. 292). Respect is lost if you back down, show lack of heart ("no guts"), and by "chickening out" (Morra & Smith, 1995).

Smith (1988) revealed that amateur hockey players perceived their teammates as more approving of fighting than their coaches or parents. Sixty-four percent of the players viewed other team members as approving of fighting (Morra & Smith, 1995). Faulkner (1974) also examined the ways players' interpret aggression in hockey. The data were obtained through observations of violent incidents and detailed interviews of 38 minor professional players.
Players who backed down from fights were labelled "chicken" from teammates and coaches. Moving away from trouble is a sign of weak character and personal failure (Faulkner, 1974). According to one player: "It's a tough game, if you cannot take the hitting then you should get out" (Faulkner, 1974, p. 300). It has also been found that players view fighting and other coercive acts as a mean of impressing coaches and management, although it is not the only way of creating a favourable evaluation (Faulkner, 1974; Smith, 1983). Players who demonstrated a reputation of not being intimidated by their opponent guarded against further aggression (Faulkner, 1974).

What individuals say and do in the presence of peers is one thing, but their private attitudes are another (Morra & Smith, 1995). In Smith's (1979c) survey, players were privately asked if they would prefer less fighting. Forty-five percent of players responded less would be better. Another question asked the players if they would like to see more, about the same, or less illegal stickwork. Eighty-two percent of players responded that they would like to see less stickwork.

Empirical data collected by Morra and Smith (1995) showed "the gap in violence approval between individuals and teammates closes with age, as does the gap between house-league and competitive-level players" (p. 149). Qualitative data suggested this is probably due to the socialization and selection process. As the less pro-violent get older, they quit hockey at faster rates than the more pro-violent. Further, as the less pro-violent who stay in hockey are socialized into the "culture of the game with age, and in competitive-level as opposed to house-league competition, they bring their attitudes increasingly into line with the attitudes they impute to their peers" (Smith, 1988, p. 310).
Coaches. Assuming acceptance of the social learning theory in regard to aggression in sport, it becomes obvious that coaches are in an influential position in the learning of aggression on the part of their athletes (Corran, 1980). In a survey conducted by Smith (1975), almost all of the 83 high school players stated that their coach would approve of a hard legal body-check. When the players were asked what qualities a coach looked for in selecting a player, many of them reported "being aggressive all the time", "physical size and strength", and "guts and courage." These types of findings are not surprising since aggressive play is sanctioned by the rules of the game (Morra & Smith, 1995).

In an extensive study on the culture of hockey, Vaz (1982) spent an entire hockey season in arenas gathering and recording conversational and interview data. In addition, he gathered information through 1,915 completed questionnaires. Players in the study ranged in age from seven to eighteen years and played either house-league or select level hockey. The study yielded many interesting results with regard to violence. The players were asked to list the three most important qualities a coach looked for in selecting a player for an Allstar team. Technical skills such as skating and shooting ranked first with 94.1%. Aggressiveness ranked second with 44.5%, and physical strength and size ranked third with 31.7%. According to Vaz "it seems likely that technical skills and the ability to be continually aggressive on the ice are the minimal qualities that are considered essential to the game" (p.17).

Vaz (1982) not only focused on players' perceptions and attitudes, but he also examined coaches' attitudes towards rule obedience. The coach's expectations of his players were clear, and the coach's attitudes toward violating rules were also firmly established. Rules are to be violated if it would help the team win games. For instance, a conservation
with a coach of a Midget select team exemplifies this issue:

Observer: If an opposing player has a breakaway and one of your players is behind him and he can't catch him, what should he do?

Coach: He should try to knock him down.

Observer: What's the best way to knock him down?

Coach: With his stick, chop his feet; that would be the best way.

Observer: Then it's OK to break the rule to save a goal?

Coach: [Nodding affirmatively] Rules are created because someone is going to break them and we might as well break them, to win a hockey game as somebody else. And if you couldn't break them, then there is no way you could be where you are right now. (Vaz, 1982, p. 74).

Overall, Vaz (1982) concluded that minor hockey coaches were influential in affecting the behaviours of their players. Coaches did not always respect the rules and sometimes encouraged illegal tactics in situations where a victory was possible.

A study conducted by Trudel, Guertin, Bernard, Boileau, and Marcotte (1991) examined the behaviour of ice hockey coaches at the bantam level. Specifically, they were interested in whether coaches acted aggressively and infringed upon the rules of the game, as suggested by the Néron report (1977). Trudel et al. (1991) analyzed eleven bantam select coaches from the Outaouais and Québec City region. The researchers videotaped 27 games using a split-screen technique, making it possible to view simultaneously the players in action as well as the coaches' behaviour. This procedure allowed the researchers to code and record the verbal and nonverbal behaviour of the coach within the game context. Analysis of the
videotapes revealed that coaches often exhorted their players to put more intensity in their physical contacts (legal body checking), but also often encouraged them to control themselves and avoid penalties. In general, the coaches displayed very little behaviour that encouraged violent actions from the players.

Comparable findings emerged from Côté, Trudel, Bernard, Boileau, and Marcotte's (1993) study of Bantam coaches' behaviour during game score differentials. Using the same split-screen technique as Trudel et al. (1991), coaches were observed in 65 games producing a total of 1,292 coaching behaviours: 1,288 being verbal behaviours and the remaining 4 being nonverbal behaviours. When a verbal and nonverbal behaviour happened simultaneously, only the verbal behaviour was recorded. The results showed the three behaviours of "encourages self-control/respect for rules", "encourages more intensity", and "disagrees with referee" represented 93% of all recorded coaching behaviours. The behaviour "encourages aggressive behaviour/violation of rules" represented only two percent of behaviours, suggesting coaches at the Bantam level do not directly encourage aggressive behaviour from their players.

On the other hand, when a coach was losing, he tended to "disagree with the referee" more often than if he was winning. Since disagreeing with the referee was mostly exhibited in a context when the coach was shouting at the referee, this behaviour was considered to be an aggressive coaching behaviour. In addition, the results showed that when a coach is losing, he encourages his players to play with more intensity. This in turn could be interpreted in two ways by his players: (a) play with more aggressiveness, or (b) play with more assertiveness. Since these two terms are often confused with one another, it should
come as no surprise that players could take this as a cue to be more aggressive instead of being more assertive.

In a qualitative study on Bantam level coaches and players, Trudel, Dionne, and Bernard (1992) conducted semi-structured interviews to investigate perceptions of violence in hockey. When asked if coaches disapproved of players getting penalties, 88% of coaches and 77% of players said coaches disapproved and even sanctioned players for too many useless penalties (40% coaches, 45% players).

Coaches and players were asked if there were too many minor aggression penalties (roughing, hooking, etc.) in hockey. Results revealed that 50% of coaches and 40% of players indicated there were too many minor aggression penalties. Both coaches and players agreed a lack of discipline was the major cause of minor aggressive penalties, followed by the body check.

When questioned about major aggression penalties (fighting, etc.), both coaches and players stated that at the bantam level there are few of these penalties and that they are not allowed (60% coaches, 68% players) and that major aggression penalties lead to a suspension. When asked the causes of major aggression penalties, 40% of coaches and 45% of players believed a lack of discipline, followed by protecting the goalie or a teammate (30% coaches, 45% players) were responsible.

According to the results, it would appear that coaches showed their disapproval toward certain type of penalties and imposed some sort of sanction, usually in the form of benching. However, the most interesting result obtained concerned the body check. Results suggested that players cannot control themselves after receiving a body check, even if the check was
legal. This confirmed previous studies that emphasized the importance of the body check in hockey (Trudel et al., 1991; Vaz, 1982), and its relation to the appearance of aggressive penalties (Boileau, Desharnais, & Larouche, 1986).

Smith (1979c) employed a combination of sources, methods, and investigators to explain violence in amateur hockey. A major portion of the data came from a sample consisting of 604 minor hockey league male players from Toronto, representing both select and house-league levels. According to players, coaches approved of the use of fighting. They encouraged physically aggressive play for what it symbolized and for its utility in winning games. As well, coaches do not approve of players taking penalties but accept them as a consequence of spirited, aggressive play. In addition, some coaches lose their composure in stressful situations. Smith witnessed many incidents like the following:

As the buzzer sounded to end a penalty-filled Peewee game, one boy appeared to spear another in the stomach....Coaches filed together down a corridor toward the dressing room. Coach A said to the player who was speared: "You have my permission to go and punch the shit out of that son-of-a-bitch," indicating the other player. The first player threw down his stick and gloves, charged his opponent, and began pummelling him from behind....Coach B attempted to pull him off [first player]; Coach A pushed Coach B. A short shoving match ensued which was finally broken up by bystanders (Smith, 1979c, p. 116-117).

Another example from Smith (1979c) reinforced the results obtained by Côté et al. (1993) regarding coaches' aggressive behaviours towards the referee. The following comment is verbatim from the referee's official report of a raucous Junior B game:
At this point the coach of the Belleville team, Reggie Sommers, took his gum out of his mouth and threw it towards the penalty box, where I was standing. He then picked up a helmet and threw it at me. It landed in the alleyway. It did not strike me. I immediately gave him a game misconduct. He then attempted to get at me. Steve Curti, the linesman, restrained him and finally the Belleville general manager, Charley Johnstone, moved him away. I had the Belleville General Manager call to the referee's room and asked for the procurement of policemen. This was done by the start of the third period (Smith, 1979c, p. 117).

A study by Luxbacher (1986) provided conflicting results to that of Trudel et al. (1991) and Côté et al. (1993). The study investigated the potential influence of the coach on soccer players' attitudes towards competition. The players were surveyed concerning four factors believed to affect the probability of aggression; reactive and instrumental aggression, moral view of sport, and professionalization. The data were collected using four self-report measures: (a) The Bredemeier Athletic Aggression Inventory (BAAGI) (Bredemeier, 1975) measured levels of reactive and instrumental aggression, (b) Heinila's (1974) questionnaire on players' attitude towards fair play was used to assess moral view of sport, (c) The Webb Professionalization of Play Scale (Webb, 1969) was used to assess players' attitudes towards professionalization, and (d) each of the above mentioned measures were related to the players' perception of how much their coaches placed upon achieving success by any means through a series of twelve statements.

