THE PASSION-AGGRESSION RELATIONSHIP: TESTING MEDIATIONAL EFFECTS OF MORAL DISENGAGEMENT AND ROLE-IDENTITY SALIENCE IN COMPETITIVE MALE ICE HOCKEY

by

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Abstract

The purpose of the present study was to test if harmonious and obsessive passion are predictors of aggressive behavior in competitive male ice hockey. It also examined whether moral disengagement and role-identity salience acted as mediators in the passion-aggression relationship. Based on the dualistic model of passion, harmonious passion is associated with more adaptive sport outcomes while obsessive passion is associated with more maladaptive sport outcomes (Vallerand, 2010). Since there is controversy about how to conceptualize aggression, the study measured reactive, instrumental, sanctioned and unsanctioned aggression. The participants were 77 competitive youth male ice hockey players (mean age = 16.54). The instrumental aggression scale had poor reliability and was dropped from analysis. Regression analysis found that obsessive passion was a predictor of reactive aggression ($b = .385, p \leq .001$); harmonious passion was not a significant predictor ($b = -.240, p = .070$). These results supported previous work in sport. Mediation analysis using bootstrapping procedures (Hayes, 2013), however, did provide evidence that moral disengagement is not a mediator in the obsessive passion-reactive aggression relationship, or in the harmonious passion-reactive aggression relationship. Role-identity salience was not a significant mediator in the obsessive passion-reactive aggression relationship (95% BcCI [-.0340, .0931]), but did appear to mediate the harmonious passion-reactive aggression relationship (95% BcCI [.0020, .2019]).

Sanctioned and unsanctioned aggression were exploratory variables, tested to assess their application in a sport context. Due to undesirable measurement properties, sanctioned aggression was only examined through Spearman’s rho correlations; these showed that sanctioned aggression was related to harmonious passion, moral disengagement, and role-identity salience. Unsanctioned aggression was not significantly related to either types of passion. Mediation
analysis indicated that role-identity salience (95% BcCI [.0060, .1560]), but not moral disengagement (95% BcCI [-.1113, .0890]), mediated the harmonious passion-unsanctioned aggression relationship. There was no evidence of meditation effects for obsessive passion-unsanctioned aggression relationship. The findings regarding sanctioned and unsanctioned aggression support its application in a competitive sport context. Overall, passion-aggression relationships were inconsistent although there was evidence that role-identity salience may play a role in understanding aggression in sport.
Preface

Dr. Peter Crocker was the principal investigator on this project. I was involved in study design, ethical applications, data recruitment and collection, data input and analysis, and the document write-up. Ethical approval was granted by the University of British Columbia Behavioural Research Ethics Board (H13-03279).
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Chapter 1: Introduction

In competitive hockey there is a mindset that aggressive pursuits are necessary to reach success. This type of behaviour has dramatically increased since 1975 (Sheldon & Aimer, 2001). Aggression in sport has important social and psychological underpinnings that require attention in their relation to sport participation. Ice hockey players are often taught how to play aggressively and are encouraged to believe that such behaviours will assist in their team reaching success (Sheldon & Aimer, 2001). In line with Social Learning Theory (Bandura, 1999), athletes frequently model behaviours of professional athletes and, often times, these behaviours are reinforced by coaches and parents (Sheldon & Aimer, 2001). This suggests that aggression is socialized or learned, and as a result, aggression is a desired behaviour and is believed to grant a competitive advantage (Burton, 2005).

Much of the research on sport aggression has been conducted under a psychological lens. There are many psychological factors that are related to aggression in sport including: moral disengagement (Boardley & Kavussanu, 2009), anger (Maxwell & Visek, 2009), anger rumination (Maxwell, 2004), and modeling behaviours of others (Visek & Watson, 2005). One construct recently found to be related to aggressive sport behaviours is passion. Donahue, Rip & Vallerand (2009) found that basketball players portraying an unhealthy type of passion, known as obsessive passion, were more likely to engage in aggressive behaviours than their peers who portrayed a healthier type of passion, known as harmonious passion. The passion-aggression relationship warrants further attention in terms of how passion influences the use of aggression but also in terms of how moral disengagement and role-identity salience impact this relationship.

Moral disengagement is a collection of eight mechanisms that athletes employ in an attempt to avoid the consequences of an unacceptable behaviour they have engaged in (Boardley
Boardley and Kavussanu (2009) have found that athletes engaging in more antisocial behaviours report using more mechanisms of moral disengagement. Athletes who exhibit more of a controlled motivation style, similar to an obsessive passion, are more likely to justify or hide acts that may be of detriment to other’s perceptions of their competency in a specific domain (Hodgins & Knee, 2002). It follows that those who have an obsessive passion may use moral disengagement to a higher degree, but may also engage in more acts of aggression. A major goal and the primary purpose of this thesis was to examine if moral disengagement mediates the relationship between types of passion and types of aggression in competitive ice hockey.

While the use of moral disengagement may lead to higher instances of aggression, certain role-identities such as being an aggressive hockey player may also be related to increases in aggressive behaviour. Role-identity salience refers to the position in the role hierarchy a certain role occupies (Callero, 1985). Role-identity salience refers to the importance a specific role identity holds for an individual. Callero (1985) states, “role identities vary in the degree to which they are a part of the self” (p. 204), meaning that one role identity can be a larger part of the identified self than another. Those with an obsessive versus those with a harmonious passion may differ in where they perceive the specified role of an aggressive hockey player to fit into their role-identity hierarchy. If there is a strong identification to the role of an aggressive hockey player, the individual may be more likely to engage in aggressive acts. A secondary goal of this thesis was to assess the passion-aggression relationship and the potential mediating effect of role identity salience. This model was largely exploratory in that role identity salience has not been applied to the study of aggression in sport, to my knowledge.
1.1 Literature Review

1.1.1 Aggression.

1.1.1.1 Definitional considerations.

Researchers have used a number of definitions regarding aggression in sport; however, most of these definitions include four criteria for aggressive behaviour: (1) aggression is a behaviour, and as such, it is observable, (2) an aggressive act can be verbal or physical in nature, (3) the act can cause physical or psychological harm to an opponent, and (4) aggression is directed toward another individual; in the case of sport, this individual is usually the opponent. Silva (1980) defined aggression as an observable verbal or physical act that is carried out with the intent of psychologically or physically harming another individual.

There is a current debate surrounding the categorization of aggression in sport (Kerr, 1999). Traditionally researchers have applied the terms such as instrumental and reactive aggression. Instrumental aggression is the more acceptable of the two forms, and involves intent to harm the opponent, yet the primary goal is that of strategic or advantageous gain (Husman & Silva, 1984). For example, an enforcer may try to engage the enforcer of the opposing team in a fight in order to increase the motivation of his or her team or to try and change the momentum of the game, increasing their team’s chances of victory. This type of aggressive act serves as a means to an end, with the means being that of the fight and the end being the changed momentum and motivation of the instigator’s team. More common acts in hockey might include harming skilled opponents in order to remove them from game play, thus giving your team a competitive advantage. In contrast, reactive aggression occurs when the sole intent of an act is to harm an opponent, without reference to a strategic gain. In addition, reactive aggression is anger driven (Husman & Silva, 1984).
Recently, researchers have applied the terms sanctioned and unsanctioned aggression to the study of aggression in sport (Grange & Kerr, 2009; Kerr, 1999, 2002; Maxwell & Visek, 2009). These terms have been used in response to disagreements in the field regarding the definitions of instrumental and reactive aggression, which have a large emphasis on the intent of the act. Sanctioned aggression refers to any behaviour that falls with the particular sport’s code of conduct or rules, for example body checking in hockey (Kerr, 1999). In contrast, unsanctioned aggression refers to any behaviour falling outside the official rules of the game and the unwritten rules, such as spearing or butt-ending one’s opponent (Kerr, 1999). In a team contact sport, aggression is sanctioned as long as the play remains acceptable within the rules (Kerr, 2006), while acts occurring outside the rules, often penalized by game officials, are considered unsanctioned.

Kerr (1999, 2002) argued that there are limitations of using instrumental and reactive aggression. He suggested that the terms sanctioned and unsanctioned aggression are more fitting for sport because they allow for a clearer categorization of acts. Smith (1983) has argued that all aggressive acts in sport are instrumental because they are all carried out with a goal in mind and therefore, the distinction between reactive and instrumental aggression is not useful. In addition Maxwell and Visek (2009) state that there are two major challenges facing the use of the instrumental-reactive aggression dichotomy. First, instrumental aggression is generally regarded as planned or intentional, and lacking emotion, whereas reactive aggression is generally thought of as unplanned or spontaneous and is as an automatic, emotional response to a trigger. However, when looking at an aggressive act in sport it could be hard to defend the dichotomy because both instrumental and reactive aggression could be planned or spontaneous and both might involve emotional responses and experiences. Second, the primary goal or intent of an aggressive act in
sport is difficult to establish and individual acts of aggression may have multiple goals and/or motives.

Sanctioned and unsanctioned aggression may be useful terms because they incorporate both the rules of the game and any unwritten rules or player norms that may come into effect (Kerr, 2005). In addition, the sanctioned-unsanctioned dichotomy does not focus on the intent of the act, which is hard to establish without speaking to the athlete that committed the act. Further, similar acts that may be repeated multiple times may have a different intent or goal every time because these acts might be situational.

In the present study I will examine models that consider both perspectives on categorizations of aggression. Instrumental and reactive aggression will be used in the primary models. Using these distinctions, the definition of aggression considers intent, behaviour, and the context of the act (Husman & Silva, 1984). There is larger body of research using these distinctions. Additionally, exploratory models examining sanctioned and unsanctioned aggression as outcome variables will be tested. To do this, items measuring sanctioned and unsanctioned aggression were developed to test the applicability of these terms when assessing aggression in competitive ice hockey.

1.1.1.2 Research assessing aggression in ice hockey.

Ice hockey is a fast-paced contact sport with many legal and illegal physical acts, making it an ideal setting to study aggression in sport. This thesis will focus on both social and psychological factors influencing aggression. Aggression has been studied with regard to many different psychological variables including: moral atmosphere (Stephens & Kavanagh, 2003), anger (Ahmadi, Besharat, Azizi & Larijani, 2011; Maxwell & Visek, 2009), anger rumination (Anestis, Anestis, Selby & Joiner, 2009; Maxwell, 2004), professionalization of attitudes
(Maxwell & Visek, 2009; Visek & Watson, 2005), and athletic identity (Maxwell & Visek, 2009; Visek, Watson, Hurst, Maxwell & Harris, 2010), in addition to various other areas. Research has also explored how individuals perceive aggression and legitimize aggression in hockey.

Loughead and Leith (2001) studied a population of atom (ages 10 and 11), peewee (ages 12 and 13), and bantam (ages 14 and 15) hockey players and their coaches. They reported that atom and peewee/bantam teams differed in their observed hostile and instrumental aggression, with the latter receiving more penalties for aggressive acts classified in both categories. Thus, perceived and observed aggressive behaviour in players increases with the level of play and as players get older. Consequently, aggression appears to be more prominently employed by older, more competitive players. The peewee/bantam group was more accepting of hostile aggression than atom players, who were more accepting towards acts of instrumental aggressive behaviour. These findings are similar to those of Bredemeier, Weiss, Shields, and Cooper (1987) who found that children are more accepting of injurious sport acts committed by adults than they are of the same acts committed by children their own age. Children perceived that as one becomes older, injurious acts are more acceptable. As players move to higher levels of sport, they learn what is required of them to continue succeeding in that sport. At the peewee/bantam level, players are expected to be more aggressive, with a greater emphasis placed on winning (Loughead & Leith, 2001). As Bandura (2001) argued, the cost of winning begins to outweigh having fun and playing fairly, which leads to players learning that acting aggressively in order to give their team a better chance of reaching a desired outcome is acceptable.

The perceived legitimacy of aggression is another area that supports the idea of aggression as a learned behaviour in sport. Visek and Watson (2005) looked at a minor hockey sample with players aged eight to 18, playing at both recreational and competitive levels. In
In addition to filling out questionnaire packages, participants viewed 15 video clips of aggressive hockey behaviours and assessed whether or not these were acceptable acts. The findings from this study suggest that hockey players undergo a socialization process through the course of their careers. This supports the notion that players’ moral priorities become more professionalized as the level of competitive play increases. Essentially, this means that as a player becomes more competitive, the benefits of winning begin to outweigh the cost of unsportsmanlike behaviour, and players may perceive aggressive behaviour as a gateway to playing professionally (Visek & Watson, 2005). In this study, youth players focused on a play orientation, high school and collegiate players focused most on skill mastery, and professional players were outcome oriented, focusing more on the importance of winning.

Dunn and Dunn (1999) assessed goal orientations, perceptions of aggression, and sportspersonship in a sample of elite youth ice hockey players aged 11 to 13. Results indicated that individuals with a higher ego orientation\(^1\) were more approving of the use of intentionally injurious behaviours than those with a lower ego orientation. Those who had high ego orientations were most accepting of aggression in ice hockey. In contrast to this, a high task orientation\(^2\) was related to players respect and concerns for social conventions in hockey and thus, high task orientation groups had higher sportspersonship levels than those with low task orientations. It could thus be argued that learned goal orientations, personal domains that are largely influenced by the social environment, can lead to aggression as the resulting behaviour.

\(^1\) An individual with an ego goal orientation seeks not only to show ability superior to others, but also the ability to beat others (Duda & Nicholls, 1992).
\(^2\) An individual with a task orientation seeks to improve skill and personal bests, comparing current performances only to past personal performances (Duda & Nicholls, 1992).
The research presented indicates that aggression is deeply embedded in the culture of ice hockey. Athletes from a young age learn that acting aggressively is acceptable if it is assisting their team, with greater emphasis at higher competitive levels (Vissek & Watson, 2005). Researchers need to explore new concepts regarding aggression in sport to better understand how this construct operates. Examining aggression and emerging constructs that may have implications with regard to aggression, such as passion, is important in learning more regarding the effects on aggression in sport.

