An initial exploration of the factors influencing aggressive and assertive intentions of women ice hockey players

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The purpose of the present study was to investigate women ice hockey players' aggressive and/or assertive behavioral intentions and factors that may have influenced these intentions using the Theory of Planned Behavior as a guide. This study used stimulated recall interviews as the main method of data acquisition. A systematic observation analysis was also employed to aid the stimulated recall interviews. Participants were university female ice hockey players. The results revealed several reasons for aggressive and assertive behaviors, including the score, the players' attitude, and the influence of coaches, parents, teammates, and referees. As well, aspects of frustration, retaliation, and intimidation were discussed by the participants. These findings augment the literature on physicality in women's ice hockey and demonstrate the usefulness of the Theory of Planned Behavior for understanding and explaining the factors influencing aggressive and assertive behaviors.

KEY WORDS: Aggression, Hockey, Qualitative research, Theory of Planned Behavior.

Since the mid 1970s, there has been a substantial amount of research and public debate regarding levels of "aggression" in sport, particularly in ice hockey (Widmeyer, Dorsch, Bray, & McGuire, 2002). The majority of this body of research has primarily focused on boy's or men's hockey. However, the sport of ice hockey has seen a sharp rise in the number of female participants. In the last decade, women's participation has risen over 600%, with more than 51,000 women now playing ice hockey in Canada (Canadian Hockey Association, 2002). Given the recent growth in women's ice hockey,

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it is not surprising that researchers have started investigating the behavioral manifestations, including acts of aggression and assertiveness, occurring in this sport. As such, most of this research has been exploratory in nature.

Fieldwork and interviews conducted by Theberge (1997) examined the role physicality played in elite women’s ice hockey. The results revealed that, regardless of the absence of the body checking rule in women’s ice hockey, there was still considerable use of the body and body contact, both intentional and unintentional as indicated by both players and coaches. In fact, several interviewed athletes commented on the “sense of pleasure and accomplishment in playing the full-contact game and in receiving and taking a body-check well” (Theberge, 1997, p. 74). This theme of satisfaction derived from acting aggressively on the ice was further highlighted in the athletes’ comments about “taking initiative, being powerful, and fearless” (Theberge, 1997, p. 73). Along the same line, Vanier, Bloom, and Loughead (2005) recently found that elite female ice hockey players exhibited both aggressive (verbal and physical) and assertive behaviors. Aspects of physical aggression discussed by the athletes in the focus group interviews included slashing, elbowing, and roughing. In other words, women’s ice hockey contained instances where illegal aggressive tactics were used against opponents to gain an advantage with the intent to harm their opponent. Other times, the athletes played tough but within the rules of the game (assertive). Overall, these aggressive and assertive techniques were deemed to be advantageous in many aspects of elite women’s ice hockey.

Aggression has been defined by several researchers (e.g., Silva, 1980; Stephens, 1998) as a verbal or physical act with the capacity to cause psychological or physical harm to another individual. Further to this, two types of aggression have been identified: hostile and instrumental (Cox, 2002). On the one hand, hostile aggression is viewed as an aggressive response that has provoked or angered an individual because it was designed to cause pain and suffering (Stephens, 1998). On the other hand, instrumental aggression is viewed as a response that serves as a means to a particular goal, such as winning the game (Stephens, 1998). Regardless of the type of aggression, the intent is to harm the individual either psychologically and/or physically. In contrast, another category of behavior highlighted by researchers which at times is confused with aggression is assertiveness (Cox, 2002). Unlike aggression, assertiveness involves no intent to harm the opponent, uses legitimate force to achieve the desired goal, and requires unusual effort and energy (Cox, 2002). Not surprisingly, the ambiguity associated with the intentional aspect of aggression and assertiveness has made the study of this area difficult (Stephens, 1998). Nonetheless, researchers have attempted to gain an understanding of this phenomenon using a variety of theories and explana-
tions such as instinct theory, frustration-aggression hypothesis, and social learning theory (see Widmeyer et al., 2002 for a review).