In summary, analysis of 321 male soccer players from sixteen high school teams, aged 14-18, revealed the coach's influence to be a significant factor in determining the amount of
elicited aggression. Specifically, players who perceived their coach to have a win-at-all-costs attitude expressed significantly higher levels of aggression, were more inclined to use illegal tactics, and displayed a more professional attitude towards competition.

Although a cause-effect relationship cannot be supported since the study lacked rigorous controls, it appears that coaches can influence their players' perception. This is quite understandable since a player will conform to meet the coach's expectation to win a spot on the team and/or playing time.

Shields, Bredemeier, Gardner, and Bostrom (1995) examined group moral norms that support aggression and cheating in relation to leadership, cohesion, and demographic variables of teammates and coaches. The participants were 182 baseball and 116 softball players at the community college and high school level. In general, results showed that norms supporting aggression and cheating were associated with males more than females. Specifically, it is interesting to note that female athletes who had male coaches believed their teammates were more likely to aggress \((t = 3.38, df = 114, p < .001)\), and their coaches were more accepting of such behaviours \((t = 2.76, df = 114, p < .01)\), than female athletes who had a female coach. Due to the exploratory nature of this study, caution must be taken when interpreting the results. Nonetheless, the findings are important if future research substantiates the role of the coach in promoting transgressive moral norms that support cheating and aggression (Shields et al., 1995).

In an attempt to utilize players' perceptions of their coach's goal orientation, Stephens and Bredemeier (1996) investigated aggression in young soccer girls \((N = 212)\) from two different age-group leagues: under 12 and under 14 years. To assess perceived coach-goal
orientation, Stephens and Bredemeier (1996) measured players' perceptions of the degree of importance their coach placed on task- and ego-involved goals using a modified version of The Task and Ego Orientation in Sport Questionnaire (TEOSQ). The revised instrument was termed TEOSQ - PPC (Player's Perception of Coach). Task-oriented individuals utilize self-referenced comparisons for determining success, such as skill improvement and task mastery. Ego-oriented individuals, on the other hand, may employ extra-legal aggression as a method to display competence at a complex sport task through physical dominance, rather than superior physical skills.

Results indicated that players' perceptions of their coaches' goal orientation were found to be significantly correlated with their own; task, $r(209) = .29$, $p < .001$; ego, $r(209) = .41$, $p < .001$. The results tended to suggest that the likelihood to aggress is significantly predicted by players' perceptions of their coach's ego orientation (Stephens & Bredemeier, 1996).

In the context of sport, it would appear the coach is a powerful, influential individual. Overall, the research suggests that coaches encourage aggressive play, either directly (Smith, 1979c; Vaz, 1982;) indirectly (Côté et al., 1993) or through their perceived goal orientation (Stephens & Bredemeier, 1996). This appears to be the case both for what it symbolizes and for its utility in winning games.

Social Organization of Hockey

Typically, Canadian boys enter organized hockey around the age of seven (Smith, 1979b). Fighting and other illegal forms of assault are usually discouraged at these younger ages. However, as age increases, the criteria for player evaluation changes. At the midget
level of competition (i.e., age fifteen), "coaches are looking for players who can deliver and withstand illegal physical coercion; indeed some youngsters at this age are upwardly mobile primarily because they are good fighters" (Smith, 1979b, p. 76). Vaz (1976) also found that when boys reach sixteen or seventeen years of age, the obligation to "produce" or to perform in an aggressive manner became normative. Vaz suggested the larger amount of physical aggression, especially fighting, that occurs at the Midget and Junior levels was a normative behaviour, and was accepted within the sport of hockey. It was learned during the socialization of the youngster, and became part of the role expectations of the player. If boys are to play hockey professionally, they must demonstrate their potential by age thirteen or fourteen. As a result, there is an increased emphasis on: (a) body contact, (b) aggressiveness, (c) physical size, and (d) winning.

The coaches are major sources of learning in the socialization of the developing player. As boys progress to the Midget level (fifteen to seventeen years), the value of winning increases even more. At this level, the coach concentrates on the technical aspects of "playing the man" and the subtler methods of "hitting" an opponent and "taking him out" (Vaz, 1976). In the same vein, Bloom and Smith (1996) found that older hockey players, playing in more competitive leagues, were more likely to approve of violent acts and to act violently in non-hockey settings. In addition, select-league players were more likely to fight in other sport settings than either house-league players or nonplayers.

**Media Portrayal**

A common belief is that the media are influential, powerful, and persuasive. Many people, including coaches, despise the media for promoting values such as fighting and
attitudes like winning at all costs (Hall, Slack, Smith, & Whitson, 1991). Regardless, the consumption of the media over many decades have made an impression on sports (Smith, 1979b).

Newspapers, radio, and television are vehicles for the consumption of sport. In a study conducted by Smith (1978), 53% of minor and junior hockey players from the Toronto area, and 39% of their non-playing peers read about hockey in newspapers. Approximately 70% of these players and 60% of the non-players watched at least one hockey game per week on television. This demonstrates, to some extent, the importance of the media to young Canadian hockey players.

In an experiment conducted by Zillman, Bryant and Sapolsky (1979), the effects of commentary on sports violence was investigated. More specifically, the experiment looked at the effects of rough play in professional hockey. "Very rough" and "not-so-rough" portions of a televised game were videotaped and shown with and without commentary to groups of subjects. In the no-commentary groups, the very rough play received a high enjoyment rating. In the commentary groups, the not-so-rough play videotape gained the highest rating because the broadcasters made the play seem rougher than it actually was, altering viewers' perceptions of the action. The result of their study indicated that when the media tended to glorify violence, enjoyment increased among the viewer.

In a related study, Sullivan (1991) investigated the impact of television commentary on viewers' perception of violent behaviour. A segment of a heated basketball game between Georgetown and Syracuse served as the stimulus. Subjects viewed one of three video segments: (a) dramatic commentary treatment contradicting the visual evidence as to which
team was the aggressor, (b) neutral commentary that was descriptive and nonjudgmental, or (c) a segment with no commentary. The results revealed that the type of commentary does make a difference in viewer acceptance of violence. The video segment presented with dramatic commentary produced more hostile responses from participants than from the neutral or no commentary treatment conditions. In addition, men were more likely to enjoy fighting in the game segment than women.

Researchers have resorted to a variety of methods when measuring aggression. In the past few decades, an alternative means of measuring aggression has emerged, where rule violations are recorded by game officials. The behaviours in question are aggressive penalties (Russell & Russell, 1984).

Penalties as a Measure of Aggression

A category of aggression measurement that has been used, particularly in the sport of hockey, is penalties. For the most part, the total number of penalty minutes accumulated by individuals and/or teams have been used to assess aggression (Widmeyer & Birch, 1979; Worrell & Harris, 1986). This type of measurement addresses only those violations that are outside of the rules. This is problematic for two reasons. First, the procedure relies on the observations of a third party, in this case the referee. As a result, it is possible that some acts, including aggressive ones, go unnoticed while others are penalized which are not actually intended to do harm (Widmeyer & McGuire, 1997). Since referees are rotated randomly through the various leagues and age levels, it is assumed that errors in observation and interpretation are distributed evenly for all teams (Widmeyer & McGuire, 1997). In fact, Audette, Trudel, and Bernard (1994) reported that the number of different types of penalties
assessed by National Hockey League (NHL) referees from the 1978 season until the end of the 1988 season were not significantly different. In addition, Widmeyer and McGuire (1997), citing Katorji and Cahoon (1992), found that only 4.8% of aggressive acts seen by two independent observers went unnoticed by referees in Junior B hockey games. Therefore, the fact that some aggressive acts go unnoticed is likely to have only a minor impact on the examination of aggressive behaviour in which penalties are the measure of aggression (Widmeyer & McGuire, 1997).

The second problem is that penalized measures overlook one of the fundamental principles in defining aggression: that of intent to injure. In an attempt to remedy this problem, Widmeyer and Birch (1984) interviewed National Hockey League officials and players as to which types of penalized acts were committed with the intent to inflict harm, whether it be instrumental or hostile. Their findings suggested the following behaviours were committed with the intent to do harm: slashing, spearing, high-sticking, butt-ending, cross-checking, charging, boarding, kneeing, elbowing, roughing, and fighting. This operationalization was subsequently verified by interviewing 36 professional and 40 semiprofessional players. These players indicated that intent to injure was the predominant reason why players committed those acts which received penalties. This distinction was based upon an earlier study (Widmeyer & Birch, 1978) where 46 elite hockey players indicated these acts were committed to harm an opponent 80% of the time.

Further to this, McCarthy and Kelly (1978) attempted to distinguish instrumental from hostile aggression by differentiating penalties that slow down the play of the opponent, an accepted strategy, which at times draws penalties; and those penalties deemed excessively
aggressive. Hostile aggression was classified as follows: elbowing, slashing, boarding, charging, roughing, cross-checking, high-sticking, butt-ending, fighting, misconduct, spearing, kneeing, and disqualification. Instrumental aggression included the following: tripping, hooking, holding, interference, leaving feet, pushing, and illegal use of hands. In their study, using an archival approach, college players who received the highest number of penalties over their four year career received significantly more hostile aggression penalties than those players with the lowest number of overall penalties.

Using the records of all 432 games played in the Western Hockey League, Russell and Russell (1984) attempted to evaluate the dimensionality underlying aggressive penalties recorded by game officials. Aggression was operationalized as the total number of penalty minutes awarded for each of the 19 aggressive infractions. Results of a principal components analysis with a varimax rotation indicated an eight-dimensional solution, accounting for 59.2% of the total variance. The following eight dimensions evolved:

1. Attack (charging, slashing, and cross-checking): initiation of an altercation with an opponent;

2. Fighting (game misconduct and fighting): bare knuckle fight despite the efforts of game officials to intervene;

3. Fractious (high-sticking, roughing, misconduct, and elbowing): exchange of blows with risk of fight but opponents remained in possession of sticks and gloves.