1.1.1.2.1 Sanctioned and unsanctioned aggression research.

Sanctioned aggression, a term describing acts that occur within the rules of the game and player norms, has been examined in previous research (Grange & Kerr, 2009, 2011). This is also known in reversal theory as play aggression (Kerr, 2005). Grange and Kerr (2011) have explored the use of sanctioned aggression from a qualitative perspective, allowing a detailed understanding of how athletes interpret aggressive acts in sport. Australian football athletes view aggressive acts as a part of the game (Grange & Kerr, 2009). In other words, it is almost expected that such acts will occur during a match. Athletes have referred to sanctioned aggression as “controlled aggression” where the focus is on winning a ball or challenging an opponent (Grange & Kerr, 2009). Australian football athletes perceive sanctioned aggression as playing hard, competitively, and within the game’s rule boundaries (Grange & Kerr, 2009).

Unsanctioned aggression occurs outside of the written rules and player norms of the game and is often punished by game officials (Kerr, 2005). Based on reversal theory, Kerr (2005) states that unsanctioned aggression can occur in three forms: anger, thrill, and power. Anger aggression is usually serious and involves a high level of arousal. Thrill aggression refers to aggression carried out with the intent of felt arousal and enjoyment, leading to immediate
gratification. Power aggression has the purpose to dominate an opponent, often with the goal of reaching success as the means to the end. This makes it acceptable in the eyes of athletes (Grange & Kerr, 2009). An example of unsanctioned aggression in ice hockey might be butt-ending or a hit to the head. Athletes have often reported the use of unsanctioned aggression in past research.

Recent research provides evidence for the use of unsanctioned aggression in collision and contact sports. Australian football athletes have reported using power aggression to intimidate opponents, and this behaviour was condoned by the coaches or the clubs themselves (Grange & Kerr, 2009). Anger aggression has been reported as an impulse when athletes feel they have lost emotional control in a situation provoked by the opponent’s offence (Grange & Kerr, 2009). In addition, players that have put the emphasis on winning as their main competitive goal were found to be more likely to engage in acts of unsanctioned aggression as a way of accomplishing their goals (Maxwell & Visek, 2009). Grange and Kerr (2009) argue that power and anger aggression are often the “result of player intimidation and retaliation” (p. 40). Thrill aggression is not often reported as a reason to engage in unsanctioned acts (Grange & Kerr, 2009). Many athletes have been taught to engage in unsanctioned acts without being caught by game officials, potentially using it as a strategy to remove key opponents from the game (Maxwell & Visek, 2009). As the literature reflects, unsanctioned aggression is not uncommon in many sports and deserves attention with regard to its application in contact sport. In the present research sanctioned and unsanctioned aggression will be examined as outcome variables in exploratory mediation models in an attempt to understand how they work with regard to the passion-aggression relationship in competitive ice hockey.
1.1.2 Passion.

Passion for a specific activity is thought to influence motivation (Vallerand, Blanchard, Mageau, Koestner, Ratelle, Leonard, et al., 2003), cognitions (Vallerand, 2010), emotions (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al, 2003, Study 1), and behaviour (Donahue et al., 2009) in sport. In accordance with the dualistic model of passion (DMP; Vallerand et al., 2003), passion is defined as a strong inclination toward an activity that one likes or even loves, finds important and invests time and energy (Vallerand et al., 2003). Passion also involves being emotionally charged toward the passionate activity, which becomes deeply rooted into the individual’s identity in an autonomous or controlled way (Vallerand, 2010, 2012; Vallerand et al., 2003; Vallerand Rousseau, Grouzet, Dumais, Grenier, & Blanchard., 2006). For example, if one were to ask an athlete what sport they play, a passionate athlete is likely to respond, “I am a hockey player,” whereas a non-passionate athlete is likely to say, “I play hockey.”

Vallerand and colleagues’ (2003) model of passion is rooted in self-determination theory (Deci & Ryan, 1985). In line with self-determination theory, individuals are expected to engage in activities throughout life in order to fill the three basic psychological needs of autonomy, relatedness, and competence (Deci & Ryan, 1985; Vallerand, 2012). After trying many different activities, an individual will begin to prefer some activities to others; specifically those activities that provide them the most joy and satisfy their psychological needs.
1.1.2.1 The dualistic model of passion.

It has been argued that there are two types of passion one can possess toward an activity, harmonious or obsessive (Vallerand et al., 2003). Harmonious passion is generally regarded as healthy and adaptive passion, whereas obsessive passion is typically associated with more maladaptive outcomes. Harmonious passion involves an autonomous internalization of an activity into one’s identity (Deci & Ryan, 2000), which occurs when an individual has freely accepted the activity as important, with no attached contingencies (Vallerand et al., 2003). Individuals do not feel compelled to engage in their passionate activity, they choose to do so (Vallerand et al., 2003; Vallerand et al., 2006). Thus, the individual controls the passion. Furthermore, this activity becomes a part of the individual’s identity and does not overpower them, occurring in harmony with other aspects of the individual’s life (Vallerand et al., 2003; Vallerand et al., 2006). Research on the DMP has shown that those with a dominant harmonious passion generally experience greater positive affect (Vallerand et al., 2003, study 1), experience more positive emotion before, during and after activity engagement (Vallerand et al., 2003, Study 1), are better able to disengage from the passionate activity (Vallerand et al., 2003, Study 2), experience more effective decision-making (Philippe, Vallerand, Richer, Vallieres, & Bergeron, 2009, Study 2), and are less persistent in the activity (Vallerand et al., 2003, study 2) compared to those with an obsessive passion.

Obsessive passion results from a controlled internalization of the activity into the individual’s identity. Deci and Ryan (2000) suggest that this, at best, leads to partial internalization of the passion into the individual’s identity and at worst, leads the passion to be internalized completely outside the integrated self, leading to a lack of control over the activity. It is important to note that an obsessive passion is associated with many attached contingencies
such as social acceptance and self-esteem (Vallerand, 2010, 2012). These contingencies may cause the individual to become dependent on the activity they are passionate for and leads them to experience distress in the face of failure (Vallerand, 2012). An obsessive passion has been shown to be related to decreased decision-making skills (Philippe et al., 2009, Study 2), more negative affect after engaging in the activity (Vallerand et al., 2003, Study 1), and a more rigid persistence toward the passionate activity (Vallerand et al., 2003, Study 2; Vallerand, 2012).

Table 1.1 presents further differences between harmonious and obsessive passion.

Table 1.1

Research findings supporting the Dualistic Model of Passion

<table>
<thead>
<tr>
<th>Obsessive Passion</th>
<th>Harmonious Passion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ego- (controlled) internalization</td>
<td>Autonomous internalization</td>
</tr>
<tr>
<td>Attached contingencies</td>
<td>No attached contingencies</td>
</tr>
<tr>
<td>Difficulty disengaging</td>
<td>Able to freely disengage</td>
</tr>
<tr>
<td>Inability to focus on other life activities</td>
<td>Ability to focus on other life activities</td>
</tr>
<tr>
<td>Experience of guilt</td>
<td>No attached guilt</td>
</tr>
<tr>
<td>Controlled by passion</td>
<td>Control over passion</td>
</tr>
<tr>
<td>Experience of more maladaptive outcomes</td>
<td>Experience of more adaptive outcomes</td>
</tr>
<tr>
<td>Feel the need to correct mistakes</td>
<td>Learn from mistakes, in hopes to improve</td>
</tr>
<tr>
<td>Increased levels of rumination</td>
<td>Negative relationship with rumination</td>
</tr>
<tr>
<td>Inability to focus on task at hand</td>
<td>Full focus on task at hand</td>
</tr>
<tr>
<td>Inability to reach flow states</td>
<td>Ability to reach flow states</td>
</tr>
<tr>
<td>Increased levels of stress</td>
<td>Experience lower levels of stress</td>
</tr>
<tr>
<td>Positively linked to negative self-related emotions</td>
<td>Negatively linked to negative self-related emotions</td>
</tr>
<tr>
<td>Decreased subjective well-being</td>
<td>Increased subjective well-being</td>
</tr>
<tr>
<td>Decreased physical well-being</td>
<td>Increased physical well-being</td>
</tr>
<tr>
<td>Negative association to positive emotion</td>
<td>Positive association to positive emotions</td>
</tr>
</tbody>
</table>

Note. Information adapted from Carbonneau, Vallerand, & Massicotte, 2010; Magneau et al., 2005; Philippe et al., 2009, Study 1 & 2, Vallerand, 2010, 2012; Vallerand et al., 2003; Vallerand et al., 2006 research findings.
1.1.2.2 *The development of passion.*

Passion is developed through a series of three processes: activity selection, activity valuation, and internalization. The way a passion becomes internalized largely depends on the environment in which it is fostered (Vallerand, 2012). Activity selection refers to the individual preferring the activity over other ones. Vallerand (2012) suggests that if the individual feels the selection of the activity represents their true choice and interests and is in harmony with their identity, the development of a passion toward the activity should be endorsed. Activity valuation occurs when an activity becomes important and valued by the individual (Vallerand, 2012). As importance of the activity increases, it becomes internalized into the individual’s identity and the person becomes more passionate about this activity (Vallerand, 2010, 2012).

The type of passion that develops depends on the internalization process that takes place (Vallerand, 2012). It is argued that a person generally has a harmonious and an obsessive passion for an activity simultaneously; however, that which is most apparent is the more dominant one (Vallerand, 2010, 2012). Based on the environment, one passion can become dominant over the other depending on how the activity is fostered (Vallerand, 2012). The extent to which the individual’s social environment promotes their autonomy determines how the passion is internalized (Vallerand, 2012). An environment (parents, peers, coaches) that supports autonomous choice for an individual in terms of interesting activities and values, leads the individual to develop an autonomous internalization (Deci & Ryan, 1991; Vallerand, Fortier & Guay, 1997), leading to a harmonious passion (Vallerand, 2012). In contrast, if an individual experiences a controlled environment, they are most likely to develop a controlled internalization, leading to an obsessive passion (Vallerand, 2012).
1.1.3 Passion and aggression.

Although research on passion and aggression in sport is sparse, Donahue and colleagues (2009) assessed the interplay of the two types of passion and reactive aggression in basketball. They hypothesized that obsessively passionate players would exhibit more reactive aggressive behaviour than harmoniously passionate players. Obsessively passionate players reported more instances of reactive aggression than did their harmoniously passionate peers, thus, they were more likely to use reactive aggression. These findings support the DMP in that harmonious passion is generally associated with more positive outcomes, such as prosocial behaviours (sportpersonship) in sport, and obsessive passion is generally associated with more negative outcomes, such as aggressive behaviours. This relationship likely occurs because those with a controlled functioning become more defensive, whereas those with an autonomous functioning are less likely to feel defensive during challenging times (Deci & Ryan, 1991).

One way to deal with a perceived threat to identity is to act aggressively toward the source of that threat, thus restoring a positive sense of competence and identity (Donahue et al., 2009). Because obsessively passionate people identify more strongly with the activity (Vallerand, 2010), they are more likely to feel threatened in scenarios that target their competence or identity in the passionate activity (Vallerand, 2010, 2012; Vallerand et al., 2003), thus increasing the likelihood of acting aggressively.

Donahue and colleagues (2009) addressed this issue in a second study where they introduced a threat condition as the manipulation. In addition to completing The Passion Scale, basketball athletes were asked to list five personal weaknesses and fully explain them (identity-__

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3 Donahue and colleagues (2009) used the Bredemeier Athletic Aggression Inventory but did not measure instrumental aggression in this study, as there were problems with the reliability of the scale.
threat condition) or five personal strengths and fully explain them (identity-affirmation condition). They then responded to three hypothetical aggressive behaviours. Results supported those of study 1 and findings of similar research (Philippe et al., 2009; Rip, Vallerand, & Lafreniere, 2012). Athletes with an obsessive passion scored higher on situational aggression than harmoniously passionate players, indicating that obsessively passionate athletes were more likely to employ aggressive behaviours in various athletic situations. Further, in self-threat conditions, obsessively passionate players had higher scores of situational aggression than harmoniously passionate players. When obsessively passionate players are exposed to situations that target their competence and identity, they are more likely to react in aggressive ways. This finding is supported by research that showed that those who are obsessively passionate for their religion (Rip et al., 2012, Study 1) or political ideology (Rip et al., 2012, Study 2) became more aggressive when their religious or political identity was threatened.

These findings provide evidence that obsessively passionate individuals are more likely to act aggressively than harmoniously passionate players. As Donahue and colleagues (2009) have suggested, having an obsessive passion for an activity puts the individual at risk of reacting defensively to protect his or her sense of self. When the situation demands it, these individuals are more likely to act aggressively. This may occur because those with an obsessive passion operate with a defensive and controlled mode of functioning (Vallerand, 2010, 2012; Vallerand et al., 2003), causing them to perceive more situations as threatening (Donahue et al., 2009). In contrast, harmoniously passionate players operate with open and non-defensive modes of functioning (Vallerand, 2010, 2012; Vallerand et al., 2003), causing them to focus more on skill mastery (Vallerand, Mageau, Elliot, Dumais, Demers, & Rousseau, 2008, Study 2). Put another way, in a competitive setting like sport, athletes can satisfy their need of competency by exerting
superiority and success over others and by gaining social approval (obsessive passion) or by achieving self-referenced performance standards (harmonious passion) (Ntoumanis & Standage, 2009).

Studying the passion-aggression relationship in various sport settings has been suggested as an important area for future inquiry (Donahue et al., 2009). It is also important to consider processes that explain this relationship. One way of gaining social approval with regard to aggressive acts may be moral disengagement (Bandura, 1999). Athletes may employ this when they feel others are not accepting of a certain act, which may potentially be used more by obsessively passionate athletes. A question that remains is how athletes justify acting in an unmoral or unacceptable way. Bandura (2001, 2012) argues that individuals make unacceptable conduct seem acceptable through the use of moral disengagement.