Although previous research using these theories and explanations has attempted to understand aggression and assertiveness in hockey, the lack of consideration regarding the intentional aspect has been surprising. That is, since the distinguishing feature between aggression and assertiveness is an individual’s intention, it seems only logical that any theoretical framework should explicitly consider the meaning or significance of an individual’s behavior and the factors that influence the meaning or significance. One such framework is Ajzen’s (1991) Theory of Planned Behavior (TPB). The TPB suggests that an individual’s *intention* to perform a behavior, such as aggression, is the major determinant of that behavior (Ajzen, 1991). In addition, an individual’s intention is determined by three constructs. First, *attitude* is viewed as the individual’s favorable or unfavorable predisposition toward the behavior and is influenced by two components: beliefs concerning the consequences of the behavior and the positive or negative judgments about the behavior. Second, *subjective norm* refers to the expectations of significant others to perform or not perform the behavior and is influenced by two components: beliefs about how other important individuals believe they should behave and the positive or negative judgments about each belief. Third, *perceived behavioral control* is the perceived ease or difficulty of performing the behavior and is influenced by two components: how much an individual has control over the behavior and how confident an individual feels about being able to perform the behavior. Overall, the theory hypothesizes that attitude, subjective norm, and perceived behavioral control predict intention. In turn, intention predicts behavior. It should be noted that while perceived behavioral control influences intention, it can also directly influence behavior (Ajzen, 1991). Not surprisingly, the TPB has been used extensively to investigate a variety of volitional behaviors, such as physical activity (Chatzisarantis & Hagger, 2005; Hausenblas, Carron, & Mack, 1997; Martin, Hodges Kulinna, McCaughtry, Cothran, Dake, & Fahooome, 2005; Norman & Conner, 2005), smoking cessation (Black & Babrow, 1991), and alcohol consumption (O’Callaghan, Chant, Callan, & Baglioni, 1997).

Although the TPB has been used extensively to study a wide range of health behaviors, it has only recently been incorporated to examine various aspects of aggression. More specifically, the TPB has been used to investigate aggression in relation to sport fan team identification (Dimmock & Grove, 2005), male self-control (Shively, 2001), and youth violence (Roberto, Meyer, Boster, & Roberto, 2003). The results from Dimmock and Grove showed that fans high in team identification felt less in control of
their aggressive behaviors than fans moderate or low in team identification. Similarly, Shively found that men’s alcohol intoxication level reduced perceived behavioral control of their sexual aggressiveness. Finally, Roberto and colleagues found that attitudes and subjective norms influenced a youth’s intent on behaving aggressively. Taken together, the results of these studies offer some evidence to support the use of the TPB for examining aggression.

To date, no research has explicitly employed all the elements of this theory to investigate aggression in hockey. However, there has been some hockey research that examined separately the constructs contained within the TPB. With respect to the relationship between attitudes and the approval of aggression in hockey, Smith (1979) found youth hockey players’ attitudes were more approving as they got older. Subjective norms have also been identified as influencing aggressive behavior in hockey. Previous research has shown that athlete aggressiveness was influenced by significant others such as coaches, teammates, and parents (Gaumond, Trudel, & Gilbert, 2000; Smith, 1975; Stephens & Bredemeier, 1996). That is, the more these significant others approved of aggression in hockey, the more an individual was likely to act aggressively. Finally, the perceived ease of acting aggressively has influenced aggressive sport behaviors. For example, Coakley (1998) suggested that inconsistent officiating allowed players to behave aggressively knowing that no penalty would be called on them. In addition, Smith, Stuart, Colbenson, and Kroenebusch (2000) found that competitive players were more willing to aggress because they perceived their coaches to be approving of aggression, hence reducing the likelihood of the coach reprimanding the behavior.