4. Obstruction (tripping, holding, and unsportsmanlike conduct): attempts to disrupt or impede the play of opponents;

5. Boarding (boarding and match misconduct): a fairly common violation and the
ensuing match penalty for retaliation;

6. Interference A (interference, spearing, and unsportsmanlike conduct): includes meddlesome and provocative behaviours, sometimes aimed at game officials;

7. Interference B (gross misconduct, hooking, and holding): attempt of players to adversely affect the play of those they are assigned to cover.

8. Covert aggression (butt-ending and elbowing): the two most easily disguised acts of physical aggression. The authors concluded that aggression is multiply determined. In other words, each penalty is an independent act and arises in response to a different set of motives and circumstances. In addition, the fact that all penalties individually showed substantial loadings on just one of the dimensions, with a few exceptions, the authors concluded the general practice of combining total penalty minutes as a measure of aggression is defensible (Russell & Russell, 1984).

In summary, the majority of previous research has attempted to assess aggression by using, for the most part, the total number of penalty minutes accumulated by individuals and/or teams. However, the methodology has become progressively more precise over the years, whereas Widmeyer and Birch (1979) recorded only the number of penalty minutes, and McCarthy and Kelly (1978) classified penalties into either hostile or instrumental types.

Conclusion

The area of aggression has employed several theoretical foundations to assess aggression in sports. The majority of research has used a social learning perspective with equivocal contributions from instinct and frustration theories; and recently a new perspective has emerged with the development of a moral reasoning theory. More specifically, past
research has shown that parents and coaches strongly influence youths who play minor hockey (Smith, 1979a, 1979c, 1983; Vaz, 1982). These studies and others showed how coaches and parents, in addition to professional hockey, instill highly aggressive attitudes in young minor hockey players (Morra & Smith, 1995). As a minor hockey player advances through the ranks, the likelihood increases that he will use highly aggressive acts to play the sport (Colburn, 1985).

Although there have been numerous studies examining aggression in sport, the majority of studies have focused on participants, coaches, or spectators. There are few studies that have examined the coach/player relationship in regards to aggression. The studies that have been conducted on the coach/player relationship are primarily based on players' perceptions of their coach and vice versa. In addition, no study has examined coach and player aggression level and type, and the type of displayed aggression, to shed insight onto the problem of aggression in sport.

The importance of the coach as a role model cannot be underestimated. Players often look to their coach for advice and guidance. Furthermore, coaches have the opportunity and the responsibility to affect players' behaviours. If a coach creates an environment that fosters athletes' aggressiveness, occurrences of this behaviour will be more frequent and continued to be legitimated. As a result, the purpose of the present study was to examine coaches' and teams' views on aggression and the displayed aggression of those teams.
CHAPTER THREE

Method

Sample

Thirty competitive level minor male hockey teams, including head coach (range in age of 29-52 years, \( M = 42, \text{SD} = 6.8, N = 30 \)), and players (range in age of 10-15 years, \( N = 171 \), rate of return of 38%), were recruited from the Southern Ontario region. The level of competition included: Atom (10-11 years old), Peewee (12-13 years old) and, Bantam (14-15 years old) select. These levels were purposefully chosen for two reasons: first, the competitive level was chosen since body checking is not permitted at any age in the house league system. At the Atom, Peewee and, Bantam age level, body checking is legal and permitted. Second, as there is a greater emphasis on winning at these levels, players must try out for positions on the team.

Questionnaire

The questionnaire in the present study was an adapted short version of the Bredemeier Athletic Aggression Inventory (BAAGI) (1975): a self-report instrument, used to assess perceived aggression. In other words, the BAAGI, and subsequently the Bredemeier Athletic Aggression Inventory-Short Form (BAAGI-S), is used to assess self-described motives, hostile or instrumental, for aggression in sport contexts.

The BAAGI-S was developed from the Bredemeier Athletic Aggression Inventory (BAAGI). The BAAGI has 100 items, divided equally into the two scales of hostile and instrumental aggression. Testing of the instrument with female college athletes (\( N = 166 \)) provided support for the BAAGI's discriminant and construct validity. The hostile scale of
the BAAGI was found to be significantly correlated to the Buss-Durkee (1957) assault ($r = - .36, p < .01$), verbal ($r = -.32, p < .01$), and total ($r = -.54, p < .01$) hostility subscales, with high levels of hostile aggression associated with high levels of assault and hostility. High scores on the instrumental scale correlated with low scores on the verbal ($r = .27, p < .01$) and total ($r = .33, p < .01$) hostility subscales, but not on the assault subscale ($r = .12, \text{ns}$). Significant correlations on the Crowne Marlowe Social Desirability Scale scores (Crowne & Marlowe, 1960) and hostile ($r = .34, p < .01$) and instrumental aggression ($r = -.46, p < .01$) indicated that instrumental aggression was socially more desirable, whereas hostile aggression was viewed as socially undesirable. Thus, the BAAGI demonstrated reasonable discriminant validity with constructs of other kinds and construct validity.

Alpha reliability coefficients of .90 on the hostile scale and .86 on the instrumental scale indicated that the scales have good internal consistency. Cozby (1997) has indicated a measure to be reliable with a correlation coefficient of at least .80.

A shorter version of the BAAGI is desired for research situations (Wall & Gruber, 1986). The BAAGI-S has 30 statements, 15 for each of the aggression types which are evaluated on a 4-point Likert scale: strong agreement, agreement, disagreement, or strong disagreement. High scores indicated low levels of aggression, whereas low scores indicated high levels of aggression. Two criteria were used in selecting items for the BAAGI-S. First, 15 items were selected that had the highest factor loadings on each factor of the original inventory. Second, all 30 items assessed elements of anger, hostility, and frustration toward the self and/or intent to harm an opponent (Wall & Gruber, 1986).

The BAAGI and the BAAGI-S have been administered to intercollegiate athletes
(Bredemeier, 1975; Wall & Gruber, 1986; Worrell & Harris, 1986). However, in the context of the present study, an adapted version was required for both minor hockey coaches and players. The BAAGI-S for hockey coaches (Appendix B) was developed using the 30 statements from the BAAGI-S, and modifying the statements from an athletic to a coaching perspective. The modifications were made by a panel of three minor hockey coaches, and approved by a linguistics expert from the University of Ottawa. An example statement from the BAAGI-S for minor hockey coaches: "I am usually calm and poised before coaching an athletic event." Modifications to the BAAGI-S for minor hockey players (Appendix E) were made by the researcher to make the questionnaire readable for minor atom-aged players. Then, three minor atom players were administered the questionnaire and asked to underline any words or statements that were unclear. Once changes were made to the questionnaire for minor hockey players, the modifications were once again approved by a linguistics expert from the University of Ottawa. In addition, the questionnaire also went through a readability test. The readability test displayed information about the reading level of the questionnaire, including the following readability scores. Each readability score based its rating on the average number of syllables per word and words per sentence. In this case, the Flesch-Kincaid Grade Level test was conducted using Microsoft Word97, which rated the questionnaire on a grade-school level. For instance, a score of 8.0 indicates that an eighth grader can understand the document. In the present study, a score of 3.5 was obtained indicating minor atom-aged players could understand the survey. An example item from the BAAGI-S for minor hockey players would read as follows: "At times I feel like I could hurt another player."


Measurement

The variables in the present study were classified as either observational or nonindependent variables. Each of these is discussed below.

Observational variables. The following three variables were used in the present study:

1. Recorded aggression. The assessment of recorded aggression that occurs on the ice was determined using regular season game report sheets from participating teams. On the game report sheets, all penalties that were awarded by the referee are indicated, including both aggressive and nonaggressive types. Using McCarthy and Kelly's (1978) framework that distinguishes instrumental from hostile aggression penalties in ice hockey, all aggressive penalties were classified under one of the two categories. Hostile aggression violations included elbowing, slashing, boarding, roughing, cross-checking, high-sticking, butt-ending, fighting, misconduct, spearing, and kneeing. A panel of three experts also determined that at the minor hockey league level, hostile aggression penalties also included those of checking from behind, charging, and face masking. Instrumental aggression included penalties for tripping, hooking, holding, and interference.

Since three different time penalties exist in the sport of hockey; --two, five and ten minute infractions-- a measure of aggression in terms of total penalty minutes could be misleading. To avoid possible artificial results based on inflated times, the present study recorded the total number of penalties rather than the total time (McCarthy & Kelly, 1978).

2. Teams' perceived view of aggression. This category was derived from the BAAGI-S for minor hockey players. Teams' perceived view of aggression was divided into 2 categories: amount of perceived hostile aggression, and amount of perceived instrumental
aggression. Since the teams sampled in the present study had varying numbers of players per team, ranging from eleven to seventeen, an average of a team's perceived view of aggression was calculated.

3. Coaches' perceived aggression. This variable was derived from the BAAGI-S items for hockey coaches, and distinguishes between hostile and instrumental aggression. As a result, coaches' perceived aggression was divided into 2 categories: the amount of perceived hostile aggression and the amount of perceived instrumental aggression.

Nonmanipulated independent variable. There was only one nonmanipulated independent variable used in the present study. The level of play of the minor hockey teams and coaches was divided into Atom, and Peewee/Bantam.

Procedure

Hockey teams were recruited by telephoning the president or general manager of minor hockey organizations, and informing these individuals of the study. After they agreed to allow the study to involve teams from their organization, a list of coach's names and telephone numbers was provided to the researcher. In terms of sampling procedure, coaches were selected based on their geographic location. Coaches from the Greater Toronto Hockey League (GTHL) and the Ontario Minor Hockey Association (OMHA) were considered for this study. The reason for selecting the GTHL and OMHA is that both of these minor hockey associations are located within driving distance of Toronto.

Coaches were then contacted by telephone informing them of the study, and asking if they would like to participate (Appendix F). If verbal participatory consent was obtained, the researcher arranged a convenient time (prior to or after a game or practice) to meet with the
coach and players at the arena and to distribute the questionnaires. At the arena, coaches received a package containing an informed consent form (Appendix A), explaining the nature of the research. A modified version of the BAAGI-S for hockey coaches (Appendix B) was also enclosed. Coaches were then instructed to complete the questionnaire. While coaches completed the questionnaire, the researcher was not present in the same room to avoid biased responses from the coaches. The researcher was, however, stationed nearby to answer any questions that might arise. To ensure anonymity, the coaches were instructed to place the completed questionnaire, the informed consent form, and game report sheets in a sealed number-coded envelope provided by the researcher.