1.1.4 Moral disengagement in sport.

Moral disengagement is a mechanism used by athletes to make unacceptable conduct seem more acceptable (Boardley & Kavussanu, 2009). It includes eight psychosocial mechanisms divided into four categories (see table 1.2). These mechanisms are employed by athletes to make reprehensible conduct seem morally acceptable to the self, peers, parents, and coaches (Bandura, 2001, 2012; Boardley & Kavussanu 2009, 2011). Many studies have explored the link of moral disengagement and aggression in sport (Boardley & Kavussanu, 2009, 2010, 2011; Corrion, et al., 2009; Long, Pantaleon, Bruant, & d’Arripe-Longueville, 2006; Tracelet, Romand, Moret, & Kavussanu, 2011).
1.1.4.1 **Moral disengagement and aggression in sport.**

When athletes engage in negative or unacceptable acts in sport, they often try to justify these acts (Bredemeier, et al., 1987). Moral disengagement has been shown to be negatively related to prosocial and positively correlated to antisocial behaviours against opponents amongst adolescent field hockey and netball players (Boardley & Kavussanu, 2009). Furthermore, moral disengagement has been shown to mediate the relationship between perceived value of toughness\(^4\) and antisocial behaviours among soccer players (Boardley & Kavussanu, 2010). This suggests that moral disengagement is a mechanism that underlies the relationship between perceived value of toughness and antisocial behaviour. Furthermore, these studies support the idea that moral disengagement is related to negative sport behaviours very similar to aggression, and it plays a role in justifying such behaviours.

Research findings suggest that athletes who engage in aggressive behaviour often employ mechanisms of moral disengagement to avoid the consequences that may be associated with their actions. Youth athletes when interviewed about moral reasoning in sport revealed use of moral disengagement, specifically, dehumanization and diffusion of responsibility mechanisms (Long et al., 2006). This finding is in contrast to the work of Tracelet and colleagues (2011) who found no evidence of the use of dehumanization amongst older athletes. They found that athletes use many justifications for behaviour; among the most popular are displacement of responsibility and moral justification (Tracelet et al, 2011). These studies show that athletes participating in different sports, and at different ages, employ different mechanisms of moral disengagement.

\(^4\) The researchers equate perceived value of toughness in this study with social acceptance.
Table 1.2

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Operates on the harmful behaviour itself</strong></td>
<td></td>
</tr>
<tr>
<td>Moral justification</td>
<td>Involves cognitively reconstructing blameworthy behaviours into honourable behaviours, making transgressive behaviour personally and socially acceptable by depicting it as a facilitator of a valued social or moral purpose.</td>
</tr>
<tr>
<td>Euphemistic Labeling</td>
<td>Selective use of language in order to cognitively disguise blameworthy activities as less harmful or damaging.</td>
</tr>
<tr>
<td>Advantageous comparison</td>
<td>Comparing unacceptable behaviours with more intolerable activities, making them appear benign (benevolent) or inconsequential.</td>
</tr>
<tr>
<td><strong>Targets responsibility for the action, decreasing the accountability felt by a person.</strong></td>
<td></td>
</tr>
<tr>
<td>Displacement of responsibility</td>
<td>When an individual views his or her actions as resulting from social pressures or directions of others and not something that he or she is personally responsible for.</td>
</tr>
<tr>
<td>Diffusion of responsibility</td>
<td>Occurs when division of labour, group decision-making or group actions are blamed for a transgressive act.</td>
</tr>
<tr>
<td><strong>Acts on the consequences resulting from the aggressive act</strong></td>
<td></td>
</tr>
<tr>
<td>Distortion of consequences</td>
<td>The individual avoids or cognitively minimizes the harm caused by their condemnatory action, weakening potential self-deterring reactions.</td>
</tr>
<tr>
<td><strong>Operates on the victim of the act</strong></td>
<td></td>
</tr>
<tr>
<td>Dehumanization</td>
<td>Cognitively depriving opponents of human qualities and or attributing animalistic qualities to them.</td>
</tr>
<tr>
<td>Attribution of blame</td>
<td>Happens when an individual sees him or herself as an innocent victim driven to aggress by forceful provocation.</td>
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</tbody>
</table>

1.1.4.2 Moral disengagement and passion in sport.

To the best of my knowledge, no research has been carried out assessing the relationship between passion and moral disengagement. However, Hodge, Hargreaves, Gerrard, and Lonsdale (2013) recently explored controlled motivation and moral disengagement as an underlying mechanism to doping in sport. Results suggested that a controlled motivation, similar to an obsessive passion, is significantly associated to moral disengagement. In contrast, there was no association between autonomous motivation and moral disengagement. While the constructs of autonomous and controlled motivation are similar to passion, they are not full representations of the construct (Vallerand, 2010). Therefore, it is worthwhile to assess the relationship between types of passion and moral disengagement. Further, it is worthwhile to assess whether moral disengagement explains, or mediates, the passion-aggression relationship in competitive youth hockey.

The relationship between types of passion and moral disengagement is important to assess for two reasons. First, athletes employ moral disengagement strategies to justify unacceptable acts committed during competition. Those with an obsessive passion are more likely to act defensively (Donahue et al., 2009); similarly, those with controlled functioning employ more defensive strategies (Deci & Ryan, 1985). This could lead to an employment of moral disengagement when individuals repeatedly aggress because, after engaging in such acts, they may feel that others perceive such behaviours as negative. Due to social acceptance contingencies attached to an obsessive passion, an individual might feel they have to justify their behaviour or make it seem less serious to others. Second, it has been shown that there is a direct relationship between obsessive passion and reactive aggression in athletic settings (Donahue et
al, 2009). As the correlation between obsessive passion and reactive aggression was moderate (Cohen, 1988), there may be other mechanisms at work in this relationship. It is possible that moral disengagement may be one such mechanism.

Moral disengagement has been found to partially mediate the effects of an ego goal orientation on both antisocial behaviour toward opponents and antisocial behaviour toward teammates (Dunn & Dunn, 1999). Thus, athletes who have an ego orientation and higher levels of moral disengagement may be more likely to engage in antisocial conduct. Those with an ego goal orientation are most likely to possess an obsessive passion whereas those with a task goal orientation are likely to possess a harmonious passion (Vallerand, 2010). There is also congruence between the focus of those with an obsessive passion and those with an ego-goal orientation; the focus is on being better than others or dominating others (Duda & Nicholls, 1992; Vallerand, 2010). While moral disengagement is a potential mediator of the passion-aggression relationship, other variables that concern identity may also be important mediators in the passion-aggression relationship as well.

1.1.5 Role-identity salience.

Role-identity salience may bring understanding to why athletes exhibit certain behaviours in different settings. A role has been defined as a set of behaviour expectations an individual occupying a position in a social context is expected to exhibit (Katz & Kahn, 1978). A role can become a part of an individual’s identity. Stryker and Burke (2000) define identity as parts of the self that are composed of meanings a person ascribes to the many roles he or she plays in differentiated contemporary societies. In contemporary society an individual can take on many different roles. People experience their lives in small and specialized networks of social relationships; roles support their involvement in these networks (Stryker & Burke, 2000). As a
result, individuals develop role-identities, which are defined by both the social structure and the individual (Turner, 1978).

Role-identities take on different levels of importance in an individual’s identity. As such, some become more a part of the self than others (Callero, 1985). The more salient a role-identity, the higher in the role hierarchy it is positioned (Callero, 1985; Turner, 1978). This means that those role-identities at the top of the role hierarchy are more representative of the self than those positioned at the bottom (Callero, 1985). Role-identity salience also has implications in self-definition. Role-identities positioned near the top of the hierarchy become more pertinent descriptors of the self than those positioned lower in the hierarchy (Callero, 1985). For example, an adolescent male who is passionate for hockey might define himself as a hockey player rather than defining himself as a student, which is a role thrust on him by societal expectations. In addition to its self-defining capacity, role-identities also have strong implications in the behaviours an individual exhibits within a social context.

Different roles have different behavioural consequences (Callero, 1985). Role-identities imply action and through this action, role-identities become validated (Callero, 1985). The higher the salience of an identity relative to other identities that are included as part of the self, the greater the chance of behaviour choices in harmony with the identity (Stryker & Burke, 2000). For example, if an individual has a hockey player role-identity, behaviours or actions surrounding this identity should be more frequent (e.g. training, watching hockey, playing street hockey, etc). The role an individual fills and how important the role is to their identity is referred to as role-identity salience, and as described above, this has implications for an individual’s behaviour. However, a current gap in the literature exists, where role-identity has not been
studied with its relation to passion, and how it can have implications for aggressive behaviour when one has a passion for hockey and a role-identity of being an aggressive hockey player.

1.1.5.1 Research on role-identity salience.

To my knowledge, there is no research assessing role-identity salience in a sport context. However, it has been studied in various other settings such as familial life (Stryker, 1968; van Hattem, Ossenkop, Dikkers, & Vinkenburg, 2013), blood donation (Callero, 1985), and volunteering (Thoits, 2013). Research has shown that individual’s spend more time invested in activities involving their salient identity, specifically with regard to a volunteer role-identity (Thoits, 2013). Volunteers that spent more time visiting patients in a hospital rated this identity as more important and were more likely to mention it to others (Thoits, 2013). Blood donors with a high role-identity salience related to blood donation were more likely to define themselves as regular blood donors, had a large number of friendships related to blood donation, and donated blood more often (Callero, 1985). These findings indicate how a role becomes something an individual identifies with, and in turn, influences their behaviour.

1.1.5.2 Role-identity salience, passion, and aggression.

Whether an individual holds a harmonious or an obsessive passion for an activity has implications for how this activity is integrated as part of their identity (Vallerand, 2010). The activity becomes either integrated fully (harmonious passion) or partially (obsessive passion) into the individual’s identity. Due to the importance this activity holds with the individual, the role they have within their passionate activity should fall moderately high in the role hierarchy. As a result, this role should have great implications for how the individual behaves in that social context (Callero, 1985; Stryker and Burke, 2000).
In the present study, the role-identity salience being assessed is the identity of being an aggressive hockey player. With this identity comes a role prescription synonymous with an individual who plays the game in an aggressive manner. Previous research has shown that as a player moves to higher, more competitive levels, aggressive behaviours are encouraged and employed more often (Lougheed & Leith, 2001; Visek & Watson, 2005). This behaviour is also a known part of the culture of the game, and becomes embedded in players from a young age (Russell, 2008). An individual may then describe they type of player they are as aggressive. For example, when asked what type of player they are they might say “I’m an aggressive hockey player” because they identify with their role to act aggressively within the social context of the sport. Therefore, the individual should agree with statements presented to them regarding aggression, to a certain degree. There is an absence of research assessing this area, but it may have implications in the passion-aggression relationship due to the importance identity holds in a passion, and how the role within that domain operates. In order to address this gap, assessing role-identity salience and its implications in the passion-aggression relationship is a secondary goal of the study, along with its primary purpose.

1.2 Purpose

The aim of the present study was twofold. The primary purpose was to examine relationships between types of passion (harmonious and obsessive) and types of aggression (instrumental and reactive) in competitive male ice hockey, and to test whether moral disengagement mediates the passion-aggression relationship. The secondary purpose was to assess whether role-identity salience and moral disengagement mediate the passion-aggression relationship. Exploratory models were then tested to determine if the two types of passion are related to sanctioned and unsanctioned aggression.
The present study tested two main mediation models as well as two exploratory mediation models. The first two models accompany the primary purpose; the first is a simple mediation model that assesses moral disengagement as a mediator in the passion-reactive aggression relationship. The second model is a multiple mediator model assessing moral disengagement and role-identity salience as mediators of the passion-reactive aggression relationship. This model accompanies the secondary purpose of the study.

The exploratory mediation models involved using unsanctioned aggression as the outcome variable. The antecedent and mediator variables remained the same. The purpose of these models was to examine the applicability of unsanctioned aggression in competitive male ice hockey.

1.3 Research Questions and Hypotheses

1.3.1 Participants.

To answer the following research questions the sample was composed only of male athletes because in female ice hockey the nature of physical contact is much different. For example, in women’s ice hockey body checking is not within the rules and in men’s hockey it is an integral part of the game. The rule difference regarding physical contact in male versus female ice hockey prevented inclusion of both male and female participants in the study because the definitions of sanctioned and unsanctioned as well as instrumental and reactive aggression would take on different meanings depending on gender, giving the results different meanings as well. Male hockey was specifically chosen as the population to focus on because there are relatively high rates of physical aggression in the sport, and the sport provides many opportunities to act in

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5 Originally, instrumental aggression was going to be tested in this model as well as reactive aggression. However, due to scale reliability issues concerning instrumental aggression, only reactive aggression was used as an outcome variable in the mediation models.
an aggressive manner. With this population in mind, the following research questions and hypotheses were constructed.

1.3.2 Primary hypotheses: correlational relationships.

1. What is the relationship between types of passion and moral disengagement?

It was hypothesized that obsessive passion would be positively related to moral disengagement (hypothesis 1a). However, those with a harmonious passion are less defensive with regard to their own behaviour (Hodgins & Knee, 2002), and therefore it was expected that harmonious passion would not be significantly related to moral disengagement (hypothesis 1b). Those with a controlled motivation, similar to those with an obsessive passion, are more likely to attempt concealing or hiding irreparable behaviours (Deci & Ryan, 1985; Deci & Ryan, 1991; Ryan & Deci, 2002), often using self-justifications and deception to avoid consequences (Hodgins & Knee, 2002).

2. Are obsessive passion and harmonious passion significantly related to role-identity salience?

Passionate activities are important, valued, and internalized by the individual (Vallerand et al., 2003). Due to these criteria, harmonious passion (hypothesis 2a) and obsessive passion (hypothesis 2b) were both expected to share a positive relationship with role-identity salience.