Given the utility of the TPB in examining aggression in a variety of non-hockey settings and that the components contained within this theory have independently been related to hockey aggression, it is surprising that it has not been applied to the study of aggression in ice hockey. Applying the TPB to aggression in hockey may provide researchers with another framework in which to understand this construct. As Roberto et al. (2003) suggested, “understanding a larger theoretical structure would be far more valuable than knowing the effects of any single variable, and would undoubtedly help researchers and practitioners better explain, predict, and ultimately prevent aggressive and violent behaviors” (p. 137). Thus, the purpose of the present study was to investigate the behavioral intentions (e.g., aggressive and assertive) and to better understand the factors that may influence aggressive and/or assertive behavioral intentions of women ice hockey players using the TPB as a guide.
Methods

This study used stimulated recall interviews (SRI) as the main method of data acquisition. Stimulated recall interviews involve examining the cognitive component of behavior (Trudel, Gilbert, & Tochon, 2001). A systematic observation analysis also was employed to aid the stimulated recall interviews.

Participants

Three university women ice hockey players participated in the stimulated recall interviews over the course of the entire regular season. These three participants were players on the same university women’s ice hockey team and each athlete played a different forward position (i.e., centre, left wing, and right wing). Prior to the start of the season, the research team met with the coaching staff to identify three prospective players. The coaches based their selection on the following criteria: (a) the player had to exhibit high levels of intensity and physicality in her game, and (b) the player had to have a high number of aggressive penalty minutes. Once the three players were selected by the coaching staff, they were contacted to outline the study and to seek permission to interview them over the course of the season.

Stimulated Recall Interviews

For each regular season home game \( (n = 8) \), one player was randomly selected by the research team prior to the game and was not informed that she had been videotaped until after the game. In total, two of the three athletes were videotaped and interviewed three times, while the third player was videotaped and interviewed on two occasions during the season. Following the game, the first author held a brief discussion outside the dressing room informing the player that she had been selected for that game. Within 24 hours after the game, the research team prepared the materials needed to conduct the stimulated recall interview (SRI) by reviewing the videotape of the game of the selected player. Then, a videotape of clips that included any aggressive or assertive acts committed by the participant was created and used for the SRI. The interview took place within two days following the game. The SRI began with a brief discussion of the game to build rapport and to put the participant at ease. The SRI involved showing the aggressive and/or assertive video clips of the player and asking the participant to explain the intent and factors influencing her aggressive and/or assertive behaviors. Each clip involved the aggressive and/or assertive act and 30 seconds of the game preceding this act. The 30 seconds of game play was intended to help stimulate the participant’s memory. Once the player recalled the event, directions were given to elaborate and explain the intent behind the behavior. This procedure was repeated for each aggressive or assertive instance. In addition, the player was asked about factors contained in the TPB that may have influenced their aggressive or assertive intentions. Each SRI took approximately 40 minutes and was tape recorded and transcribed verbatim.

Systematic Observation

Systematic observation of the selected player for each game assisted in the development of questions used in the stimulated recall interviews by providing an understanding of the con-
text of each game. The present study utilized Kirker, Tenenbaum, and Mattson’s (2000) behavioral typology to identify perceived aggressive or assertive behaviors. The typology was originally designed for men’s ice hockey. However, based on previous research by Bloom and Vanier (2004) in elite women’s hockey, the following aggressive categories were added to Kirker et al.’s typology: punching, body checking, and demonstrative aggression. Overall, the modified typology consisted of 26 perceived aggressive and assertive behaviors.

To allow for greater accuracy in the coding of perceived aggressive or assertive behaviors of the selected player, two video cameras were positioned at opposite corners of the rink to record the game. Each camera was responsible for filming half the ice, from the red line to behind the goal line. The corner camera locations were chosen because it satisfied two criteria: (a) equal view of both ends of the ice, and (b) a view of in front of the net and the corners. These two criteria are in agreement with Gilbert and Trude’s (2000) findings on location of rule infractions in ice hockey, which indicated that the majority of aggression occurred deep in the defensive zones and close to the net.