Next, each player received a package to take home. It included a questionnaire (Appendix E), a parental consent form (Appendix C), a player assent form (Appendix D) and a stamped envelope with the researcher's address printed on the front of the envelope. The players were advised that in order to participate in the study, both consent forms must be signed. The players were reminded to complete the questionnaire alone at home, to avoid contaminating the findings. Finally, the players were asked to return the package as soon as possible (Appendix G). To ensure anonymity, each player's envelope was number-coded to match his respective team. If, at any time a coach withdrew from the study, the players affiliated with that coach became ineligible for inclusion in the study. As a result, all the data for that particular team were destroyed.

**Statistical Analyses of the Data**

The present study employed Pearson correlations, paired $t$ tests, and $t$ test for independent means. The correlational method (MacNealy, 1999) was used to assess the
relationships among coach, team, and recorded aggressive acts. The paired $t$ test (Shavelson, 1996) was used to determine whether levels of instrumental and hostile aggression differed for coach, team, and recorded aggression variables. Independent $t$ tests (Shavelson, 1996) were conducted to determine if there were any differences between aggression (hostile and instrumental) and level of play on the three observational variables. A criterion level of .05 with Bonferroni correction (Cone & Foster, 1993) was set for the study unless otherwise noted. The Bonferroni correction was used since multiple tests were conducted. As a result, the Bonferroni correction controls the overall error rate by setting the error rate for each test to the experimentwise error rate divided by the total number of tests. Hence, the observed significance level is adjusted for the fact that multiple comparisons are being made. All of the statistical procedures, including sample size, were supported by a statistical consultant from the University of Toronto.
CHAPTER FOUR

Results

The sport of hockey is one of many sports where aggression and violence is legitimated. Within the context of sport, the coach is a potential influential individual. Coaches occupy a position which ensures that the incidence of aggression and violence are held to a minimal level. To test a number of hypotheses related to minor hockey coaches and their teams, various analyses were performed using the three observational variables of aggression (coaches' perceived aggression, teams' perceived aggression, and teams' recorded aggressive acts) and level of play (atom or peewee/bantam). Each measure of aggression was also divided into 2 categories: hostile and instrumental aggression.

Thirty-eight percent of minor hockey league players returned their questionnaire. In addition, two teams had to be dropped, since they did not provide the researcher with their game report sheets. In the present study, there were fifteen coaches from the Atom level, six coaches from the Peewee level, and nine coaches from Bantam level.

Each item on the BAAGI-S is scored on a 4-point Likert-type scale. High scores indicated low levels of aggression, whereas low scores indicated high levels of aggression. For instance, scores on the BAAGI-S could range anywhere from 15 to 60 for both instrumental or hostile types of aggression. Although the BAAGI and BAAGI-S are often used instrument to measure aggression, there are no norms that have been established.

In the present study, scores from the BAAGI-S for minor hockey coaches produced a range of 34-58 for hostile aggression, and 21-44 for instrumental aggression. The BAAGI-S for minor hockey players produced scores ranging from 30-47 for hostile aggression and, 26-
42 for instrumental aggression. Recorded aggression scores ranged from 0.34-4.07 average number of penalties per game for hostile aggression, and 0.50-1.9 average number of penalties per game for instrumental aggression. Table 1 shows the mean scores and standard deviations for all aggression variables.

Table 1

**Mean Scores and Standard Deviations for All Aggression Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile Aggression</td>
<td>48.40</td>
<td>5.24</td>
</tr>
<tr>
<td>Instrumental Aggression</td>
<td>31.13</td>
<td>5.04</td>
</tr>
<tr>
<td>Teams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile Aggression</td>
<td>39.10</td>
<td>4.33</td>
</tr>
<tr>
<td>Instrumental Aggression</td>
<td>32.90</td>
<td>4.09</td>
</tr>
<tr>
<td>Recorded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile Aggression</td>
<td>2.14</td>
<td>.90</td>
</tr>
<tr>
<td>Instrumental Aggression</td>
<td>1.13</td>
<td>.37</td>
</tr>
</tbody>
</table>

**Note.** The higher the mean score, the lower the aggression for Coaches and Teams.

Recorded aggression mean scores represent the average of penalties per game.

With respect to level of play, scores from the BAAGI-S for minor hockey coaches at the atom level ranged from 34-54 for hostile aggression, and 21-44 for instrumental aggression. As for the Peewee/Bantam level, coaches' scores ranged from 42-58 for hostile
aggression, and 25-39 for instrumental aggression. Scores from the BAAGI-S for minor hockey players at the atom level ranged from 34-47 for hostile aggression, and 26-35 for instrumental aggression. At the Peewee/Bantam level, team scores ranged from 30-44 for hostile aggression, and 29-42 for instrumental aggression. Recorded aggression at the atom level produced a range of 0.34-1.30 average number of penalties per game for hostile aggression, and 0.67-1.30 average number of penalties per game for instrumental aggression. At the Peewee/Bantam level, recorded aggression scores ranged from 1.30-4.07 average number of penalties per game for hostile aggression and, 0.50-1.94 average number of penalties per game for instrumental aggression. Table 2 shows the means scores for the three measures of aggression by level of play.

To determine if there were any differences in aggression between levels of play, independent $t$ tests were conducted on each of the aggression types. The findings indicate that level of play and recorded hostile aggression were statistically significant ($t$ (28) = -4.76, $p < .008$). As for recorded instrumental aggression and level of play, the results reveal a statistically significant difference ($t$ (28) = -3.14, $p < .008$). For teams' recorded aggression, the results indicate a statistically significant difference for both hostile ($t$ (28) = 3.00, $p < .008$) and instrumental aggression ($t$ (28) = -4.80, $p < .008$) in relation to level of play. However, the findings show a nonsignificant difference for level of play and coaches' hostile aggression ($t$ (28) = -.98, $p = ns$). As well, a nonsignificant difference was found in relation to level of play and coaches' instrumental aggression ($t$ (28) = .65, $p = ns$).

Correlational analyses were conducted to assess the relationships among coaches', teams', and recorded aggressive acts' for both hostile and instrumental aggression. The results
are presented in Table 3. The teams' instrumental aggression and recorded instrumental aggression correlated positively at a significant level ($r = -.56$, $p < .003$). The results also indicated that there were no significant relationships on instrumental aggression scores between the coach and team ($r = .15$, $p = \text{ns}$). There was also a nonsignificant relationship between coaches' instrumental aggression scores and recorded instrumental aggression scores ($r = .16$, $p = \text{ns}$).

For hostile aggression, team and recorded aggression scores correlated negatively at a significant level ($r = .69$, $p < .003$). As well, the findings in Table 3 show that there were no significant relationships on hostile aggression scores between the coach and team ($r = .19$, $p = \text{ns}$). As well, a nonsignificant relationship was found between coaches' hostile aggression scores and recorded hostile aggression scores ($r = .14$, $p = \text{ns}$).

In order to ascertain if there was a difference between levels of instrumental and hostile aggression, paired $t$ tests were conducted for coaches, teams, and recorded aggression. Results of the paired $t$ tests indicated that coaches significantly scored perceived instrumental aggression higher than perceived hostile aggression ($t (29) = 11.5$, $p < .017$, two-tailed). Similarly, minor hockey league players significantly scored perceived instrumental aggression higher than perceived hostile aggression ($t (29) = 4.3$, $p < .017$, two-tailed). On the other hand, recorded aggression scores indicated that hostile aggression was higher than instrumental aggression ($t (29) = 8.1$, $p < .017$, two-tailed).
Table 2

**Mean Aggression Scores per Level of Play**

<table>
<thead>
<tr>
<th>Type of Aggression</th>
<th>Level of Play</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Atom</td>
</tr>
<tr>
<td>Hostile</td>
<td></td>
</tr>
<tr>
<td>Coaches</td>
<td>47.47</td>
</tr>
<tr>
<td>Teams</td>
<td>41.20</td>
</tr>
<tr>
<td>Recorded</td>
<td>1.55</td>
</tr>
<tr>
<td>Instrumental</td>
<td></td>
</tr>
<tr>
<td>Coaches</td>
<td>31.73</td>
</tr>
<tr>
<td>Teams</td>
<td>30.20</td>
</tr>
<tr>
<td>Recorded</td>
<td>0.94</td>
</tr>
</tbody>
</table>

*Note.* The higher the mean score, the lower the aggression for Coaches and Teams.

Recorded aggression mean scores represent the average number of penalties per game.
Table 3

**Intercorrelations Between Subscales for Hostile and Instrumental Aggression**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hostile</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Coaches</td>
<td>--</td>
<td>.19</td>
<td>.14</td>
</tr>
<tr>
<td>2. Teams</td>
<td>--</td>
<td>--</td>
<td>-.56**</td>
</tr>
<tr>
<td>3. Recorded</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td><strong>Instrumental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Coaches</td>
<td>--</td>
<td>.15</td>
<td>.16</td>
</tr>
<tr>
<td>2. Teams</td>
<td>--</td>
<td>--</td>
<td>.69**</td>
</tr>
<tr>
<td>3. Recorded</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* **p < .01** with Bonferroni correction. Subscales 1, 2, and 3 refer to coaches, teams, and recorded aggression respectively.
CHAPTER FIVE

Discussion

In general, the results of this study demonstrate that minor hockey league coaches and players differ on perceived and recorded aggression. Peewee and Bantam teams were more approving of hostile aggression than their Atom counterparts. In addition, Peewee and Bantam teams were awarded more hostile penalties than instrumental penalties by the referees than Atom teams. Minor hockey league coaches, regardless on level, did not differ on their perceived aggression. The first part of this section will examine the variables, observational and nonmanipulated, in relation to the area of aggression in minor hockey. The final part of this section will examine the implications and limitations of the present study.