3. What is the relationship between moral disengagement and reactive aggression?

It was hypothesized that moral disengagement will have a positive relationship with reactive aggression (hypothesis 3). Moral disengagement is a process used to hide or deceive one’s unacceptable behaviours (Bandura, 1999; Boardley & Kavusasanu, 2009).
Various qualitative (Long et al., 2006; Tracelet et al., 2011) and quantitative studies (Boardley & Kavussanu, 2009; Boardley & Kavussanu, 2010) have found that athletes engaging in antisocial behaviour, similar to aggressive behaviour but including the possibility of cheating, often employ mechanisms of moral disengagement.

4. Do role-identity salience and reactive aggression share a significant relationship?

The more important an individual perceives their role the more likely they will be to defend it. Aggression is viewed as a possible response to threat (Donahue et al., 2009). Thus, if competence or identity is threatened or the individual perceives it to be, it increases the likelihood that they would respond aggressively (Donahue et al., 2009). Role-identity salience was expected to be positively related to reactive aggression (hypothesis 4) because reactive aggression is a form of retaliation in terms of solidifying or maintaining one’s role.

5. Do obsessive and harmonious passion act as significant predictors of reactive aggression?

Obsessive passion is generally associated with a variety of maladaptive outcomes (Vallerand et al., 2009), and has been reported to be positively related to reactive aggression (Donahue et al., 2009). Therefore, having high levels of obsessive passion will predict aggressive behaviours in sport (hypothesis 5a) but high level of harmonious passion should be unrelated to reactive aggressive behaviours (hypothesis 5b) because it involves less emotional and cognitive defensiveness (Hodgins & Knee, 2002).
1.3.2.1 Simple and multiple mediation models.

6. Does moral disengagement mediate the passion-aggression relationship?

Obsessive passion has been found to be positively related to reactive aggression in basketball athletes (Donahue et al., 2009). However, in the behavioural sciences many relationships are often explained with mediators (Preacher & Hayes, 2008). Complex relationships, such as that between types of passion and reactive aggression, warrant exploration of variables that might help further explain why the relationship occurs. The relationship between obsessive passion and reactive aggression was hypothesized to be mediated by moral disengagement (hypothesis 6a). However, it was not expected that moral disengagement would mediate the relationship between harmonious passion and reactive aggression (hypothesis 6b). (See figure 1.5 for a visual representation of hypotheses 3a and 3b.)

Figure 1.1 Simple mediation model depicting hypothesis 6. Solid lines reflect expected positive relationships. Dashed lines represent expected non-significant relationships.
7. Do moral disengagement and role-identity salience mediate the passion-aggression relationship?

People who are passionate about an activity typically integrate this activity into their identity, although with an obsessive passion the activity is not fully integrated as a part of the individual’s identity (Vallerand et al., 2003; Vallerand et al., 2006). Therefore, having a passion for hockey may lead to an individual perceiving the role of being an aggressive hockey player as highly salient because playing aggressively is generally expected within the culture of the sport. In addition, a high aggressive hockey player role-identity salience will likely lead to more aggression. Therefore, it was hypothesized that role-identity salience, in addition to moral disengagement, will mediate the relationship between obsessive passion and reactive aggression (hypothesis 7a). Role-identity salience, but not moral disengagement, was expected to positively mediate the relationship between harmonious passion and reactive aggression (hypothesis 7b). Figure 1.6 provides a representation of the hypothesis 7.
1.3.2.2 Exploratory hypotheses: sanctioned and unsanctioned aggression.

While the primary meditational hypotheses remain central to this study, it is also important to test the applicability of unsanctioned aggression to a competitive hockey population. Studies examining reactive aggression often focus on the intent of the act, and sometimes measures are not valid (Gee, 2011; Grange & Kerr, 2009). Using the concept of unsanctioned aggression, the focus is placed on whether or not the act has occurred inside or outside the rules of sport and if this is the case, the individual involved in the act is generally penalized. This helps understand the severity of the act, without having to focus on the intent of the act to categorize it. Therefore, exploratory hypotheses were constructed to assess whether the use of this concept in replacement of reactive aggression is more applicable.
8. Does moral disengagement mediate the relationship between types of passion and sanctioned and unsanctioned aggression?

It was expected that both obsessive passion (hypothesis 8a) and harmonious passion (hypothesis 8b) would be positively related to sanctioned aggression, as this behaviour occurs within the rules of the game. In addition, sanctioned aggression and moral disengagement are not expected to be related (hypothesis 8c) because sanctioned acts occur within the rules of the game, and therefore, athletes may not try and justify these acts. It was not expected that moral disengagement would mediate the relationship between harmonious passion and sanctioned aggression (hypothesis 8d) or between obsessive passion and sanctioned aggression (hypothesis 8e), because moral disengagement was expected to be used by obsessive passion athletes but not those with harmonious passion.

It was expected that obsessive passion will be positively correlated to unsanctioned aggression (hypothesis 8f) but that harmonious passion will not be related to unsanctioned aggression (hypothesis 8g). It was expected that moral disengagement would mediate the relationship between obsessive passion and unsanctioned aggression (hypothesis 8h, but not harmonious passion and unsanctioned aggression (hypothesis 8i). Figure 1.3 represents hypothesis 8.
Figure 1.3 Model depicting hypothesis 8. Solid lines indicate expected positive relationships. Dashed lines depict expected unrelated variables.

9. Do moral disengagement and role-identity salience mediate the relationship between types of passion and unsanctioned aggression?

It is expected that sanctioned aggression will share a positive relationship with role-identity salience (hypothesis 9a). As role-identity salience of an aggressive hockey player is measured, it should share a positive relationship with sanctioned aggression. Role-identity salience was expected to mediate the relationship between harmonious passion and sanctioned aggression (hypothesis 9b), in addition to mediating the relationship between obsessive passion and sanctioned aggression (hypothesis 9c), while moral disengagement was only expected to play a meditational role in hypotheses 9c.

It was expected that both moral disengagement and role-identity salience would mediate the relationship between obsessive passion and unsanctioned aggression (hypothesis 9d). However, it was expected that only role-identity salience would mediate
the relationship between harmonious passion and unsanctioned aggression (hypothesis 9e). These hypotheses are represented in figure 1.4.

Figure 1.4 Model representing hypothesis 9. Solid lines represented expected positive relationships. Dashed lines represent expected unrelated variables.
Chapter 2: Methodology

2.1 Participants

Participants \((N = 77)\) in the present study were competitive male ice hockey players between the ages of 15 and 19 \((\bar{x} = 16.54, SD = 1.02)\). The sample population included members of Midget A1 \((n = 52)\), Major Midget \((n = 17)\), and Junior A \((n = 8)\) competitive levels, who had been playing competitive\(^6\) hockey for an average of 8.33 years \((SD = 2.90)\). In addition, participants reported being a member of their current team for 1.34 \((SD = .559)\) seasons, with 67.5\% reporting being in their first season with the team. Participants were mostly Caucasian (87\%), while other participants identified Chinese (5.2\%) and South Asian (6.5\%) as their primary ethnicity.

2.2 Measures

2.2.1 Demographics.

A series of demographics (see Appendix E) assessed participant’s personal variables such as: age, ethnic background, level of hockey they were competing at, how long they had competed at this level, and how long they had been playing competitive hockey.

2.2.2 Aggression.

Instrumental and reactive aggression were assessed using the Bredemeier Athletic Aggression Inventory – Short Form (BAAGI; Appendix E). The questionnaire has three subscales measuring instrumental and reactive aggression and overall athletic aggression. Participants responded to both the instrumental and reactive aggression subscales, but only the reactive aggression subscale was used in data analysis due to reliability issues with the

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\(^6\) For the present study, competitive ice hockey was defined as competing at rep, A, AA, AAA, Major Midget, Junior B, Junior A, and CHL levels.
instrumental subscale ($\alpha = .40$). This is consistent with Donahue et al.’s (2009) study. The reactive aggression subscale (example, *you have to punish people if you want to win*) includes 7 items (B. J. Bredemeier, personal communication, September, 20, 2013). Items are scored on a 4-point Likert scale anchored 1 (*strong agreement*) to 4 (*strong disagreement*). Items were then summed to produce a reactive aggression score for each participant. Higher scores on each of the three subscales represent low levels of reactive aggression (B.J. Bredemeier, personal communication, September 20, 2013), therefore scores were reversed so that higher scores indicated higher levels of perceived aggression.

Internal reliability for the BAAGI scale has been found to be acceptable in past studies. Testing for the original scale was carried out with female athletes and showed high levels of reliability for both reactive ($\alpha = .90$) and instrumental aggression ($\alpha = .86$) (cited in Keeler, 2000). In Donahue and colleagues’ (2009) study the reactive aggression subscale had a high level of reliability ($\alpha = .80$). In the current study, the reliability score was acceptable ($\alpha = .78$). However, in Donahue and colleagues’ (2009) research, and in the present study ($\alpha = .40$), the instrumental aggression subscale did not have acceptable internal reliability. Various other studies have successfully employed the BAAGI as a measure of aggression (Chantal, Robin, Vernat & Bernache-Assollant, 2005; Donahue et al., 2009; Keeler, 2000; Mintah, Huddleston & Doody, 1999).
2.2.3 Passion.

Passion was measured using The Passion Scale (Appendix D; Vallerand et al., 2003), which was validated across four studies, conducted by Vallerand et al. (2003). The Passion Scale originally consisted of 12 items developed to reflect the definition of both harmonious (ex. *hockey allows me to live a variety of experiences*) and obsessive passion (ex. *I have difficulties controlling my urge to play hockey*) (6 items each), as well as five items designed to assess the passionate criteria (activity valuation, like or love for the activity, and time and energy investment). Thus, The Passion Scale is a 17-tem scale in which individuals respond on a 1 (*not agree at all*) to 7 (*very strongly agree*) Likert scale.

The scale is designed so individuals can choose which passionate activity they are responding in reference to. They then respond to the 17 items with regard to that activity. For the purpose of this study, the items were modified to assess passion for hockey, meaning individuals were not given the autonomy to decide which passionate activity they choose to respond in reference to. The stem in the original scale reading “this activity” was replaced by “hockey”. For example, the question reading “*this activity is in harmony with other activities in my life*” was modified to read, “*hockey is in harmony with other activities in my life*”. Items from the harmonious and obsessive passion subscales, in addition to the passionate criteria subscale, were averaged to provide a harmonious and obsessive score, as well as a passionate criteria score, for each participant.

Exploratory factor analysis during initial scale validation provided support for the two-factor structure of the passion scale. Vallerand and colleagues (2003, Study 1) have provided acceptable psychometric properties during initial scale validation with Cronbach alpha’s being .73 and .85 for harmonious passion and obsessive passion, respectively. Other studies have used
The Passion Scale in various sport contexts and all demonstrate high levels of reliability ranging from $\alpha = .73 - .80$ and $\alpha = .81 - .92$, for harmonious passion and obsessive passion respectively (Donahue et al., 2009; Schellenberg, Gaudreau, & Crocker, 2013; Vallerand et al., 2003, Study 2; Vallerand et al., 2006; Vallerand et al., 2008). In the present study, the subscales demonstrated acceptable reliability with $\alpha = .82$ and $\alpha = .80$ for harmonious passion and obsessive passion, respectively.

### 2.2.4 Moral disengagement.

The Moral Disengagement in Sport Scale – Short (MDSS-S; see Appendix E) will be used to assess athletes’ level of moral disengagement. The MDSS-S is an 8-item scale that includes one item for each mechanism of moral disengagement (e.g., bending the rules is a way of evening things up). Items are scored on a 1 (strongly disagree) to 7 (strongly agree) Likert scale. Participants were asked to respond to each question based on their level of agreement with the statement, while keeping hockey in mind. Scores are summed and the mean is then calculated, providing a total score of moral disengagement (I. K. Boardley, personal communication, September 19, 2013).

Acceptable psychometric properties of the MDSS-S have been reported in various studies, across a variety of different sports (Boardley & Kavussanu, 2009; Hodge & Lonsdale, 2011; Stanger et al., 2012). Exploratory factor analysis during initial scale validation supports the one-dimensional nature of the scale, in addition to strong convergent and concurrent validity (Boardley & Kavussanu, 2008). This scale allows researchers to assess total levels of moral disengagement, rather than having to use the longer form of the scale (Boardley & Kavussanu, 2007) in cases where exploring each mechanism is not appropriate. Internal
consistency Cronbach’s alpha coefficients of .80 and .85 (Boardley & Kavussanu, 2009) have been obtained. In the present study the scale had an acceptable reliability ($\alpha = .63$).

2.2.5 Role-identity salience.

Role-identity salience will be measured using the five item Role-Identity Salience Scale (see Appendix E) developed by Callero (1985). This scale assesses the extent to which a specific role is part of the individual’s self. In the initial study, it was developed to measure blood donor role-identity salience. An example item is: being a blood donor is an important part of who I am. To my knowledge, this scale has not been adapted and applied to the study of role-identity salience in sport. In the present study, “blood donor” was replaced with “aggressive hockey player” to measure the extent to which being an aggressive hockey player is part of the individual’s self. Respondents indicate their degree of agreeability for each item on a 9-point likert scale anchored 1 (strongly agree) to 9 (strongly disagree). Initially, lower scores represent higher role-identity salience, but the scale was coded for analysis so that higher scores indicate higher levels of role-identity salience. Three items in the scale were reverse scored (P. Callero, personal communication, September 18, 2013). Responses were then summed to produce a total scale score. In the initial validation study $\alpha = .81$ (Callero, 1985). In the present study, reliability of this scale was acceptable ($\alpha = .65$).