Using the videotaped games, two trained observers coded the aggressive or assertive behaviors using Kirker et al.’s (2000) classification system. Several measures were taken to ensure the observers were accurate in their coding. First, the observers learned the definition of all categories and were able to discriminate among them with 100% accuracy. Second, the observers practiced coding by using the typology while viewing several women’s ice hockey exhibition games. Third, the two observers were women ice hockey players, each having approximately 15 years of ice hockey experience, including playing at the university level. The two observers were trained following van der Mars (1989) guidelines, meaning they had to reach a reliability level greater than 80%. In fact, an 84% inter-rater reliability was obtained in the current study.

Following the observation and coding of perceived aggressive or assertive behaviors, stimulated recall interviews were used to determine the behavioral intentions (aggressive or assertive) and to better understand the factors that may have influenced the aggressive or assertive behavioral intentions.

**Data Analysis**

The present study followed a deductive content analysis approach. This decision was primarily based on the availability of theory and the study’s topic and goals (Miles & Huberman, 1994). As noted by Miles and Huberman, “qualitative research can be out-right confirmatory – that is,can seek to test or further explicate a conceptualization” (p. 17). The SRI’s were deductively analyzed using the four components of the TPB that are believed to influence behavior (Ajzen, 1991). First, the text was divided into pieces of information called meaning units (MU) (Tesch, 1990). Tesch defined a MU as a comprehensible idea or item that can stand alone. Once the MU were coded into the components of the TPB, relationships between the categories were analyzed.

As suggested by Tuckwell (1977), prior to engaging in SRI, the researcher studied protocols generated by other researchers who employed SRI methodology in order to gain competence with this technique. In addition, pilot interviews were conducted. The pilot interviews were observed by an individual experienced in this method of data acquisition, who provided feedback. Once the first author was trained, eight SRI were conducted over the regular ice hockey season. Further to this, peer review was conducted to ensure trustworthiness. Peer review involved a neutral party assessing the data analysis to ensure its credibility (Côté,
Salmela, & Russell, 1995). The external coder examined 25% of the MU created and placed the MU into the subcategories and subsequently placed these into the predetermined categories of the theoretical framework. Past research using deductive content analysis suggests at least 85% as an acceptable level of reliability (Anshel, 2001). An inter-rater reliability of 93% was obtained for the present study, thus ensuring the findings were credible.

Results

A total of 330 MU emerged from the eight interviews. Following the deductive content analysis, these MU were categorized into the components of Ajzen's (1991) TPB (attitude, subjective norm, perceived behavioral control, and intention). The number of MU for each category were as follows: attitude (111), intention (105), perceived behavioral control (88), and subjective norm (26). Each category will now be separately described in the following section. Quotes will be provided to help explain the information and will be followed by a code (e.g., 1-3) to protect the player's confidentiality.

Attitude

Participants' attitude towards playing aggressively or assertively consisted of their beliefs concerning the consequences of their behavior, and their positive or negative judgments about the behavior. Participants believed that in several situations playing aggressive, not assertive, resulted in positive consequences, such as puck possession. For example, one participant explained, "I am aggressive because I know that if I hit a girl it will result in me getting what I want, the puck." [3] An additional consequence mentioned was enjoyment derived from the physicality of the sport and the opportunity to exercise force. The players believed that aggression was a positive consequence and consequently participants indicated they had developed a positive attitude towards aggression contained within the game. A common feeling expressed by all the participants was depicted by the thought, "I prefer aggressive games. I love physical games." [1] However, the participants believed that playing assertively was also a positive consequence of ice hockey:

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1It should be noted that 13 additional MU were removed from the study because they did not contain information relating to any of the four categories of TPB. Each quote was content analyzed and no reoccurring themes/ideas related to this study emerged.
The referee let us play and I like that better. I like playing more physical because I play better and I get more into the game. If it's clean and physical, it's fine. The referee could have been worse and called everything which would have been boring because then you can't play. [3]