Level of Play

Congruent with previous research, it was hypothesized that the level of play would influence the amount of perceived and recorded aggression. More specifically, as the level of play increased from Atom to Peewee/Bantam, there would be higher amounts of perceived aggression by teams. The results of this study support this hypothesis, indicating that as the level of play increased, so did the levels of perceived team hostile aggression. The Peewee/Bantam teams viewed hostile aggression as more acceptable than the Atom teams. However, the finding of higher approval for perceived team instrumental aggression at the Atom level was unexpected. Perhaps, as players proceed through minor hockey, they realize what is required to become upwardly mobile. Players quickly learn what is required for them to continue in hockey. At the Atom level, the notion of being violent and aggressive is not an issue. At this level, the focus is on teaching and development of skills. Players at this
level are learning the fundamentals of the game. It could be argued that atom players may use instrumental aggression to compensate for their lack of skill. Nonetheless, as the players progress, they quickly learn what it takes to advance (Smith, 1979b). If these young boys are to succeed in hockey, they are expected to demonstrate their potential no later than Peewee or Bantam. It is at this level that the criteria for player evaluation changes (Vaz, 1976). Players are expected to be continuously aggressive, and a greater emphasis is placed on winning.

Smith (1979b) found that hockey players were in widespread agreement regarding the usefulness of rough play. Furthermore, this trend increased sharply with age.

It was also hypothesized that as level of play increased, there would be higher amounts of perceived aggression by the coaches. However, the results do not support this hypothesis for either perceived hostile, or perceived instrumental aggression. It would appear that regardless of level of play, coaches tend to exhibit the same levels of perceived aggression for both hostile and instrumental aggression types. This result is very interesting.

Previous research (McMurtry, 1974) has suggested that one of the major causes of violence in amateur hockey was the influence of professional hockey, including coaches. Although the influence of professional hockey is a major source of learning for young players, the influence of the minor hockey league coach cannot be underestimated. It would appear that the structure of minor hockey, through to the professional ranks, is conducive for fostering an environment which allows players to conform to prevailing occupational standards (Faulkner, 1974; Smith, 1979b). Using multiple research operations, Smith (1979b) and Vaz (1976), found that minor hockey coaches did not always respect the rules, and often encouraged illegal tactics in situations where a victory was possible. However, when a direct
observational method was utilized, Trudel, Guertin, Bernard, Boileau and Marcotte (1991) found that coaches stressed the avoidance of needless penalties. In general, the coaches from the Trudel et al. study displayed very little behaviour that encouraged violent actions from the players. However, a fine line exists between behavioural categories of instrumental and hostile aggression in hockey situations. Nonetheless, the results of the present study would tend to support both the Smith (1979b) and Vaz (1976) results along with the Trudel et al. results. In those studies, no distinction was made between instrumental and hostile aggression. It would appear that Smith and Vaz found that coaches encouraged more the use of instrumental aggression. On the other hand, it would appear that Trudel et al. found little evidence that favoured the use of hostile aggression. Future studies are needed, using a direct observational method, to determine the types of aggression that influence coaches.

Finally, it was also hypothesized that as level of play increased, there would be higher amounts of recorded aggression. The results of this study revealed that both hostile and instrumental aggression increased from the Atom to the Peewee/Bantam group. In other words, the Peewee/Bantam group received, on average, more hostile and instrumental penalties than the Atom group. This result comes as no surprise. Weinstein, Smith, and Wiesenthal (1995) found Junior A hockey players were more violent than Bantam players. These authors used penalty minutes as an indicator of violence. In addition, Smith (1979a), using minor hockey league players, found higher incidence of fights and major penalties among older, higher-level players as compared to younger, less-competitive players. In the present study, it would appear the socialization process that players follow through the ranks, where there is a greater emphasis on intimidation, may provide one explanation for the
increased aggression in hockey. Since the present study contained only two groups, Atom and Peewee/Bantam, future studies should include a wide range of levels of play. Furthermore, the results of increased aggression as age increases contradicts the findings of Bredemeier and Shields' (1984) moral reasoning theory. Bredemeier and Shields found as collegiate female and male basketball players' age increased, their levels of aggression decreased. Future studies utilizing a moral reasoning theory should include various sports, team and individual, and various ages (i.e., youth sport versus collegiate sport).

**The Relationship Among Observational Variables**

It was hypothesized that there would be a positive relationship among coach, team, and recorded aggression. In other words, teams' perceived aggression would be related to a teams' recorded aggression. Similarly, teams' perceived aggression would be associated with coaches' perceived aggression. Finally, coaches' perceived aggression would be related to recorded aggression levels. Consequently, a series of correlations were conducted for both hostile and instrumental aggression. It produced a total of six correlations: three for each of hostile and instrumental aggression.

The results revealed that only team perceived and recorded aggression were significantly correlated for both instrumental and hostile aggression. For hostile aggression, higher levels of team perceived hostile aggression was associated with higher amounts of recorded hostile aggression. In other words, the more a team approved of hostile aggression, the more hostile type penalties they received. This result comes as no surprise. Smith (1979a) tested the violent subculture hypothesis as it applied to hockey, which stated that violent individuals put significantly greater importance than nonviolent individuals on values
and attitudes supportive of violence. Smith's results found that hockey players who fought more and got more major penalties displayed a more proviolence value-attitude pattern than nonviolent players and nonplayers.

As for instrumental aggression, the opposite occurred. Teams that perceived themselves to be less approving of instrumental aggression received more instrumental type penalties. Even though teams did not approve of instrumental aggression, their actions on the ice indicated otherwise. Perhaps this is best explained by what is known as the instrumental orientation of players. Previous research by Faulkner (1974) and Smith (1979a), demonstrated that illegal infractions in hockey sometimes reflect an occupationally directed and controlled method of achieving an approved end (e.g., winning the game, career advancement). As Colburn (1985) noted, such violence can be referred to as instrumental for the reason that it is engaged in by a player not as an end in itself, but rather as a means to the realization of some other end. Furthermore, Colburn has suggested that players engage in such activity because "what is at stake in their conduct are such social goods as self-esteem, honor and respect which are intrinsically, if not extrinsically, rewarding and valuable" (p. 154). As a result, players do not perceive instrumental behaviours as aggressive since this type of aggression is associated with values that are socially desirable.

It was also hypothesized that teams' perceived aggression would correspond with that of coaches' perceived aggression. The results do not support this hypothesis. The results of the present study indicate that teams' attitudes on aggression are not related to coaches' attitudes. This result was unexpected. However, previous findings (Luxbacher, 1986) have shown that players who perceived their coach to have a win-at-all-cost attitude displayed
higher levels of aggression. As well, an athlete's perception of their coach's ego orientation was found to be a predictor of the likelihood to aggress. In addition, Stephens and Bredemeier (1996) found that athletes who described themselves as more likely to aggress were more likely to perceive their coach as placing greater importance on ego-oriented goals (demonstrating superior abilities; success is other-referenced). In comparing the results of the present study with those of prior research it would appear that coaches' behaviours are influential as to whether athletes are going to be aggressive. Much of the previous research, as well as the present study, examined either the athletes' perception of themselves or only of their coach. Few studies exist that take both perceived aggression of coach and athlete into account from an athlete's perspective. Future studies should examine the difference between a player's perceived aggression and a player's perception of their coach's aggression level.

It was hypothesized that coaches' perceived aggression would be associated with recorded aggression. The results do not support this hypothesis. The finding that coaches' perceived views on aggression are not related to the aggression displayed by players is interesting. If minor hockey league coaches' own careers hockey depend to some degree on producing winning teams, as suggested by Smith (1979b), it would seem plausible that regardless of their personal views on aggression, they may disregard their own views in favour of the collective good. Field data from Smith exemplify this: "It's important to be tough. I don't think it's all important that you have to go out and knock somebody right off, but its important to be tough because if trouble comes you have to stand up" (p. 116).

Perhaps what is transpiring is, what coaches say in the presence of peers (coaches, players, parents) is one thing, but their private attitudes are another. As Smith (1988) noted this
results in a shared misunderstanding in which individuals think others value aggression more than they actually do. Furthermore, the result that coaches' perceived aggression is not associated with the aggression displayed on the ice reiterates the fact that the coach is only one of many influences on players' perceptions and behaviours of aggression. Besides coaches, Smith (1979c) and Morra and Smith (1995) also found that parents, teammates, spectators, and the media help perpetuate that aggression and violence are acceptable and necessary elements of the game of hockey.

Differences Between Aggression Types

It was hypothesized that there would be significant differences between levels of hostile and instrumental aggression for coaches, teams, and recorded aggression scores. The finding of a difference between levels of hostile and instrumental aggression in coaches and teams is interesting, and consistent with previous research. In other words, both minor hockey league coaches and teams viewed instrumental aggression as a more acceptable behaviour than hostile aggression. This result suggests that hostile aggression, the type associated with deliberately harming an opponent, is less socially acceptable. However, instrumental aggression, the type of aggression where the objective is to receive some sort of reward, is a more acceptable behaviour. This may suggest that there is an overemphasis placed on winning within the culture of competitive hockey. As a player progresses through the minor hockey system the value of success, (i.e., winning), takes precedence (Vaz, 1976). Webb (1969) conducted research on the professionalization of attitudes of young athletes. The results suggested that the longer athletes participate in competitive games, the more likely they would say that winning was more important than playing well. In addition, young
hockey players learn that there are "good" and "bad" penalties and the use of intimidation is simply part of the game. Furthermore, if boys are to play hockey professionally, they must demonstrate their potential by the age of thirteen or fourteen. Players realize that coaches are recruiting players who can withstand the illegal physical coercion (Smith, 1979b). Moreover, it could be argued that players do not perceive some of their behaviours as instrumental aggression since it is associated with values that are socially desirable (i.e., respect, honour).