2.2.6 Sanctioned and unsanctioned aggression.

Few studies have applied sanctioned and unsanctioned aggression, and therefore there are limitations in measuring these types of aggression. Studies applying and exploring the terms have mainly been qualitative (Grange & Kerr, 2009; Kerr, 2006). A quantitative study carried out measured past unsanctioned aggression using two questions (Maxwell & Visek, 2009). Measuring sanctioned and unsanctioned aggression in this study was an exploratory endeavor.
A scale was developed to measure perceptions of sanctioned and unsanctioned acts in competitive ice hockey, that consisted of one item measuring the definition of sanctioned aggression, one item measuring the definition of unsanctioned aggression, and one item each to measure each theme of unsanctioned aggression emerging in recent research (Grange & Kerr, 2009, 2011), such as play, power, thrill, and protection of teammates. Items of this scale can be found in Table 2.1. Athletes indicated their level of agreement with each statement on a 1 (disagree) to 5 (agree) Likert scale (Appendix E). Scores for each participant were then summed to produce a total score for unsanctioned aggression. The items measuring unsanctioned aggression displayed strong scale reliability (\( \alpha = .83 \)). Reliability was not tested for sanctioned aggression as only one item measured the construct, so results should be interpreted with caution.
Table 2.1

Items from Sanctioned/Unsanctioned Aggression Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Measures</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Range</th>
<th>Minimum/Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressive acts that occur within the written rules and unwritten</td>
<td>Sanctioned Aggression</td>
<td>4.11</td>
<td>1.16</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>rules of hockey, carried out with no intent of harming other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>individuals are acceptable if it helps my team win the game.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggressive acts that occur outside the written and unwritten rules</td>
<td>Unsanctioned Aggression</td>
<td>2.16</td>
<td>1.20</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>of the sport and involve intent to harm another player are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acceptable if they help my team win the game.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would be willing to intentionally hurt an opposing player simply</td>
<td>Unsanctioned Aggression/</td>
<td>2.26</td>
<td>1.25</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>to intimidate him or her and their teammates.</td>
<td>Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have no problem committing an aggressive act that occurs</td>
<td>Unsanctioned Aggression/</td>
<td>2.78</td>
<td>1.27</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>within the formal and unwritten rules of hockey.</td>
<td>Play</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am willing to commit an aggressive act that occurs outside the</td>
<td>Unsanctioned Aggression/</td>
<td>2.33</td>
<td>1.28</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>written and unwritten rules of hockey</td>
<td>Thrill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am willing to play physically according to the rules of the game</td>
<td>Unsanctioned Aggression/</td>
<td>3.49</td>
<td>1.36</td>
<td>4.00</td>
<td>1.00/5.00</td>
</tr>
<tr>
<td>in order to help my team win.</td>
<td>Protection of Teammates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.3 Procedures

After obtaining consent from the University of British Columbia Behavioural Research Ethics Board, data was collected in one of two ways, either in person or online.

2.3.1 In person data collection.

Data was collected in person if teams were located close to the researcher, within the lower mainland area of British Columbia. Head coaches\(^7\) of competitive\(^8\) hockey teams across British Columbia were initially contacted via email to enlist their assistance with athlete recruitment. In the initial email, the nature of the study was described to coaches, who were asked to assist in setting up two separate meetings with their team (appendix A).

Two meeting times were set up with each team. The purpose of the first meeting was to introduce the study to players and ensure they understood the consent process. Athletes received an athlete letter of information outlining the study and its procedures (appendix B). Informed consent (appendix C) was used and minors did not require parental permission to participate in the study. The purpose of the study and the participants ethical rights were described to them and any questions they had were answered. The purpose of the second meeting was to have athletes fill out the questionnaires. At this time, participants were reminded that participation was voluntary, that they were being asked to respond honestly to all items, and that their responses would be kept confidential and reported in aggregated form. In most cases, coaches were present during study explanation and data collection. Due to Hockey Canada rules and regulations, two people in contact with the team at any given time must have Respect in Sport certification and this is generally a coach or a team manager (Respect in Sport, 2014). Players were all male and

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\(^7\) In some cases, team managers were contacted to obtain the head coach’s email if it was not displayed on the organization website.

\(^8\) Competitive hockey teams include those teams competing at the Midget A1, Major Midget, Junior B, and Junior A levels.
researchers in contact with the participants were all female, so having coaches in the dressing room made everyone more comfortable in the setting.

2.3.2 Online data collection.

Some of the teams involved in the study were located across British Columbia, quite far from the lower mainland. In order to accommodate their participation, online data collection was organized. In addition, some teams residing in the lower mainland that indicated they could not fit two meetings into their training schedules completed the online questionnaire. Coaches were initially contacted via email (appendix D) to see if they could assist in sending the study information to their players. Upon agreement an Athlete Letter of Information (appendix B) containing a link to the study was sent to the coach, who then forwarded the information to players via email. Coaches were also asked to remind players of this at their next upcoming practice. If players were interested in participating, they followed the link to the survey (found on the Athlete Letter of Information) that was completed on Edudata, a secure server.

The online questionnaire appeared in the same order as the paper and pencil questionnaire, the only difference was the method of delivery. The first page was the informed consent form. Upon consenting to participate, the participants filled out the online questionnaire. Participant’s responses were saved in Edudata, a secure server, and once the data collection period ended the online data were transferred into Microsoft Excel with the paper and pencil questionnaire data. Figure 2.1 depicts a flow chart conceptualizing data recruitment procedures.

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9 Edudata is a secure survey system utilized by the University of British Columbia for research purposes.
Figure 2.1 Flow chart depicting data collection procedures
2.4 Data Analysis

2.4.1 Data screening.

Prior to analysis, the data were screened for missing values and abnormalities. If data was missing, the missing values were imputed using within-subject median replacement (Acuna & Rodriguez, 2004). This was applied as long as a participant was not missing more than 50% of the values on a given (sub)scale. If more than 50% of the values for a given subscale were missing, the participant was excluded from analysis. Acuna and Rodriguez (2004) state that outliers in the data can affect the mean. Using the median replacement method ensures the data is robust and unaffected by outliers, as it replaces using the mid-point value of the participant’s responses in a given subscale, which is not affected by abnormally high or low values. In addition, median replacement method is recommended on occasions where a variable score may be skewed, which was a present issue with the unsanctioned aggression variable in the current data (Acuna & Rodriguez, 2004). Once missing data was replaced, the data was examined for any abnormalities.

Outliers were examined by exploring z-scores for each variable for every participant. Tabachnick & Fiddell (2007) suggest that z-scores should fall ± 3.29. Thus, any z-score above +3.29 or below -3.29 indicates an outlier. Followed by checking for outliers, assumptions of normality were analyzed for each variable. This was done by checking skewness, kurtosis, visual inspections of the data (box plots, histograms, normal Q-Q plots), and the Komogrov-Smirnov statistic (Burdenski, 2000).
2.4.2 Descriptive statistics.

Descriptive statistics (see Table 3.2), including mean and standard deviation, were computed for each variable. Pearson’s product moment correlations were computed to examine hypothesized relationships between variables (See table 3.3).

2.4.3 Regression analysis.

Ordinary least squares (OLS) Regression analyses were computed in SPSS 20. Prior to beginning the regression analysis, normality assumptions outlined by Hayes (2013) were examined. These normality assumptions include: linearity, normality, homoscedasticity, and independence. The regression analysis followed a forced method enter approach (Cohen, 2003); an approach where the researcher can enter both predictors into the equation at the same time. For example, this method was used to confirm whether harmonious passion (X₁; antecedent variable) and OP (X₂; antecedent variable) were significant individual predictors of reactive aggression (Y; outcome). The same procedure was used to test whether harmonious passion and obsessive passion were significant predictors of unsanctioned aggression (exploratory model).

2.4.4 Mediation analysis.

Using OLS regression-based path analysis I was able to explore how the effect of harmonious passion (X₁; antecedent variable) and obsessive passion (X₁; antecedent variable) on reactive aggression (Y; outcome variable) was partitioned into two paths of influence, direct and indirect (Hayes, 2013). The direct effect refers to the effect of X on Y, without including the effect of the mediator variable on the relationship. The indirect effect refers to the effect of X on Y including the effect the mediator variable has on the relationship (Hayes, 2009, 2013; Preacher & Hayes, 2008; Rucker et al., 2011). With regard to the indirect effect, two paths were tested. The first path (path a) was between the antecedent variable and the mediator. The second path (path b) was between the mediation and the outcome (see figure 2.2; Hayes, 2013). A mediator
acts as both an outcome (a path) and antecedent variable (b path). The indirect effect represents how the outcome variable (Y; reactive aggression) is influenced by the antecedent variable (X; obsessive and harmonious passion) through a causal sequence where the antecedent variable influences the mediator (MD), and the mediator influences the outcome variable (Y; Hayes, 2013). The current study uses recent approaches to mediation analysis outlined by Rucker and colleagues (2011) and Hayes (2013) to test whether moral disengagement and/or role-identity salience mediates the passion-aggression relationship.

![Diagram of mediation model](image)

**Figure 2.2 Pathways in a simple mediation model**

### 2.4.4.1 Recent approaches and suggestions to testing mediation effects.

In response to critiques of the causal steps approach, researchers have made suggestions to more accurately test mediation hypotheses. It has been argued that researchers should abandon the terms “partial” and “full” mediation (Hayes, 2013; Rucker et al., 2011). Full mediation implies that the mediator variable tested is the only reason a relationship between X and Y occurs. However, Rucker and colleagues (2011) argue that in order to claim full mediation, all possible mediator and suppressor variables have to be ruled out through confident measurement and no error. Since perfect measurement is near impossible in social sciences research,
researchers cannot make the claim that they have established full mediation in the model (Rucker et al., 2011). Rather, effect sizes and the magnitude of the mediated effect should become the focus of establishing mediation.

Rucker and colleagues (2011) suggested that researchers should focus more on the magnitude of mediation rather than the significance of the total/direct effect (c path). Concentrating on the significance of the direct effect as a necessary condition to testing the indirect effect may lead researchers to miss the mediation of a relationship (Rucker et al., 2011). Focusing on effect size and the magnitude of the mediated effect allows researchers to avoid the use of terms “partial” and “full” mediation based on the significance of the direct effect, which can hinder theory development (Rucker et al., 2011). Honing in more on the indirect effect can have theoretical importance regardless of the size of the effect and whether or not the criteria for “full” mediation are met (Rucker et al, 2011).

2.4.4.2 Bootstrapping.

Preacher and Hayes (2008) suggest using bootstrapping, a resampling technique, because it allows the most powerful method to acquire confidence intervals (CI) for specific indirect effects. In addition, bootstrapping decreases the possibility of type I error rates. Using bootstrapping, the magnitude and effect size of the indirect effect are tested (Preacher & Hayes, 2008). This procedure generates a representation of the sampling distribution of the indirect effect by treating the acquired sample size \( n \) as a representation of a population. The original sample is repeatedly resampled during analysis as a means of imitating the original sampling process (Hayes, 2009). The resampling procedure is carried out with replacement so that a new sample size is built by sampling cases from the original sample, but allowing any case already once used to be returned and reused as the resample of size \( n \) is constructed (Hayes, 2009). This means that a given case can be selected as part of a bootstrapped once, multiple times, or not at
all (Preacher and Hayes, 2008). When the resample has been carried out, \( a \) and \( b \) are estimated in the resampled data set and the product of the path coefficients is recorded (Hayes, 2009). This process is carried out a certain number of times, however Hayes (2009) recommends at least 5000 resamples, which was applied to the current study.

Using bootstrapping methods, an inference is made about the magnitude of the indirect effect in the population using a number of estimates (\( k \)) to generate a confidence interval, which is a percentile-based confidence interval (Hayes, 2009). Preacher and Hayes (2008) recommend using bias corrected bootstrapping procedures. Bootstrapped bias corrected confidence intervals are based off of an estimation of the sampling distribution of the indirect effect, unlike the Sobel Test where they are based off the assumption of normal distribution, meaning that bootstrapped confidence intervals can be asymmetrical (Preacher & Hayes, 2008). Due to the decreased possibility of type 1 error rates and the reliability of boostrapped BcCI’s, simple and multiple mediation models (hypothesis 6, 7, 8, and 9) were interpreted using bias corrected boostrapped methods.

### 2.4.4.3 Testing simple and multiple mediation models.

In light of the current recommendations, simple and multiple mediation models from hypotheses 6, 7, 8, and 9 were tested using guidelines from Preacher and Hayes (2008) and Rucker and colleagues (2011). Analysis was conducted in SPSS 20.0, using the INDIRECT macro developed by Hayes (Preacher & Hayes, 2008), applying bootstrapping procedures (Hayes, 2009; Preacher & Hayes, 2008; Rucker et al., 2011).

Results of simple and multiple mediation analyses were assessed to ascertain whether any pathways in the models were significant; however, this was not used as the criteria to assess whether mediation occurred in the model. Bias corrected confidence intervals (BcCI) were interpreted with regard to each model and were set at 95% confidence. The BcCIs were checked
to see if zero was included between the lower and upper bound BcCl. If zero was not between the lower and upper bound CI, it could be concluded that the indirect effect was not zero with 95% confidence (Hayes, 2009). Conceptually, this is the same as rejecting a null hypothesis (Hayes, 2009). Therefore, if zero was included in the lower and upper bound CIs I concluded there was no evidence for mediation.
Chapter 3: Results

3.1 Data Screening

In coach and athlete recruitment letters, it was indicated that penalty information and the position athletes played would be used in data analysis. However, there was limited response regarding collection of games sheets. Only one team was able to provide penalty records for the season. As a result this data could not be used. In addition, the effect of players’ positions in the passion-aggression relationship was not tested due to the small sample size\(^\text{10}\).