The players distinguished between aggression and assertiveness. One participant noted the difference between aggressive and assertive behaviors. In describing assertiveness the player indicated, "Play physical, but play legal. There is a point I don't like when it gets crazy." [1] Furthermore, assertive acts that were perceived as being acceptable involved using one's body, whereas aggressive unacceptable acts involved the use of one's stick. One participant discussed this difference stating, "I'm aggressive but in a good way [assertiveness]. Being dirty, slashing or hitting from behind, that's bad aggression [aggression]. Good aggression [assertiveness] is just using your body, being physical, fighting for the puck." [1] All participants agreed that acts such as crosschecking, slashing, and hitting from behind were aggressive in nature because they frequently resulted in injury. Thus, when the consequence of the behavior was negative (i.e., injury) athletes viewed this as aggression.

SUBJECTIVE NORM

Subjective norm included the beliefs about how other important individuals believe one should behave, and the positive or negative judgment about the belief. The players noted that the attitudes held by coaches, parents, and teammates influenced their perception regarding this normative belief. The participants' responses indicated the head coach was the most influential of the three. In particular, athletes stated their head coach encouraged assertive play as long as it was within the rules of the game. Players were familiar with their coach's negative view of aggression and behaved accordingly. In fact, players knew they would be reprimanded by the head coach if they performed aggressive acts, such as hitting from behind or fighting. One participant said, "Our coach hates it when we are dirty or we retaliate. He usually gets really mad at that. Most players get in trouble for being aggressive, especially taking dumb penalties." [1]

In contrast to their head coach, athletes perceived their parents and teammates as being more accepting of aggressive acts. All three participants noted their parents thought that playing aggressively was related to being successful. In fact, the participants indicated their parents encouraged them to use aggressive techniques:

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My parents encourage me to play aggressively, way more than my coach. My mother said I used to play more aggressive and it was working, so I should be more aggressive, like I was last year or the year before. [2]

Likewise, teammates were also perceived as being accepting of aggression. For example, after recalling a fight that had occurred during a game, one participant stated, "My teammates were excited when I put the girl in a headlock. They were like way to stick up for the players on our team. We need people to do that or they will walk all over us." [3] Although parents and teammates held positive views of aggression, participants indicated their beliefs did not influence them as much as the head coach’s beliefs. One player explained, "I know when I hit a player my mom and teammates are impressed but my coach yells and benches me. So I play cautious now. I hate the bench." [2]

PERCEIVED BEHAVIORAL CONTROL

Participants mentioned several factors that affected their perceived behavioral control, such as the head coach, referees, score, and frustration. More specifically, the participants discussed this construct in terms of their confidence, difficulty, and controllability concerning their ability to perform aggressive behaviors. A frequently mentioned factor influencing athletes’ perceptions of their ability to perform aggressive behaviors was their head coach. Participants indicated that their head coach’s negative attitude toward aggression determined the difficulty in behaving aggressively. Participants believed that by reprimanding them, the coach controlled their ability to aggress and negatively affected their confidence to be aggressive. In particular, two of the participants indicated they played less aggressive because they were afraid of being reprimanded by their head coach. One participant claimed, "My coach’s attitude definitely changed the way I play. I think I would play more aggressive if I wasn’t so worried about being benched." [3]

In addition, participants indicated that the referee’s behavior had an affect on whether they chose to be aggressive or assertive. In particular, the number of penalties a referee called during a game either increased or decreased the number of aggressive acts committed by the players. The referees’ behavior determined the amount of control athletes believed they had and also their confidence of being able to aggress without being penalized. For example, participants indicated that when referees called fewer penalties they exhibited less control and committed more aggressive acts and less
assertive acts because they knew they would not be penalized for their actions:

It depends on the referees. It’s alright if the refs don’t call everything but it can get out of hand if they let everything go. They make it easier to aggress when they don’t call anything; nothing is stopping you from hitting that girl. [1]

Furthermore, a complaint echoed by all the participants was the referees were not consistent in calling penalties. In particular, the female referees were viewed as less adequate than male referees:

Female referees have more difficulty than male referees. Sometimes, they have a hard time with the physicality of the game. When we have men officiating our games, it is more aggressive. [2]

Regardless of the gender of the referee, participants seemed to be aware of opportune moments (i.e., difficulty) to commit aggressive acts. For example, all three participants indicated they were more likely to perform aggressive acts when the referee was not looking:

Sometimes in the play I will give a little hit to the opponent if the ref is not looking. I’m a hypocrite. I look at the ref, if he is looking I won’t hit the player; if he isn’t looking, I hit her. Sometimes I get caught. [2]

Participants also indicated that when they were not frustrated they used more assertive acts; however when they felt frustrated, they believed they were less able to control themselves and engaged in more aggressive acts. Participants cited three specific causes of frustration: losing, making mistakes, and being illegally hit by their opponent. Participants indicated they became frustrated when their team lost and believed this resulted in more aggression on their part. One participant recounted her feelings about a game they lost by six goals, “That game we played bad. I get frustrated when we don’t play well and tend to get more aggressive type penalties.” [1] In addition, participants mentioned that when they made a mistake their frustration levels rose and subsequently resulted in aggressive acts being committed:

I get frustrated when I miss a scoring opportunity or make a mistake. It usually results in me playing more aggressive and hitting players. But I am not frustrated at them; I am frustrated at myself for messing up. I guess I take it out on them. [1]

Lastly, participants cited they became frustrated when they thought opponents illegally hit them. For example, one participant said, “I was frustrated from being tripped and no call, so I hit the girl coming off the bench.” [1]
addition, another participant further explained how being illegally hit by an opponent led to frustration, which in turn resulted in aggressive behavior:

That girl hitting me got me frustrated. So later when the puck was at the blue line and I saw her against the boards I went straight for her. I checked her in the boards which must have upset her because then she put me in a headlock. That was when I got real mad, so I gave her a little punch. [3]

INTENTION

Five reasons were given to explain why participants were aggressive or assertive: to obtain puck possession, as a strategy, to intimidate an opponent, to protect themselves and teammates, and to hit an opponent. Puck possession was the most frequently noted response to explain why they engaged in aggressive or assertive behaviors. In terms of acting assertively, one participant claimed, “I pushed her because I wanted the puck! We were supposed to win so the only thing I was thinking was, Get the puck!” [1] In contrast, another participant echoed a feeling towards being aggressive, “We had been playing really physical right there, and everyone was hitting everyone. At this point I saw the girl with the puck and I was like, sorry, I want the puck, I’m hitting you. You are in my way.” [3]

In addition, participants explained strategy as a purpose for some of their behaviors. Participants indicated their head coach taught them a variety of assertive strategies to stop their opponents during the games. For instance, participants deemed hooking as an appropriate strategy to impede their opponents’ progress. However, participants also explained how aggression was used as a strategy to prevent opposing players from scoring:

I was second to the puck there. The girl going in to take the shot is a big time, known goal scorer. She was going straight to our net so I had to take her out even if it was outside the rules. [3]

Participants also indicated intimidation as a reason behind their behaviors. All three participants claimed to use aggressive techniques to intimidate their opponents. Participants said they used physical and verbal aggression to send messages to their opponents. For example, one participant described her use of physical aggression to intimidate her opponent, “The other player gets me in the boards then puts her glove in my face. Right there, Paff! I did not like that. So I hit her to let her know, Hey don’t do that again!” [1] Another participant explained how verbal aggression was used to send a
message, “I’m like, Come on get up! She was down on the ice, so I was laughing at her. I was looking down at her to get her mad.” [2] Lastly, one participant explained how she used aggression to intimidate her opponent:

That is definitely me giving her a look. I was ticked off there. I felt that she was trying to get me; if I didn’t get my head up at the last second she was going to nail me. No question about it, it was intimidation. I saw her at the last second and she was definitely lining me up. So the look was a look of I know what you were thinking. And I’m going to get you. [3]