It would appear that coaches approve of the use of instrumental aggression because they have learned that it is advantageous to do so (Bandura, 1973). Smith (1979b) noted that hockey coaches encourage the use of aggressive play for what it symbolizes (character development), and for its utility in winning hockey games. In addition, Smith found that a coach's own career depended to some degree on producing winning teams. National Hockey League (NHL) scouts revere the combination of penalty minutes with high point totals as an indication of a player's ability to compete at the professional level. As a result, coaches may foster these traits in their players to improve their own chances of obtaining professional coaching jobs (Morra & Smith, 1995). Furthermore, Côté, Trudel, Bernard, Boileau, and Marcotte (1993) found that during Bantam level hockey games, few coaches directly encouraged aggressive play from their players. However, coaches often tended to display conflicting behaviours by telling their players to respect the rules, while at the same time expressing disagreement with these rules. Since the coach demonstrated a disagreement with the referee, the players may see this as a cue to violate the rules of the game. In addition, Trudel, Guertin, Bernard, Boileau, and Marcotte (1991) found minor hockey league coaches often encouraged their players to put more intensity in their physical contacts. Considering
that there is a fine line between aggression and legitimate physical play, it could be argued that players interpret this as coaches asking for aggressive play. Both Côté et al. and Trudel et al. found very little direct behaviour that coaches encouraged aggressive actions from their players. However, since the results of the present study tend to suggest that coaches are more approving of instrumental aggression, perhaps minor hockey league coaches are conveying an ambiguous message to their teams. In turn, players perceive this as a cue that their coaches want to see more aggressive play. Additionally, some minor hockey associations compete for the services of players. As a result, minor hockey associations who can field winning teams in turn attract highly skilled players to play for them. Consequently, coaches develop a single-minded commitment to winning and a willingness to do whatever it takes to win (Hall, Slack, Smith, & Whitson, 1991). In addition, the factors (i.e., score differential; intensity of players' body check) found by Côté et al. (1993) and Trudel et al. (1991), may actually be associated with the aggression displayed by players. As well, hockey refuses to admit that a problem exists, and has all but ignored the attempts made by academics. At present, coaches receive little education on the perils of aggression. As a result, they do not have either the training or the skills to curb the incidence of violence. Nonetheless, future studies need to examine how coaches' views and behaviours affect players' aggressiveness.

Although coaches and teams were more approving of instrumental aggression, the actual behaviour on the ice tells a different story. There were almost twice as many hostile penalties received as instrumental penalties. This result is difficult to explain, since players were less approving of hostile aggression. It would appear that what players perceive is one thing, but what actually occurs on the ice is another. It is important to note, however, that
perceptions and even intent are not always predictive of actual behaviour. Research in the health psychology area has repeatedly shown a variety of other factors, such as cues, ability, self-efficacy, locus of control, and exposure to new information can affect the behaviour-intention relationship (Ajzen & Fishbein, 1980; Wallston & Wallston, 1984). It is therefore possible that for many young hockey players, it is important to earn the respect of fellow players (Colburn, 1985; Faulkner, 1974; Smith, 1979b; Vaz, 1976). Courage, toughness, and a willingness to fight are examples of ways in which players earn respect. Respect is lost if players back down, show lack of heart, "no guts", and "chicken out" (Morra & Smith, 1995). As Faulkner (1974) noted, players who do not demonstrate these characteristics of "gameness" show signs of weakness. This has two important ramifications for hockey players. First, by showing a lack of character, this implies that one can be dominated. Second, it shows that a player has the inability to withstand the dangers of the game, and the opponent will be able to take full advantage of future opportunities (Faulkner, 1974).

In addition, Smith (1988) asked minor hockey players (aged 15 and 16) to list the most important qualities a coach looks for in selecting players for competitive level teams. Sixty-two percent of the players responded "being aggressive at all times" and 56% indicated "physical size and strength." Overall, the findings from previous studies are not surprising since aggressive play is sanctioned by the rules of the game (Morra & Smith, 1996). The results of the present study tend to support previous findings. Even though players were less approving of hostile aggression, it appears they conform to their teammates' and coaches' expectations of them by receiving higher amounts of hostile aggression penalties. As a result, players realize what it takes to advance through the system regardless of their own beliefs.
Overall, it would appear that perceptions and attitudes towards aggression may be different from actual aggressive behaviours. The way one reads cues and processes information will obviously have an effect on deciding an appropriate or inappropriate response to a stimulus (Thirer, 1993). Thus, the signal that an opponent sends can often be misunderstood by the receiver, especially when aggressive play is involved. Previous research in the social psychological literature has shown that cues can influence a person's willingness to harm another individual (Frank & Gilovich, 1988). Frank and Gilovich (1988) explored aggression and perception by examining whether wearing black uniforms had any effect on players, opponents, and officials. The findings showed that athletes who wear black uniforms play more aggressively than their rivals. Frank and Gilovich (1988) further explain that wearing a uniform provides athletes with a particular identity, such as being a member of a team. This identity not only elicits a certain response but also compels a particular pattern of behaviour from the wearer. For example, when the uniform is that of a hockey player, there is an image, and that image involves toughness and aggressiveness. These are qualities that are perceived to be important in the game of hockey. As a result, the present study would suggest that regardless of teams' attitudes on aggression, it is important to earn the respect of fellow players and coaches. Players who show a reputation for being tough, regardless of how they really feel about aggression, are the ones who demonstrate the characteristics that the game of hockey reveres.

**Implications**

From a theoretical perspective, the findings extend beyond previous research, especially since no previous study of aggression has examined minor hockey league coaches,
players (teams), and the aggression displayed on the ice. In addition, the present study extends beyond previous research by comparing amounts of instrumental and hostile aggression, both at the perceived and recorded levels. With respect to theory, the results that as the level of play increased there were higher amounts of recorded aggression, both instrumental and hostile, would tend to further support social learning theory. If social learning is achieved through modelling and learning, then the acquisition of aggressive behaviours in sport, more specifically hockey, is due to the socialization process. As a young player move upwards through the hockey system, he realizes what it takes to continue that progression and conforms to those standards.

It would appear that minor hockey league coaches have learned or have been socialized, at some point (perhaps as players themselves when they were younger), that it is advantageous to use aggressive acts in hockey. In addition, the findings of the present study found that both minor hockey league coaches and teams viewed instrumental aggression as a more acceptable behaviour than hostile aggression. It may be that the players have learned that instrumental aggression is more socially acceptable since social approval can come from coaches (Thirer, 1993). At this point, it would seem appropriate for coaches to discourage instrumental aggressive behaviours by providing negative reinforcement. Such negative reinforcement will reduce players' tendency towards aggression; players learns, through the reinforcement, that aggression is not an acceptable form of behaviour (Corran, 1980).

In the context of the present study, it is difficult to relate the results to the frustration-aggression theory. The basic premise of the theory holds that aggression would always occur as a result of frustration, and that frustration would always result in aggression. Since the
present study used game report sheets as a measure of aggression, it is unclear from the data whether there was a frustrating element associated with the aggressive acts. Assuming there was frustration involved, it may only heightened one's predisposition toward aggression, rather than directly leading to it (Thirer, 1993). In fact, some cultures do not include aggression as a typical response to frustration (Thirer, 1993). As such, this would tend to support social learning theory's premise that the environment's determinants are alterable. If some cultures do not include aggression as an acceptable response, it would tend to indicate that individuals can learn non-aggressive responses to these frustrating situations. For instance, this can be accomplished by positive reinforcement of non-aggressive responses for which in the past might have brought about an aggressive response by that particular player (Corran, 1980). Many kinds of positive reinforcement can be applied, but it is important that the reinforcement be applied consistently among all players if learning is to occur.

The reinforcement of aggressive behaviour, either positively or negatively, has been found to influence the learning and behaviour of athletes. Positive reinforcement of aggressive behaviours can lead to more aggression; whereas negative reinforcers can bring about a reduction in aggression. As a result of the position coaches occupy, they can provide both types of reinforcers. While few coaches provide direct reinforcement of aggression (Trudel et al., 1991), many coaches do provide a form of positive reinforcement by an absence of any negative reinforcers (Corran, 1980). It may be that the coaches in the present study condoned aggressive behaviours by failing to respond to the hostile aggression demonstrated on the ice by their teams.

Coaches should provide negative reinforcers at appropriate times during games and
practices in an attempt to reduce a player's tendency to aggress. Consequently, players learn, through this process, that aggression is not an acceptable behaviour (Corran, 1980).

There are also implications from a practical standpoint. North American hockey folklore is abundant with wisdom from coaches and players that to be successful in hockey, teams need to be aggressive. It is time to re-evaluate the exact meaning of this term. It is possible that coaches who encourage their players to be more aggressive, are actually asking them to be more assertive. Silva (1980) defines assertiveness as the use of legitimate physical or verbal force to achieve one's purpose. At no time is there an intent to injure the opponent. Coaches should educate their players by differentiating between these terms. Coaches need to emphasize that it is assertive play as long as it is within the rules, and the intent to harm is not present (Cox, 1994). Furthermore, it is the responsibility of officials to penalize any behaviour that is outside the rules of the game, regardless of the intent.

When losing, coaches and players tend to become more aggressive (Côté et al., 1993). Coaches need to maintain a positive decorum, and praise the efforts of their opponents. A sense of respect for the rules and fair play is not unwise. Emphasizing such values may assist in the reduction of aggression during athletic contests. Coaches should encourage their players to focus on their own performance. Additionally, coaches can prepare their players prior to the start of the game by educating their players as what to expect during a game. In doing so, coaches are teaching players how to deal with various situations before they develop into aggressive incidents.

In the same manner, young hockey players should be punished, (e.g., removed from the game, suspended from the league), for unnecessary aggression. Consequently, there is a
need to change hostile aggression into assertive behaviour. Minor hockey players should be educated in terms of how hostile aggression is negatively influencing their performance, or the team effort. As a result, players may come to realize that better on-ice performance, and the status and social rewards that accompany victory, are possible if aggression against opponents is translated into trying harder (Cratty, 1989).