The data was screened to impute missing data and remove outliers. The original raw data consisted of 85 participants. Of these participants, 8 had significant missing data that could not be replaced and were excluded from the analyses, leaving 77 participants. To replace missing data, within-subject median replace was used (Acuna & Rodriguez, 2004). Once missing values were imputed, data was checked again for any remaining missing values or abnormalities, of which there were none. To inspect the data for outliers, z-scores were explored. Data points were checked to ensure none of the z-scores were above +3.29 or below -3.29 (Tabachnick & Fiddell, 2007). None of the data had a z-score above 3.07, indicating there were no outliers present in the data. Normality of the variables was then assessed by inspecting skewness, kurtosis, and the Kolmogrov-Smirnov test statistic, in addition to a visual inspection of the data (box plot, histogram, normal Q-Q plot, scatterplot) for each variable (Burdenski, 2000). Most data represented normality. Upon analysis of these results, sanctioned and unsanctioned aggression represented non-normality. Sanctioned aggression was transformed using a logarithmic equitation for severely negatively skewed variables (NEWX=LG10(K-x); Howell, 2007; Tabachnick & Fiddell, 2007). Unsanctioned aggression was transformed using a square root

\(^{10}\) Other’s expectations appears in the participant questionnaire in the appendices, but this was removed the model and as such, was not explored in data analysis.
equation for moderately negatively skewed data (NEWX=SQRT(K-x); Howell, 2007; Tabachnick & Fiddell, 2007). However, in the case of both transformation, the variable represented even greater non-normality than the original variable, so the untransformed variable was kept and used in analysis. In addition, due to its ordinal scale of measurement, relationships between sanctioned aggression and other study variables could only be assessed using Spearman’s rho correlations. The mediation models including sanctioned aggression as an outcome variable could not be tested due to its non-normality.

Scales for moral disengagement and role-identity salience, as well as subscales for obsessive passion, harmonious passion, reactive aggression, and unsanctioned aggression had moderate to strong internal reliability (Table 3.1). However, the instrumental aggression subscale as excluded from all analyses due to issues with reliability. Sanctioned aggression was not tested as an outcome variable in the exploratory mediation models. There was only one item assessing sanctioned aggression, and therefore it was not reliable to include a variable based on one item in these models. After reliability analyses were completed, bivariate correlations were then analyzed.
Table 3.1

Internal reliability coefficients for (sub)scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAAGI</td>
<td></td>
</tr>
<tr>
<td>Instrumental Aggression</td>
<td>.40</td>
</tr>
<tr>
<td>Reactive Aggression</td>
<td>.78</td>
</tr>
<tr>
<td>The Passion Scale</td>
<td></td>
</tr>
<tr>
<td>Harmonious Passion</td>
<td>.82</td>
</tr>
<tr>
<td>Obsessive Passion</td>
<td>.80</td>
</tr>
<tr>
<td>Moral Disengagement</td>
<td>.63</td>
</tr>
<tr>
<td>Role-Identity Salience</td>
<td>.65</td>
</tr>
<tr>
<td>Unsanctioned Aggression</td>
<td>.83</td>
</tr>
</tbody>
</table>

3.2 Descriptive Statistics and Correlations

Descriptive statistics of the sample can be found in Table 3.2. Relationships between variables were assessed using Pearson’s product moment correlations and interpretation followed Cohen’s (1988) guidelines. The results from these analyses can be found in Table 3.3. Table 3.4 includes Spearman’s rho correlations between study variables and sanctioned aggression.
Table 3.2

Summary of descriptive statistics for study variables

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmonious Passion</td>
<td>1-7</td>
<td>32.43</td>
<td>6.00</td>
<td>-.417</td>
<td>.091</td>
</tr>
<tr>
<td>Obsessive Passion</td>
<td>1-7</td>
<td>25.49</td>
<td>7.90</td>
<td>.176</td>
<td>-.371</td>
</tr>
<tr>
<td>Moral Disengagement</td>
<td>1-8</td>
<td>4.32</td>
<td>0.90</td>
<td>.334</td>
<td>.020</td>
</tr>
<tr>
<td>Role-Identity Salience</td>
<td>1-9</td>
<td>27.84</td>
<td>8.49</td>
<td>-.264</td>
<td>-.328</td>
</tr>
<tr>
<td>Reactive Aggression</td>
<td>1-4</td>
<td>34.34</td>
<td>6.00</td>
<td>-.148</td>
<td>-.354</td>
</tr>
<tr>
<td>Unsanctioned Aggression</td>
<td>1-5</td>
<td>13.05</td>
<td>4.88</td>
<td>.032</td>
<td>-1.112</td>
</tr>
</tbody>
</table>

Note: M = mean, SD = standard deviation, α = Chronbach Alpha Reliability

Table 3.3

Correlations of study variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Harmonious Passion</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Obsessive Passion</td>
<td></td>
<td>.585**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Moral Disengagement</td>
<td></td>
<td></td>
<td>-.003</td>
<td>-.015</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>4. Role-Identity Salience</td>
<td></td>
<td></td>
<td></td>
<td>.214</td>
<td>.101</td>
<td>.142</td>
</tr>
<tr>
<td>5. Reactive Aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.057</td>
<td>.367**</td>
</tr>
<tr>
<td>6. Unsanctioned Aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.031</td>
</tr>
</tbody>
</table>

Note: ** Correlations are significant at the .01 level (2-tailed). Correlations presented in this table are discussed further in order of the hypotheses in which they appear.
Table 3.4

Spearman’s rho correlations between sanctioned aggression and study variables.

<table>
<thead>
<tr>
<th>Study Variable</th>
<th>Sanctioned Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmonious Passion</td>
<td>.305**</td>
</tr>
<tr>
<td>Obsessive Passion</td>
<td>.132</td>
</tr>
<tr>
<td>Moral Disengagement</td>
<td>.308**</td>
</tr>
<tr>
<td>Role-Identity Salience</td>
<td>.265*</td>
</tr>
<tr>
<td>Reactive Aggression</td>
<td>.111</td>
</tr>
<tr>
<td>Unsanctioned Aggression</td>
<td>.151</td>
</tr>
</tbody>
</table>

Note: * correlations are significant at the p < .05 level (2-tailed). ** correlations are significant at the p < .01 level (2-tailed).

3.3 Tests of Correlation Hypotheses

3.3.1 Test of hypotheses 1a and 1b.

Hypotheses 1a and 1b investigated the relationship (correlations) between the two types of passion and moral disengagement. Contrary to what was expected, obsessive passion and moral disengagement were not significantly related ($r = -.015, p = .896$; hypothesis 1a).

Consistent with the predictions, harmonious passion and moral disengagement were not significantly related ($r = -.003, p = .980$; hypothesis 1b).

3.3.2 Test of hypotheses 2a and 2b.

The second set of correlational hypotheses regarded the relationship between the two types of passion and role-identity salience. Role-identity salience was not significantly related to either obsessive passion ($r = .101, p = .381$; hypothesis 2a) or harmonious passion ($r = .214, p = .062$; hypothesis 2b). This is contrary to what was expected.
3.3.3 **Test of hypothesis 3.**

In hypothesis 3 it was expected that moral disengagement and reactive aggression would share a significant positive relationship. However, once the data were analyzed, this was not the case. Moral disengagement and reactive aggression were not significantly related ($r = .189, p = .103$).

3.3.4 **Test of hypothesis 4.**

Hypothesis 4 concerned the relationship between role-identity salience and reactive aggression. The relationship between these two variables was positively statistically significant ($r = .319, p = .005$), with a moderate effect size (Cohen, 1988). As a result hypothesis 4 was confirmed.

3.3.5 **Test of hypotheses 5a and 5b.**

Hypotheses 5a and 5b examined whether obsessive passion and harmonious passion were significant predictors of reactive aggression. This was explored using a forced entry regression method in SPSS 20. The model was significant ($R^2 = .172$, $F(2, 74) = 7.710, p \leq .001$). As indicated in table 3.5, obsessive passion was found to be a significant predictor of reactive aggression ($b = .385, p \leq .001$). This is consistent with the correlational relationship ($r = .367, p \leq .001$) between the two variables and confirms what was expected in hypothesis 5a. Harmonious passion was not a significant predictor of reactive aggression ($b = -.240, p = .070$). This is supported by the correlational relationship between harmonious passion and reactive aggression, which shows that they are not statistically significantly related ($r = .057, p = .622$).
Table 3.5

Obsessive and harmonious passion as predictors of reactive aggression

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>p</th>
<th>R²</th>
<th>adj R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP</td>
<td>.385</td>
<td>.099</td>
<td>.507</td>
<td>&lt; .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP</td>
<td>-.240</td>
<td>.130</td>
<td>-.240</td>
<td>.070</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: n = 77, OP = obsessive passion, HP = harmonious passion

3.4 Tests of Mediation Hypotheses

3.4.1 Test of hypotheses 6a and 6b.

In line with hypotheses 6a and 6b it was expected that moral disengagement would mediate the relationship between obsessive passion and reactive aggression (hypothesis 6a) but that moral disengagement would not mediate the relationship between harmonious passion and reactive aggression (hypothesis 6b). This analysis was performed using Preacher and Hayes (2008) mediation procedures applying bootstrapping procedures where k = 5000, and confidence intervals (CIs) were set at 95%. As figure 3.1 illustrates, the standardized regression coefficient between obsessive passion and moral disengagement (b = -.002, p = .896) was not significant, nor was the b path of moral disengagement to reactive aggression (b = 1.294, p = .071). However, the total direct effect of obsessive passion on reactive aggression was significant (b = .284, p = .001), which is in line with the hypothesized relationship.

In line with suggestions of Preacher and Hayes (2008) the BcCI’s were assessed. In the case of the present analysis, lower and upper bound BcCI’s for the total indirect effect [-.0563, .0298] crossed-over zero. Therefore, moral disengagement does not appear to play a mediating role in the obsessive passion-reactive aggression relationship, which is opposite of what was expected in hypothesis 6a. Values of the bootstrapped analysis can be found in Table 3.6.
The mediating effect of moral disengagement on the harmonious passion-reactive aggression relationship was then assessed (hypothesis 6b). It was not expected that moral disengagement would mediate this relationship. Bootstrapping using the SPSS Macro revealed that none of the paths in the model were significant (figure 3.2). In addition, bootstrapped BcCI’s set at 95% were assessed as a measure of mediation effect significance. Results revealed that lower and upperbound BcCI’s \([-0.0897, 0.0592]\) included zero and thus it was concluded that moral disengagement did not have a mediating effect in the harmonious passion-reactive aggression relationship. This is consistent with hypothesis 6b. Values for the bootstrapped analysis can be found in table 3.6.
Figure 3.2 Unstandardized regression coefficients for the harmonious passion-reactive aggression relationship, as mediated by moral disengagement. Standardized values appear in parentheses. Total effects appear in square brackets.

Table 3.6

Meditation of the obsessive passion-reactive aggression and harmonious passion-reactive aggression relationships through moral disengagement

<table>
<thead>
<tr>
<th></th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obsessive Passion ® Reactive Aggression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>-.0023</td>
<td>.0204</td>
<td>-.0563</td>
<td>.0298</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-.0023</td>
<td>.0204</td>
<td>.0298</td>
<td>.0298</td>
</tr>
<tr>
<td><strong>Harmonious Passion ® Reactive Aggression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>.0028</td>
<td>.0345</td>
<td>-.0897</td>
<td>.0592</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0028</td>
<td>.0345</td>
<td>-.0897</td>
<td>.0592</td>
</tr>
</tbody>
</table>

Note. n=77. * unstandardized estimates of a*b paths are based on 5000 bootstrapped samples.
3.4.2 Test of hypotheses 7a and 7b.

Hypothesis 7 concentrated on whether or not moral disengagement and role-identity salience mediated the relationship between obsessive passion and reactive aggression (hypothesis 7a) and harmonious passion and reactive aggression (hypothesis 7b). First, it was expected that both role-identity salience and moral disengagement would play a mediating role in the obsessive passion-reactive aggression relationship. As can be seen in figure 3.3, the direct effect between obsessive passion and reactive aggression was statistically significant ($c' = .266, p < .001$). In addition, the b path between role-identity salience and reactive aggression is also a significant path ($b = .187, p = .013$).

Bootstrapped 95% BcCI’s were also assessed to determine whether there was any mediation effect. It appears that there is no statistically significant mediation effect of moral disengagement or role-identity salience in the obsessive passion-reactive aggression model. Table 3.7 shows that the lower and upper bound bootstrapped 95% BcCIs [-.0340, .0931] for the total effect of the model include zero, indicating that mediation does not occur in the model.
Hypothesis 7b concentrated on whether moral disengagement and role-identity salience mediate the harmonious passion-reactive aggression relationship. It was expected that role-identity salience, but not moral disengagement, would mediate the relationship between harmonious passion and reactive aggression. Only the pathway between role-identity salience and reactive aggression in this model was statistically significant ($b = .2126, p = .010$; see figure 3.4). Consistent with hypothesis 7b, role-identity salience mediated the relationship between harmonious passion and reactive aggression [.0020, .2019], but moral disengagement did not [-.0776, .0508] (see table 3.7).
Figure 3.4 Unstandardized regression coefficients for the harmonious passion-reactive aggression relationship, as mediated by moral disengagement and role-identity salience. Standardized values appear in parentheses. Total effects appear in square brackets.

**p ≤ .01

Table 3.7

Mediation of the obsessive passion-reactive aggression and harmonious passion-reactive aggression relationships through moral disengagement and role-identity salience

<table>
<thead>
<tr>
<th>Obsessive Passion → Reactive Aggression</th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>-.0029</td>
<td>.0157</td>
<td>-.0462</td>
<td>.0217</td>
</tr>
<tr>
<td>ROLE-IDENTITY SALIENCE</td>
<td>.0211</td>
<td>.0272</td>
<td>-.0191</td>
<td>.0950</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0182</td>
<td>.0307</td>
<td>-.0340</td>
<td>.0931</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Harmonious Passion → Reactive Aggression</th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>.0032</td>
<td>.0295</td>
<td>-.0076</td>
<td>.0508</td>
</tr>
<tr>
<td>ROLE-IDENTITY SALIENCE</td>
<td>.0618</td>
<td>.0461</td>
<td>.0020</td>
<td>.2019</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0650</td>
<td>.0603</td>
<td>-.0400</td>
<td>.2006</td>
</tr>
</tbody>
</table>

Note: n = 76. * unstandardized estimates of a*b patterns are based on 5000 bootstrap resamples.
3.5 Tests of Exploratory Hypotheses

The exploratory hypotheses were designed to test the definitional application of unsanctioned aggression in competitive male ice hockey. Essentially, the same models were tested as in hypotheses 6 and 7, but reactive aggression was replaced with unsanctioned aggression\textsuperscript{11}.