Participants also indicated that aggressive behaviors were used to protect themselves or their teammates from being hit from opponents and to inflict harm on their opponent. One participant claimed, “She went right at me. I saw her coming so I put my shoulder up to protect myself. She fell pretty hard and was hurt.” [1] Lastly, participants indicated they used aggressive behaviors for no other purpose than to harm their opponent:

Like there, I hit the girl. I could have got a penalty for that. The puck wasn’t even there anymore, I didn’t care. I just wanted to hit her. It was like five seconds and the puck was long gone and I was like now I’m going to hit you. [3]

Discussion

Using TPB as a guide, the present study examined the behavioral intentions of elite women ice hockey players. As well, the study examined the factors that influenced aggressive and/or assertive behavioral intentions. The TPB posits that attitude, subjective norm, and perceived behavioral control influence an individual’s behavioral intention. In turn, intention influences behavior (Ajzen, 1991). This section will begin by examining the four components of the TPB that influence behavior, and will be followed by conclusions and recommendations for future research.

Information pertaining to the players’ attitude revealed that all participants derived enjoyment from the physicality inherent in ice hockey, including both aggressive and assertive behaviors. This finding was consistent with previous research examining the attitude of women ice hockey players (e.g., Boyd, Trudel, & Donohue, 1997; Theberge, 2003; Vanier et al., 2005). The results suggested that a positive attitude towards playing aggressively and assertively were present in women’s ice hockey (cf. Boyd et al., 1997). Interestingly, the participants made a clear distinction between aggressive and assertive behaviors. On the one hand, using one’s body was deemed as an
acceptable assertive behavior even though the rules in women’s hockey prohibit such behaviors. In contrast, using one’s stick was deemed as an intolerable aggressive behavior. As Roberto et al. (2003) noted, adolescents who held positive attitudes towards aggression had a higher likelihood to engage in violent behaviors. Similarly, in a sport setting, Bloom and Smith (1996) found male hockey players who played in older, more competitive leagues were more likely to approve of violence and to act violently in other settings possibly as a result of exposure to a more aggressive hockey culture.

The component of subjective norm highlighted the perceived social norms of aggression held by the participants’ important others (e.g., coaches, parents, and teammates). According to the participants, the head coach represented the major source of perceived social pressure related to their intentions to aggress. In particular, the current results were similar to Bloom and Vanier (2004) who found the head coach in women’s hockey encouraged physical play as long as it was within the rules of the game. Interestingly, all the current participants believed their parents and teammates were more accepting of aggressive behavior than their head coach, similar to past research (e.g., Stephens, 1998; Smith et al., 2000). However, despite the positive beliefs by their parents and teammates, participants noted the behavioral norm established by their head coach was the strongest predictor of their likelihood to aggress. This finding was supported by Stephens (2001) who found that aggressive tendencies of female basketball players (aged 15 to 17) were influenced most by their perceptions of their coaches’ expectations and less by their view of the team norm.

The component of perceived behavioral control highlighted several factors (confidence, controllability, difficulty) that determined the propensity for athletes to aggress (therefore use less assertive behaviors). The most frequently mentioned factor influencing participants’ perceptions of their likelihood to perform an aggressive behavior was the possible repercussions from their coach. Participants indicated that in most instances they played less aggressively in order to avoid being reprimanded by their coach. This finding supports past research on the influence of the coach on aggressive behaviors displayed by female athletes (e.g., Horn, Glenn, & Wentzel, 1993; Stephens, 2001; Vanier et al., 2005). For example, Horn et al. found that female high school athletes were more dependent than males on feedback from their coach in determining whether or not to be aggressive.

In addition to the head coach, referees also influenced whether athletes aggressed. In particular, participants indicated they were more likely to aggress when they felt they would not get caught by the referee. In addition, participants in the present study reported an inconsistency in the decision
making of elite level women ice hockey referees (Bloom & Vanier, 2004; Vanier et al., 2005). As a result, they believed that male referees were more accepting of aggressive behaviors, whereas female referees were more likely to punish behaviors that were aggressive in nature. Thus, it could be argued that the gender of the official influenced the likelihood that aggressive behaviors were going to be used against an opponent.