Limitations

The present study consisted of a restricted sample. For instance, the sample consisted of thirty minor hockey league coaches and their teams from the Toronto and surrounding area. Although the coaches and players appear to be typical, the small sample permits only cautious generalizations to other hockey coaches and players. As well, all the coaches and players were males. In addition, players had to obtain parental approval before returning the questionnaire via the mail. Historically, mailed paper questionnaires have had the disadvantage of a low return rate (MacNealy, 1999). The response rate in the present study was 38%. Nonetheless, researchers tended to accept responses as useable even though the rate was below 50% (MacNealy, 1999). Furthermore, the sample consisted of three levels of play, Atom, Peewee, and Bantam; however the last two were grouped as one. Future studies should address a wide range of samples beyond this subset.

A Likert scale is very useful when probing attitudes and opinions. The questionnaire in the present study used a 4-point Likert scale: strong agreement, agreement, disagreement, or strong disagreement. This type of scale forced the respondents to agree or disagree on each statement, thus leaving them with no neutral answer if they happened to be undecided on a particular statement. It is possible that players were influenced by other factors (e.g.,
parents, friends, teammates, assistant coaches) not accounted for in this study.

One of the greatest difficulties in measuring aggression pertains to intent. As a result, when using penalties as a measure of aggression, the intention of a player is left to the referee to determine. On the other hand, questionnaires have assessed the attitudes concerning aggression. What one says on paper is one thing, but what actually occurs is another.

Although the use of penalties to assess aggression is useful when formal rules are broken, measures, such as questionnaires, that address perceptions assess normative rules (Stephens, 1998). It would be problematic to label all physical contact in hockey as aggressive. Some contact, such as body checking, is legitimate and sanctioned by the rules of the game. Once again, it is the intent to do harm that classifies such activity as aggressive (Stephens, 1998). Consequently, the inability to observe underlying intent may be a limitation in the present study.

When coaches were administered the questionnaire, the researcher was not present in the same room, but nearby to answer any questions. Arguably, this practice could lead to contamination, as some coaches might configure their answers in an effort to please the researcher. As well, there may have been a discrepancy between the perceived aggression and the actual behaviour of the coaches behind the bench. For instance, what coaches say is one thing but what could be happening behind the bench is another. Furthermore, players were asked to take home their survey in order to receive parental permission before returning it. For one thing, a researcher cannot tell if the returned questionnaire was completed by the player or someone else. However, the researcher emphasized that all questionnaires would be anonymous and confidential, and that the sealed questionnaire would only be opened when all
the data had been collected.

Another limitation involves correlations, where it is difficult or impossible to avoid confounding variables (Graniano & Raulin, 1993). The possibility arises that the test environment for coaches leads to a third variable influence, since coaches had the option of completing the questionnaire before or after a game or practice. More specifically, some coaches completed the questionnaire after losing. Since losing has been linked to player and coach aggressiveness (Côté, Trudel, Bernard, Boileau, & Marcotte, 1993; Cullen & Cullen, 1975; Russell & Drewry, 1976), this may result in a confounding effect.

Summary

The purpose of the study was to examine coaches' and teams' attitudes on aggression, and subsequently the aggression displayed by the teams on the ice. Overall, the results revealed that the approval of instrumental versus hostile aggression changed as a function of level of play for teams only. The Atom teams were more approving of instrumental aggression, while the older Peewee/Bantam teams favoured the use of hostile aggression and received more hostile aggression penalties on the ice. Regardless of the level of play, coaches displayed similar levels of perceived aggression for both instrumental and hostile categories.

The relationship among coach, team, and recorded aggression produced some interesting results. Teams that perceived themselves to be more approving of hostile aggression received more hostile penalties. However, when teams perceived themselves to be less approving of instrumental aggression, they actually received more instrumental-type penalties. One of the major findings was that teams' views were unrelated to coaches'
attitudes on aggression.

Another major finding was a difference between the two types of aggression (hostile and instrumental). Coaches found instrumental aggression to be more acceptable than hostile aggression. Although players also viewed instrumental aggression as more acceptable, their behaviour on the ice indicated otherwise, since teams received twice as many hostile-type penalties in relation to instrumental-type penalties.
Conclusions

The following conclusions are presented as a summation of the present study. These conclusions are formed on the basis of statistical analysis and within the limitations of the investigation.

1. Minor hockey league coaches, regardless of the level of play, are similar in their attitudes towards hostile and instrumental aggression.

2. Older minor hockey league teams are more accepting of hostile aggression, whereas younger teams view instrumental aggression more favourably.

3. As the level of play increases, both hostile and instrumental penalties increase for minor hockey league teams.

4. Perceived team aggression, both hostile and instrumental, is associated with levels of recorded aggression. Higher levels of perceived hostile aggression is related to higher amounts of recorded hostile aggression. However, lower levels of perceived instrumental aggression is related to higher amounts of recorded instrumental aggression.

5. Teams' attitudes towards aggression are not related to coaches' attitudes. In addition, coaches' attitudes are not associated with amounts of recorded aggression.

6. Both coaches and teams view instrumental aggression as a more acceptable behaviour than hostile aggression. However, on the ice, teams receive more hostile aggression penalties than instrumental aggression penalties.
The implications for future research are as follows. Aggression measures should include the intentional aspect. Future research needs to examine the relationship between rule violations (i.e., penalties, fouls) and other qualitative and quantitative measurement of athletes' perceptions of aggressive acts. For instance, there is a need to examine the players' intentions behind aggressive acts. For instance, video analysis of games could be conducted with the players viewing themselves and asking them to interpret their aggressive behaviours. This type of analysis could also be extended to include coaches. As well, replicating this study with the added dimension of the athletes' perceptions about their coaches' beliefs about aggression would be fruitful. In addition, the measurement of aggression in sport has suffered from a lack of consistency in operational definitions (Stephens, 1998). Future research should establish psychometric support for measures using a consistent operational definition. As well, there are many non-sport measures of aggression. However, Stephens (1998) cautions the use of non-sport measures of aggression in order to provide validation for sport measures, in that aggression may be perceived differently in the two contexts.

As acknowledged earlier, the sample was limited to one region of Canada. Hockey folklore claims that minor hockey in Quebec is directed more towards finesse than it is in the rest of the country. Generally, there is also a sense that a more violent style of play occurs in Western Canada. One might therefore expect coaches and players in Western Canada to be more approving of aggressive behaviour. As a result, a comparative study of minor hockey league coaches and players from different regions of Canada is warranted.

It would also be interesting to examine if coaches in the junior and/or professional
ranks have the same attitudes towards aggression as their counterparts in the lower levels (e.g., Atom, Peewee, and Bantam). In the same vein, it would be worthwhile to examine the factors that may be responsible for this shift regarding instrumental and hostile aggression. It would be also interesting to apply the self-referent theory to examine the differences between the intent and the actual behaviour of coaches and players.

Future research should attempt to explore the role of the referee in the elicitation of aggression. Often, the judgment concerning a player's intention is determined by the referee. It could be argued that some referees call penalties for two reasons: norm violations and game control. Furthermore, inquiry into perceptions of norm violations is needed to provide a clearer understanding of the roles teammates and coaches play in determining players' aggression.

There are some leagues where specific rules pertaining to fair play and safety have been implemented. For example, teams receive points based on the outcome, as well as on their behaviour. Each team begins the game with six behaviour points, and each minor and major penalty results in the loss of one point until the team exceeds the limit determined by league administrators (Gilbert, Trudel, & Bloom, 1995). A comparative study between traditional leagues and leagues promoting fair play seems warranted. It could be argued that there may be fewer penalties in the fair play leagues, and coaches' and players' attitudes towards aggression would differ from those in the more traditional leagues.

With the emergence of women's hockey in Canada, it would be interesting to examine girls' minor hockey organizations to determine if players and coaches value aggression similar to their male counterparts. Shields, Bredemeier, Gardner, and Bostrom (1995) found female
athletes who had a female coach believed their teammates were less likely to aggress, and
their coach was less accepting of such behaviour, than female athletes who had a male coach.
As a result, it would be interesting to examine if males who coach female athletes continue to
promote the same values as their male colleagues coaching male teams.

Hockey has become a global sport. As a result, there is a need for cross-cultural
research. A cross-cultural analysis would provide insight into the importance that minor
hockey coaches and players in other countries place on the value of aggression. Gruneau and
Whitson (1993) have noted an element of macho nationalism in the Canadian hockey
subculture when defending its values and practices. In comparison to Canadian players,
Canadians claim that Europeans lack the courage and character to play the game. As a result,
one might expect that European minor hockey coaches and players would hold different
beliefs and values about the topic of aggression within their hockey subculture.

There is also a need for academics to work closely in conjunction with the Canadian
Hockey Association (CHA). The CHA offers development programs for coaches, players,
and referees. However, little information is provided to its minor hockey league coaches
concerning aggression. The CHA, along with academics, are in position to develop
educational programs designed for minor hockey league coaches, incorporating the topic of
aggression directly into the coaching certification program. If they are educated on the topic
of aggression, such as: (a) types of aggression are affecting the game of hockey, (b)
situational factors that affect aggression, and (c) ways to reduce aggression in hockey, then
these minor hockey coaches are in a position to change attitudes and beliefs. If these
attitudes and beliefs regarding aggression are allowed to continue, then there is little hope of
solving the problem. As well, coaches appear to be more outcome oriented e.g., winning, rather than process oriented. Coaches should be reminded that an environment that places an overemphasis on winning may be contributing to the aggressiveness of players. Also, by having minor hockey coaches who are informed on the perils of aggression, they will be in a better position to evaluate players and reward those who promote a sense of fair play and sportsmanship.
REFERENCES


APPENDIX A

Coach’s Consent Form

I would invite you to participate in a research study which aims at better understanding views on coaching. If you decide to participate in the study, your involvement will take no more than 20 minutes of your time. There are no foreseeable risks or benefits from your participation, because this is neither a test nor an evaluation. Therefore, there are no right or wrong answers. I ask you to respond as conscientiously and seriously as possible.

Your participation is completely voluntary and you will be free to refuse or stop at any time without consequence. All information will be number coded and strictly confidential. All information will be stored under lock and key. Only Todd Loughead and his research associates will have access to the data. Your identity will not be revealed. Therefore, please do not write your name anywhere on the questionnaire.

The results of the study will be published in a scientific journal. If you have any questions or would like a copy of the findings, please feel free to contact me.

Thank you for your cooperation.