3.5.1 Tests of hypotheses 8a-8i.

In the first part of hypothesis 8, the relationship between the two types of passion and sanctioned aggression were tested. Both harmonious and obsessive passion were expected to be positively related to sanctioned aggression. Obsessive passion was not statistically significantly related to sanctioned aggression ($r_s = .132$, $p = .263$; hypothesis 8a); however, harmonious passion was significantly related to sanctioned aggression ($r_s = .305$, $p = .008$; hypothesis 8b). Therefore, hypothesis 8a was rejected while hypothesis 8b was confirmed. In addition, the relationship between moral disengagement and sanctioned aggression was tested. These variables were hypothesized to be unrelated, which was rejected as moral disengagement was significantly related to sanctioned aggression ($r_s = .308$, $p = .008$; hypothesis 8c). Hypotheses 8d and 8e were not tested as they were the meditational hypotheses where unsanctioned aggression was the outcome variable.

In hypothesis 8f, obsessive passion was expected to be statistically significantly related to unsanctioned aggression. Obsessive passion and unsanctioned aggression were not statistically significantly related ($r = .171$, $p = .145$), therefore hypothesis 8f was rejected. However, harmonious passion was excepted to be unrelated to unsanctioned aggression (hypothesis 8g).

\textsuperscript{11} Relationships (correlations) for the exploratory mediation models were not included in the hypotheses, but results of this analysis can be found in table 3.2.
This hypothesis was confirmed, as harmonious passion was not statistically significantly related to unsanctioned aggression \( (r = .031, p = .796) \).

Referring to hypothesis 8h, moral disengagement was explored as a mediator in the obsessive passion-unsanctioned aggression relationship. The pathway between moral disengagement and unsanctioned aggression was a significant path (see figure 3.5). However, when looking at whether or not mediation occurs in the model, moral disengagement did not hold a significant mediating effect in the obsessive passion-unsanctioned aggression relationship (hypothesis 8h). This was tested using bootstrapped 95% BcCI’s, where \( k = 5000 \). The distance between lower and upper bound bootstrapped BcCI’s \([-0.1202, 0.0968]\) included zero, and is therefore not significant. Thus, moral disengagement did not mediate the obsessive passion-unsanctioned aggression relationship, so hypothesis 8h must be rejected. Table 3.8 includes values for the bootstrapped analysis of this model.

Figure 3.5 Unstandardized regression coefficients for the obsessive passion-unsanctioned aggression relationship, as mediated by moral disengagement. Standardized values appear in parentheses. Total effects appear in square brackets.

\[ **p = .002 \]
In line with hypothesis 8i it was not expected that moral disengagement would mediate the harmonious passion-unsanctioned aggression relationship. Using the SPSS macro, this hypothesis was confirmed, as the only statistically significant pathway was between moral disengagement and unsanctioned aggression (figure 3.6). The model was not statistically significant, as can be seen in table 3.7. Therefore, moral disengagement does not mediate the relationship between harmonious passion and unsanctioned aggression.

![Diagram showing the relationship between harmonious passion, moral disengagement, and unsanctioned aggression with regression coefficients.]

Figure 3.6 Unstandardized regression coefficients for the harmonious passion-unsanctioned aggression relationship as mediated by moral disengagement. Standardized values appear in parentheses. Total effects appear in square brackets.  
**p ≤ .01
3.5.2 Tests of hypotheses 9a and 9b.

The beginning part of hypothesis 9 regarded the relationship between sanctioned aggression and role-identity salience. Sanctioned aggression and role-identity salience were expected to be significantly positively related, which was confirmed ($r_s = .265$, $p = .023$; hypothesis 9a). Hypotheses 9b and 9c could not be tested as they were meditational hypotheses including sanctioned aggression.

Hypothesis 9d was concerned with the meditational nature of moral disengagement and role-identity salience in the obsessive passion-unsanctioned aggression relationship. It was expected that both moral disengagement and role-identity salience would mediate the relationship between obsessive passion and unsanctioned aggression. However, this hypothesis was not confirmed. Neither moral disengagement or role-identity salience mediated the relationship between obsessive passion and reactive aggression, as can be seen in table 3.9. In

Table 3.8

Mediation of the obsessive passion-unsanctioned aggression and harmonious passion-unsanctioned aggression relationships through moral disengagement and role-identity salience.

<table>
<thead>
<tr>
<th>Obsessive Passion → Unsanctioned Aggression</th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>-.0015</td>
<td>.0291</td>
<td>-.0683</td>
<td>.0498</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-.0015</td>
<td>.0291</td>
<td>-.0683</td>
<td>.0498</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Harmonious Passion → Unsanctioned Aggression</th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>.0049</td>
<td>.0523</td>
<td>-.1202</td>
<td>.0968</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0049</td>
<td>.0523</td>
<td>-.1202</td>
<td>.0968</td>
</tr>
</tbody>
</table>

Note: $n = 77$. * unstandardized estimates of a*b patterns are based on 5000 bootstrap resamples.
fact, the only statistically significant pathways in this model were between moral disengagement and unsanctioned aggression ($b = 1.783, p = .003$) and role-identity salience and unsanctioned aggression ($b = .146, p = .019$; figure 3.7).

![Diagram](image)

Figure 3.7 Unstandardized regression coefficients for the obsessive passion-unsanctioned aggression relationship, as mediated by moral disengagement and role-identity salience. Standardized values appear in parentheses. Total effects appear in square brackets. *$p = .003$

Hypothesis 9d concentrated on whether moral disengagement and role-identity salience mediated the relationship between harmonious passion and unsanctioned aggression. It was expected that moral disengagement would not mediate this relationship, but that role-identity salience would. Statistically significant pathways in this relationship included that between harmonious passion and role-identity salience ($b = .315, p = .056$), moral disengagement and unsanctioned aggression ($b = 1.757, p = .004$), and role-identity salience and unsanctioned aggression ($b = .159, p = .015$). These pathways can be seen in figure 3.8. Moral disengagement did not have a mediation effect on the harmonious passion-unsanctioned aggression relationship.
with difference between the lower and upper bound BcCI approaching zero [-.1113, .0890]. However, role-identity salience did appear to mediate the harmonious passion-unsanctioned aggression relationship with the lower and upper bound BcCI differential not approaching zero [.0060, .1560] (see table 3.9). These results confirm hypothesis 9d as moral disengagement does not mediate the harmonious passion-unsanctioned aggression relationship, but role-identity salience does.

Figure 3.8 Unstandardized regression coefficients for the relationship between harmonious passion and unsanctioned aggression as mediated by moral disengagement and role-identity salience. Standardized values appear in parentheses. Total effects appear in square brackets. *p ≤ .05
Table 3.9

Mediation of the obsessive passion-unsanctioned aggression and harmonious passion-unsanctioned aggression relationships through moral disengagement and role-identity salience

<table>
<thead>
<tr>
<th></th>
<th>Estimate (a*b)</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obsessive Passion → Unsanctioned Aggression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>-.0021</td>
<td>.0275</td>
<td>-.0636</td>
<td>.0490</td>
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<tr>
<td>ROLE-IDENTITY SALIENCE</td>
<td>.0135</td>
<td>.0201</td>
<td>-.0174</td>
<td>.0683</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0115</td>
<td>.0036</td>
<td>-.0552</td>
<td>.0794</td>
</tr>
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<td><strong>Harmonious Passion → Reactive Aggression</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORAL DISENGAGEMENT</td>
<td>.0035</td>
<td>.0483</td>
<td>-.1113</td>
<td>.0890</td>
</tr>
<tr>
<td>ROLE-IDENTITY SALIENCE</td>
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<td>.0342</td>
<td>.0060</td>
<td>.1560</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.0514</td>
<td>.0685</td>
<td>-.0741</td>
<td>.1963</td>
</tr>
</tbody>
</table>

Note: $n = 73$. * unstandardized estimates of a*b patterns are based on 5000 bootstrap resamples.
Chapter 4: Discussion

4.1 Discussion

The type of passion an individual holds for their passionate activity has implications for the behaviours they may exhibit in that domain (Vallerand et al., 2003; Vallerand et al., 2006; Vallerand, 2010). Donahue and colleagues (2009) found that obsessive passion was related to reactive aggression, but harmonious passion was not. In addition, obsessively passionate players reported higher aggression under identity-threat conditions. However, beyond this, little is known about the passion-aggression relationship in sport, creating a gap in current literature. The purpose of this study was to examine if the type of passion an individual holds for competitive ice hockey is related to their perceptions of aggressive behaviours, and if this relationship is mediated by moral disengagement and role-identity salience.

Another key issue in the study of aggression in sport is how it is defined. Literature has applied a variety of different definitions including: instrumental, reactive, hostile, sanctioned, and unsanctioned aggression. Such an array of definitions leads to inconsistencies in inferences one can draw from the results of past literature. Studies applying terms such as reactive aggression cannot be interpreted and then applied to unsanctioned aggression, as the terminology represents similar yet different constructs. An endeavor in the present study was to examine the roles of passion, moral disengagement, and role-identity salience as predictors of different conceptions of aggression, such as sanctioned and unsanctioned aggression. The goal of this endeavor was to test the applicability of sanctioned and unsanctioned aggression in sport, which has emerged in more recent research.

Aggression was examined from various perspectives including: reactive, sanctioned, and unsanctioned aggression. Results revealed that obsessive passion was a positive predictor of reactive aggressive behaviours in sport, but harmonious passion is not. These findings were both
consistent with the study hypotheses. Moral disengagement was not found to mediate the obsessive passion-reactive aggression relationship, nor did it mediate the harmonious passion-reactive aggression relationship, providing partial support for the study hypotheses. Role-identity salience was not a significant mediator of the obsessive passion-reactive aggression relationship, but it positively mediated the harmonious passion-reactive aggression relationship. These findings provide partial support for the study hypotheses. In addition, unsanctioned aggression seemed to operate in a similar way as reactive aggression. The following sections will discuss findings regarding the passion-aggression relationship, the meditational roles of moral disengagement and role-identity salience, and the applicability of sanctioned and unsanctioned aggression in sport.

4.1.1 Passion and aggression.

It should first be noted that in the present study harmonious and obsessive passion were significantly positively related, supporting more recent conceptualizations of the construct regarding how it operates within an individual. This is an important result because past studies have treated these two variables as a dichotomy (Donahue et al., 2009, Vallerand & Houfert, 2003). In other words, these variables have been treated as if one can have a harmonious passion or an obsessive passion, but not both. More recent suggestions center around these two variables falling more along a continuum (Vallerand, 2010, 2012), meaning that an individual can possess both types of passion, but one is more dominant than the other. Results from the present study support the idea that an individual might possess both types of passion at the same time.

The present study provides further empirical support for the dualistic model of passion (DMP; Vallerand et al., 2003), as obsessive passion, but not harmonious passion, was related to reactive aggression. In past studies, harmonious passion was typically related to more adaptive outcomes while obsessive passion was generally associated with more maladaptive outcomes.
(Philippe et al., 2009; Schellenberg et al., 2013; Rip et al., 2012; Vallerand et al., 2003). The finding that obsessive passion is related to reactive aggression extends previous research with religious and ideological political groups (Rip et al., 2012), drivers (Philippe et al, 2009), and basketball players (Donahue et al., 2009). Notably, this study replicated Donahue and colleagues’ (2009) study with basketball players, extending findings to a new sport population.

Sanctioned aggression was not related to obsessive passion, but it was related to harmonious passion. Perhaps this relationship occurs because sanctioned aggression is integral to the game of ice hockey and it is difficult to play the game without it. Those with a harmonious passion may be more willing to admit and take responsibility for their actions (Hodgins & Knee, 2002). Those with a harmonious passion may recognize that it is an acceptable behaviour as it is part of the game, where those with an obsessive passion may not feel they engage in such behaviours.

4.1.2 The direct and mediational effects of moral disengagement.

Moral disengagement and obsessive passion were not related in the present study. Additionally, moral disengagement was not related to reactive aggression. Moral disengagement was positively related to unsanctioned aggression. This relationship was consistent with what was expected and likely occurs because acts described in the unsanctioned aggression scale are more extreme than those in the reactive aggression scale. For example, one item in the unsanctioned aggression scale reads, “If an opposition player does something to make me angry, I have no problem retaliating and trying to hurt him, even if the aggressive act should be penalized by the referee” while a similar item from the BAAGI reactive aggression scale reads, “At times I am surprised by my anger toward an opponent”. Thus, unsanctioned acts occur outside the normative behaviours in the sport, and athletes may feel acts of this nature require
justification; whereas reactive aggressive acts in the BAAGI seem to represent more common behaviours and characteristics apparent in competitive play.

Moral disengagement was a variable expected to mediate the obsessive passion-aggression relationship; however, it was not a significant mediator of this relationship. This contrasts theoretical underpinnings identified in the rationale to this hypothesis. The finding could have implications in the uni-dimensional nature of the moral disengagement scale, which may not be sensitive enough to identify the true nature of the construct in the present model. As past research has found, some mechanisms of moral disengagement are employed more prominently than others (Long et al., 2006; Tracelet et al., 2011). In an aggressive sport such as hockey, examining specific types of moral disengagement may provide more informative results.

Moral disengagement did not mediate the harmonious passion-reactive aggression relationship. In relation to the DMP, this is a key finding. Harmonious passion is tied to adaptive outcomes and should not be related to negative behaviours such as making excuses and engaging in aggressive behaviour. With regard to this study, it can be concluded that moral disengagement does not play a significant mediating role in the passion-aggression relationship. This contradicts the primary hypotheses of the study regarding the obsessive passion-reactive aggression relationship but supports the primary hypotheses of the study regarding the harmonious passion-reactive aggression relationship.
4.1.3 Passion, aggression, and the mediational role of role-identity salience.