Lastly, frustration was mentioned as a factor that influenced the participants' perceived behavioral control. More specifically, when participants felt frustrated, they believed they engaged in more aggressive acts. Participants indicated that losing, poor performance, and body contact resulted in frustration, and consequently them acting aggressively towards their opponent. These findings are in agreement with literature on the competitive frustration-aggression link in ice hockey (e.g., Brice, 1990; Widmeyer & McGuire, 1997; Vanier et al., 2005). However, Brice found that male university ice hockey players reported their own poor play as the main cause of frustration; whereas women in the present study cited being illegally hit as the main source of frustration, possibly due to the prohibition of body contact in women's ice hockey.

A final component of TPB that directly influenced behavior was intention. In particular, a number of factors affected how much effort an individual put into acting aggressively or assertively. For example, participants explained how verbal and physical acts of aggression or assertiveness, such as giving cheap shots behind the play, going hard in the corner after a loose puck, or trash talking to intimidate an opponent were a part of their game. Players also reported using physical aggression to protect both themselves and their teammates, which has been previously found in both men's (Brice, 1990) and women's ice hockey (Vanier et al., 2005).

The results of the present study were encouraging as to the usefulness of the TPB as an alternative framework to better understand physicality, aggressive, and assertive behaviors in ice hockey. The components contained in the TPB would appear to offer researchers the opportunity to gain an understanding of this phenomenon using a theoretical framework that could be used to explain, predict, and ultimately reduce or eliminate aggression from the game of ice hockey. The advantage of the TPB is that it explicitly considers the behavioral intention of an individual which is also a cornerstone in the definition of aggression. In particular, the results helped to establish the reasons (i.e., intentions) behind aggressive and assertive behaviors in women's ice hockey, as well as the factors (i.e., attitude, subjective norm, and perceived behavioral control) that influence intentions to aggress or assert. Consequently, the results of the present
study offer preliminary support that the TPB may be a useful conceptual framework for the study of aggression and assertiveness in ice hockey. Future research should attempt to quantify the relationships between the factors that influence intention and intention itself. In doing so, those results would shed light onto which of the factors of TPB that most influences an individual's intention to aggress. In turn, the factors that are most likely to influence intention can be targeted for intervention to help reduce aggression in this sport.

Although results of the present study offer preliminary support for the TPB as a useful conceptual framework for the study of aggression and assertiveness, some caution on the generalizability of the results are warranted. First, the present study sampled a total of three athletes over the course of one season who had the propensity to engage in aggressive behaviors. It would be beneficial for future research to sample a larger sample of both more and less aggressive athletes to determine whether the factors that influence behavioral intention are similar. Nonetheless, the sampling of three athletes allowed the researchers to develop a strong rapport with their participants, a point that cannot be overlooked with qualitative research. Furthermore, this is important when examining a construct such as aggression where there is the possibility of athletes not being comfortable in discussing subject matter that is negative in nature. Second, the present study focused solely on women's ice hockey, therefore it is difficult to generalize the results to men's ice hockey where aggression has historically been problematic.

While the results of this study provide considerable information regarding the physical nature of women's ice hockey, including the aggressive and assertive behaviors, many questions about these behaviors in women's sport still remain. For example, future research can examine if aggression or assertiveness is prevalent at all levels, or more so a feature of elite women's ice hockey. Future research might also examine players who are identified as non-aggressive or more assertive in order to compare the attitudes, perceptions of normative beliefs, and perceived behavioral control of players who are more or less aggressive or assertive. It might also be interesting to employ stimulated recall in men's ice hockey to determine if the intentions behind aggressive or assertive behavior differ from those found in women ice hockey players. In addition, a topic which needs further investigation is the role the coach plays in influencing female athletes' aggressive and assertive behaviors. It is hoped that the results of the present study will stimulate research using the TPB to examine aggression in ice hockey.
REFERENCES


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