Todd Loughead
Faculty of Physical Education and Health
University of Toronto
Phone: (416) 544-1288
Email: todd.loughead@utoronto.ca

If you agree to participate, please sign below.

Signature ____________________________ Date ______________
Investigator __________________________ Date ______________
APPENDIX B

Bredemeier Athletic Aggression Inventory-Short Form (Modified for Hockey Coaches)

The following is a list of statements which people use to describe themselves in specific coaching situations. Read each one carefully and indicate your choice by circling the appropriate number. Your answer, in each instance, should be in terms of what you believe, how you feel, or how you would react, not in terms of how you think you should believe, feel or respond. Item responses should be a description of your own personal beliefs, feelings or reactions. Your responses will be kept strictly confidential. Using the scale below, please indicate to what extent you are in agreement with each of the following items.

1 = Strong Agreement  
2 = Agreement  
3 = Disagreement  
4 = Strong Disagreement

1. I am usually unaware of angry feelings when I coach.  
2. During an athletic contest, I am often more irritated than people may think.  
3. I enjoy frustrating my opponent (players and/or coaches).  
4. When things go wrong in a game, I do not tend to take it out on my opponent (players and/or coaches).  
5. I relish picking my opponent (players and/or coaches) apart piece by piece until that team has nothing left.  
6. When I have an opponent (players and/or coaches) down, I enjoy in keeping them down.  
7. When my opponent (players and/or coaches) gets the best of me, I often get mad enough to throw something.  
8. At times I cannot control my urge to tell my players to harm an opponent.  
9. At times I am surprised by my anger toward an opponent (players and/or coaches).  
10. When the unexpected happens in a game, I always adjust without becoming irritated.  
11. I am usually calm and poised before coaching an athletic event.  
12. It is easier for me to coach against a team (or coach) I do not know personally.  
13. Coaching well is more important to me than the satisfaction from beating the other team (or coach).  

cont'd
14. It does not take much to upset me in a game.
1  2  3  4

15. There have been times when I have "rubbed it in" after my team has done something well, or my rival has done something poorly.
1  2  3  4

16. You have to punish people if you want to win.
1  2  3  4

17. When the opposing team doesn't treat my team right, I can feel resentment build up inside myself.
1  2  3  4

18. I generally coach better when I keep my emotions under control and concentrate solely on my coaching.
1  2  3  4

19. I usually do not withdraw from my team after frustrating competitive experiences.
1  2  3  4

20. Seldom is my opponent (players and/or coaches) able to pressure me into making an error.
1  2  3  4

21. There have been times, in the heat of competition, when I have become aware of a negative side of me that I didn't realize existed.
1  2  3  4

22. I have never had a temper tantrum in a competitive sport situation while I was coaching.
1  2  3  4

23. During competition I more often go into an inner shell to listen to my own voice than listen to the outside noise.
1  2  3  4

24. A winner is someone whose performance is completely detached from emotional responses to other opponents (players and/or coaches).
1  2  3  4

25. I like to compete as a coach because it allows me to take out my frustrations out on the other team (or coach).
1  2  3  4

26. My anger against officials seldom goes unchecked.
1  2  3  4

27. It is easier for me to get psyched up for a competitive situation by thinking negative thoughts about my rival (players and/or coaches).
1  2  3  4

28. I have never intensely disliked an opponent (players and/or coaches).
1  2  3  4

29. I have never felt any desire to harm my opponent (players and/or coaches).
1  2  3  4

cont'd...
30. I am aware of my opponent (players and/or coaches) only for the sake of strategy.

Thank you for your participation!
APPENDIX C

Parent Consent Form

Dear Parent or Guardian:

I would like to ask your permission for your son to help us by completing the questionnaire which aims at better understanding player's views specific sport situations.

**What is involved?** Players who participate will be asked to spend approximately 15-20 minutes completing the questionnaire and returning it to me in the attached, addressed envelope. Please have your son fill in the questionnaire alone, so that he is not influenced by other people. You may help your child if it is necessary.

**Potential Benefits and Concerns.** There are no foreseeable risks from your son's participation, because this is neither a test nor an evaluation. A benefit of your son's participation is in making improvements to the game of hockey through the study's results.

**Participation is voluntary.** Your son's participation is completely voluntary. There will be no consequences if you do not wish your son to be in this study, and he may withdraw at any time during the study.

**Information is confidential.** All information will be held confidential. Only the researchers will see the questionnaires. All information will be stored under lock and key. Your son's name will not appear anywhere on the questionnaire so that he cannot be associated with any responses.

**Questions?** We would appreciate it if you would return this form whether or not you would like your son to participate, so that we know that this information has reached you. The results of the study will be published in a scientific journal. If you have any questions, concerns or would like a copy of the findings, please feel free to contact Mr. Todd Loughead at the number listed below or via email. Thank you for your consideration.

Sincerely,

Todd Loughead
Faculty of Physical Education and Health
University of Toronto
Phone: (416) 544-1288
Email: todd.loughead@utoronto.ca

Please check the appropriate line and send this form back in the envelope.

_____ I have read and I understand that I can withdraw my consent at any point in the study. I give consent for my son to participate in this study.

_____ I do not wish my son to participate in this study.

Parent or Guardian's Signature/Date ________________________________

Please send this form back to the researcher in the attached stamped, addressed envelope along with the questionnaire. Don't forget to include the Player's Assent Form. Please return the survey as soon as possible. Thanks!!!
APPENDIX D

Player's Assent Form

I am being asked to help Mr. Todd Loughead. The goal of this project is to ask about my opinion on specific sport situations.

If I decide to participate, my part in the project will take about 15 minutes of my time. I understand that thinking about my opinions may help me better understand the game of hockey. I do not have to tell anyone that I filled in the questionnaire or not. I also understand my answers will be kept private and only the investigators will be allowed to look at my answers.

This project has been explained to me and I have been allowed to ask questions about it. Also, I can telephone the investigators if I have any questions. The findings of the project will be published and I can get a copy of the results. I understand that I do not have to fill in the questionnaire if I don't want to and no one will treat me badly. I have read this letter, understand the project, and agree to participate.

Player's Signature ___________________________ Date ____________

Investigator's Signature ___________________________ Date ____________

Investigators: Mr. Todd Loughead (416) 544-1288

Please send this letter signed, along with the questionnaire in the addressed envelope provided by the investigators. Don't forget to include your Parent's Consent form.

Thank you.
APPENDIX E

Bredemeier Athletic Aggression Inventory-Short Form (Modified for Minor Hockey Players)

Please circle the best response. Circle only one response per sentence.

1 = Agree
2 = Agree some of the time
3 = Disagree some of the time
4 = Disagree

1. I don't usually get angry during a game. 1 2 3 4
2. During a game I am more upset than people may think. 1 2 3 4
3. I enjoy getting other players mad. 1 2 3 4
4. When things go wrong in a game, I don't take it out on the other team's players. 1 2 3 4
5. I enjoy wearing down the other team until that team has given up. 1 2 3 4
6. When I have the other team down, I like to keep them down. 1 2 3 4
7. When the other team gets the best of me, I get mad enough to throw something. 1 2 3 4
8. At times I feel like I could hurt another player. 1 2 3 4
9. At times I am surprised by my anger toward players on the other team. 1 2 3 4
10. When the unexpected happens in a game, I never get upset. 1 2 3 4
11. I am relaxed before a game. 1 2 3 4
12. It is easier for me to play against someone I don't know. 1 2 3 4
13. Playing well is more important to me than winning. 1 2 3 4
14. It does not take much to upset me in a game. 1 2 3 4
15. There have been times when I have "rubbed it in" after I have done something well, or the other team's players have done something poorly. 1 2 3 4
16. You have to make the other team suffer people if you want to win. 1 2 3 4
17. When my coach doesn't treat me right, I feel angry. 1 2 3 4

cont'd...
18. I play better when I keep my feelings under control and think only about the game.

19. I don't like to be left alone after frustrating games.

20. The other team's players can't usually force me into making a mistake.

21. There have been times, in a game, when I have not felt like myself.

22. I have never had a temper tantrum during a game.

23. During a game I more often listen to my own thoughts rather than other noises (like the crowd, my coach, my parents).

24. A winner is someone who does not think about the feelings of other people when they play.

25. I like to play because I can take my anger out on the other team's players.

26. I can control my anger towards referees.

27. It is easier for me to get excited for a game by thinking bad thoughts about the other team.

28. I have never hated the other team's players.

29. I have never wanted to hurt the other team's players.

30. When I think of my opponent, I'm only thinking about how to beat them.

1 = Agree
2 = Agree some of the time
3 = Disagree some of the time
4 = Disagree

Thank you for your participation!
APPENDIX F

Script When Talking to Coaches

Hi my name is Todd Loughead, I am a graduate student in the Faculty of Physical Education and Health at the University of Toronto. The reason for my telephone call is to ask you if you would like to participate in a research study which aims at better understanding views and opinions on coaching. Your involvement in the study is three-fold. First, we will ask you to complete a survey which will take no more than 20 minutes of your time. All the information you provide will be kept strictly confidential. Your identity will never be revealed. Second, we would like to also give the survey to your players. Third, we also need a copy of all your regular season game report sheets.

Your participation is completely voluntary and if you refuse to participate there will be no consequences. If you decide to participate, we can arrange a time that is most convenient for you.

Thank you for your time and consideration.
APPENDIX G

Script When Talking to Players

Hi my name is Todd Loughead and I'm a researcher at the University of Toronto. I am currently conducting some research in hockey. More specifically I am interested in your opinions about specific sport situations. I have a package for you to take home to show to your parents.

Inside the package is a form that your parents or guardians are asked to sign, so that you can participate in the study. There is also a consent form for you to sign if you decide to participate in the study. Both of them must be signed in order for you to participate in the study. Once you get your parents (guardians) permission, please sign your form and fill in the survey alone. Once you have filled in the survey put all three items back into the envelop, seal it, and mail it back to me. There will be no negative consequences if you decide not to fill in the survey.

Thank you for your time.

**Throughout the presentation to players, I will be showing them the items so they can clearly understand the procedure.**