Role-identity salience was related to reactive, sanctioned, and unsanctioned aggression, and it mediated the harmonious passion-reactive aggression relationship. First, role-identity salience for being an aggressive hockey player shared a positive relationship with reactive aggression. This is not a surprising finding given that the type of role-identity salience measured was that of being an aggressive hockey player. If one identifies with this role, then they are more likely to engage in aggressive acts. The role-identity salience of identifying as an aggressive hockey player was related to reactive, sanctioned, and unsanctioned aggression, confirming what was expected with regard to the relation role-identity salience would have with types of aggression. However, findings in the relationships between both types of passion and role-identity salience were contrary to what was expected.

It was expected that both harmonious and obsessive passion would share a positive relationship with the role-identity salience of being an aggressive hockey player, due to the identity integration process of a passionate activity. But results revealed that this was not the case. This is a surprising finding because a passion is said to become deeply rooted into an individual’s identity. In sport, there are various roles, formal and informal (Eys, Schinke, Surya, & Benson, 2014). The only role-identity measured in terms of its salience was that of an aggressive hockey player. The results show those that have higher scores on role-identity salience might engage in more aggressive behaviours than someone who has scored low on this measure. The aggressive hockey player role may not be the role that they are passionate about. If a more general role-identity salience of being a hockey player were measured, it may share a relationship with both types of passion. This might be because the integrated role when someone is passionate for hockey might be more likely to be a general role-identity such as being a hockey player, rather than being an aggressive hockey player.
One might also consider the fact that perhaps an individual has been prescribed the role of playing in a sanctioned or unsanctioned manner. An individual might be asked to play aggressively, yet within the rules, meaning their role is to engage in sanctioned aggression. This might be the player one would consider a “grinder” in the hockey world as their role would likely focus on being tough on the puck. They might be the player that engages in puck battles along the boards and in the corners. In contrast, a player might be prescribed a role where they are expected to engage in unsanctioned aggression. In hockey, this player might be referred to as the “enforcer”, where their primary role is to protect their team, usually in an aggressive way (Bernstein, 2006). This player might engage in more fights than the average player. Reasoning for this could be to change the momentum of the game, or to protect a star player. Their role is to police the game, making sure their opponents are following the unwritten rules of “The Code” (Bernstein, 2006). The type of role an individual is expected to engage in, whether formal or informal, will likely guide their behaviour when filling that role (Callero, 1985).

In addition to moral disengagement, role-identity salience was measured as a mediator in the passion-aggression relationship. Moral disengagement and role-identity salience did not prove to be significant mediators of the obsessive passion-reactive aggression relationship. This may be due to the way a role of an obsessively passionate person is integrated into their identity. Those with an obsessive passion integrate a role into their identity differently from those with a harmonious passion (Vallerand, 2010). Instead of becoming fully integrated into the person’s identity, and due to the controlling nature of an obsessive passion, the identity becomes integrated only partially into the individual’s identity, or completely outside of the integrated self (Vallerand, 2010, 2012). As a result, the individual may not strongly identify with the role-identity of being an aggressive hockey player and may not find this role as salient as someone with a harmonious passion might.
Interestingly, role salience, but not moral disengagement, appeared to positively mediate the harmonious passion-reactive aggressive relationship and the harmonious passion-unsanctioned aggression relationship upon interpretation of the 95% BcCI’s. However, there is not a significant direct effect between harmonious passion and reactive aggression or harmonious passion and unsanctioned aggression. Although Rucker and colleagues’ (2011) state that in more recent approaches to interpreting mediation a significant direct effect is not required, there is also a non-significant a path. In other words, there is not a significant relation between harmonious passion and role-identity salience. In these models, harmonious passion does not appear to have a significant relation with the mediator or the outcome, so this result should be interpreted with caution as it is possible that the mediation result could be a type I error.

Role-identity salience may also be a direct predictor of aggressive behaviours, and based on the results of the present study, it might reveal more information regarding aggressive behaviours in sport than passion and moral disengagement. It had moderate correlations with reactive and sanctioned aggression, and a strong correlation with unsanctioned aggression. Moral disengagement and both types of passion did not share relationships with aggression as strong as those of role-identity salience. As a result role-identity salience warrants further attention with regard to the role it plays in aggressive sport behaviours.

4.1.4 The role of sanctioned aggression.

Sanctioned aggression was originally proposed as another outcome variable in the mediation models. Unfortunately, due to the skewness of the variable, meditational hypotheses could not be tested (hypotheses 8c-8d and 9c-9d). The results regarding this variable should be interpreted with caution as only one item measured the sanctioned aggression variable, which might not be enough to capture the full construct. As it is ordinal in its scale of measurement, Spearman’s rho correlations were assessed in the relationships between sanctioned aggression
and the remaining study variables. From these results there are two important relationships to be discussed.

First, sanctioned and unsanctioned aggression were not related. This is a positive finding as it indicates that the items on the scale developed are capturing two different constructs. Sanctioned and unsanctioned aggression, while two types of aggression, are different constructs with different meanings and therefore, they should not be related.

The second interesting finding regards sanctioned aggression’s relation to the two types of passion. Sanctioned aggression was not related to obsessive passion, but it was related to harmonious passion. Perhaps this relationship occurs because sanctioned aggression is integral to the game of ice hockey and it is difficult to play the game without it. As such, it may be viewed as an adaptive behaviour within the sport. As Hodgins & Knee (2002) suggest, those with a harmonious passion may be more willing to admit and take responsibility for their actions and as such, may view sanctioned aggression as acceptable within the context of the game and feel comfortable reporting that they engage in this behaviour.

4.1.5 The role of unsanctioned aggression.

Unsanctioned aggression was applied as an outcome variable in the mediation models, replacing reactive aggression, while all other antecedents and mediators remained the same. It was expected that unsanctioned aggression would operate in similar ways to reactive aggression, making it a construct that is applicable in the study of aggression in ice hockey. As it was expected to operate similarly to reactive aggression, it was hypothesized that unsanctioned aggression would share a positive relationship with obsessive passion. This was not the case, as unsanctioned aggression and obsessive passion were not statistically significantly related. This relationship may not have occurred due to the severity of the act implied by the unsanctioned aggression items, such as intentionally hurting an opponent to intimidate the opponent and their
teammates. Those with an obsessive passion might not be willing to engage in such aggressive acts to protect their identity and perceived competence. Donahue and colleagues (2009) have indicated that obsessively passionate athletes may engage in aggressive behaviours as a way of protecting their perceived competence within the sport, but these acts may better fall under the categories of sanctioned or reactive aggression. This is supported by the relationship found between moral disengagement and unsanctioned aggression.

In addition, age and competition level could have an impact on this result. The players in the study were young, aged 15 to 20, and were playing at minor hockey and junior levels. Those participants playing in the minor hockey level receive an extra game point if the team is assessed ten minutes or less in penalty time during a game. Although they are playing at a competitive level, they may not be playing at a level high enough for them to adopt the professionalization attitude where they will do what it takes to move to the next level, even if this is a severely aggressive act. Visek and Watson (2005) show that as players increase in competitive level their perceived legitimacy of aggressive acts also increases. Professional players and high school aged players perceived aggression as more legitimate at collegiate and professional levels (Visek & Watson, 2005). Those playing at a junior level were only playing as high as junior A, not in the Canadian Hockey League, and their next step in the competitive rank is likely college hockey rather than the National Hockey League (BCHL, 2015), where there is less aggression.

Therefore, they may not perceive aggressive play as an avenue to playing at a higher level. They might seek more positive ways of moving to the next level such as maintaining high academic standards and engaging in intense summer training, rather than adopting the role of an enforcer and using aggression as a way to move to higher competitive levels.

Moral disengagement and unsanctioned aggression shared a positive relationship. Individuals engaging in unsanctioned behaviours in sport are employing mechanisms of moral
disengagement to justify their behaviours. As described above, perhaps this is because acts of unsanctioned aggression are more severe and are perceived to require more justification.

Unsanctioned aggression also shared a relationship with role-identity salience, meaning that individuals who identified as an aggressive hockey player engaged in more acts of unsanctioned aggression. This is not a surprising result as unsanctioned aggression refers to acts that may allow an individual to fulfill their perceived role-identity salience of being an aggressive hockey player.

Moral disengagement did not mediate the obsessive passion-unsanctioned aggression relationship, or the harmonious passion-unsanctioned aggression relationship in either of the mediation models. This is consistent with what was found in the other mediation models. Results of the second exploratory mediation model, which tested the mediation role of role-identity salience in addition to moral disengagement, revealed that role-identity salience appears to mediate the harmonious passion-unsanctioned aggression relationship, but not the obsessive passion-unsanctioned aggression relationship. This could also be attributed to the integration process that takes place with regard to a passionate domain, as those with a harmonious passion tend to have stronger integration of activities and roles into their identities (Vallerand, 2010).

The above results demonstrate the applicability of the construct of unsanctioned aggression to sport contexts, in addition to satisfying gaps in the current literature. Focusing on the application of unsanctioned aggression in sport allows the focus to be taken off of the intent of the act and placed onto whether the act occurs within the rules of the game or outside the rules of the game. This may be indicative of acts that are more severe within the sport, such as butt-ending, high-sticking, spearing, slew footing, or elbowing. A key implication of this finding is that unsanctioned aggression can be successfully applied to studies of aggression in sport. New
measures would need to be developed to capture this construct, but it may yield more valid and reliable results.

4.1.6 Summary.

The findings of this study provide partial support for the DMP. Harmonious passion was associated with decreased relations regarding reactive and unsanctioned aggression and moral disengagement. Harmonious passion shared a positive significant relationship with sanctioned aggression, the type of aggression occurring within the rules of the game. This type of aggression may be perceived as adaptive because it is integral in competitive hockey. Harmonious passion is related to stronger identity integrations, as supported by the findings regarding harmonious passion and role-identity salience. Obsessive passion was related to reactive aggression, supporting one of the primary goals of the study, and replicating findings of Donahue and colleagues’ (2009) study 1, while extending it to a new sport population. This supports the DMP in that this is a more maladaptive finding. Obsessive passion was not significantly related to role-identity salience. This is a finding that supports the integration process, as those with an obsessive passion have identities integrated only partially or completely outside of the integrated self. Thus, the study reached one of its primary goals in confirming notions of the DMP.

One of the other primary goals was to assess if moral disengagement mediated the passion-aggression relationship. Moral-disengagement did not mediate the passion-aggression relationship in the present study. This may be due to the socialization process and culture of competitive hockey, where winning is the primary goal and athletes are taught to use aggression as an advantageous strategy. Hockey players may not perceive aggressive behaviours as a moral issue. In addition this could be due to the uni-dimensional nature of the moral disengagement scale used, and perhaps results would be different if the long rather than the short scale were use to capture this construct.
A secondary goal was to assess the applicability of sanctioned and unsanctioned aggression in sport. Sanctioned aggression appears to be an integral part of hockey that those with a harmonious passion engage in. As such, it might potentially be viewed as an adaptive behaviour due to the role it has in the game. Results revealed that unsanctioned aggression functions and operates similarly to reactive aggression with regard to the other variables tested in the study. One difference is that unsanctioned aggression was related to moral disengagement, while reactive aggression was not. The results regarding sanctioned and unsanctioned aggression could provide support for future application in studies of aggression in sport that use self-report measures to capture the construct. While the study did achieve most of its goals and met its purpose, it did have limitations to consider.

4.2 Limitations

4.2.1 Sample size and data recruitment.

There were several limitations confronted in the present study. First, the sample size was small. This may be due to the time of participant recruitment. Recruitment occurred during the end of regular season and beginning of playoff season for competitive hockey teams. These teams have intense training schedules and during playoffs, have limited practice time. These circumstances made it difficult for teams to identify when data collection could occur without interrupting their schedules. In addition, due to the time of the playoff season, some coaches were apprehensive about allowing researchers to come in and meet with their teams. Their main concerns regarded taking their player’s focus away from the training session. As a result, the study had only a small sample size to work with. The small sample limitation was addressed by using bootstrapping procedures, identified by Hayes (2013) as a technique that is ideal to use when sample size is small.
4.2.2 Causation and generalizability of findings.

The present study adopted a cross-sectional design, with none of the variables being manipulated. As a result, causation in relationships and cannot be inferred in this study. In addition, directionality cannot be inferred in the mediation models where there is no manipulation or experimental design (Hayes, 2013; Rucker et al., 2011).

Findings should be interpreted with caution and cannot be generalized to all sport contexts. Data was collected from a competitive youth hockey sample and therefore, findings can only be applied to this sport context. Hockey is an aggressive sport by its nature (Russell, 2008), and many sports do not compare in terms of the aggression allowed within the rules. Consequently, results cannot be applied to other sport contexts such as soccer or basketball.

4.2.3 Measurement of aggression.

Past studies have implied that there are current issues in the measurement of aggression (Donahue et al., 2009; Gee, 2011). This is a statement that was also highlighted in the results of this study. First, the instrumental aggression subscale could not be used in data analysis procedures due to its low reliability ($\alpha = .40$). This was also an issue in Donahue and colleagues’ (2009) study.

Another issue lies in the BAAGI measure of reactive aggression. Items do not seem to capture the true nature of what reactive aggressive behaviour should be considered to be. For example, one item reads “during an athletic performance, I am often more irritated than people may think”. Reactive aggressive behaviour does include the emotion of anger, but this question is not measuring anger, it is measuring irritability. “It is easier for me to compete against an opponent I do not know personally”, is another item that does not reflect the true nature of a reactive aggressive act. This does not capture the intent, or the goal of the act, and it is not clear how it relates and is classified as reactive aggression. As can be seen from the few examples
above, the reactive aggression subscale seems problematic in that it does not really seem to be capturing perceptions or intentions of reactive aggressive behavior. It may be capturing the anger component of reactive aggression, rather than capturing the construct in its totality.

There are various limitations to measuring aggression in sport, especially when using self-report measures. These measures may not have strong ecological or external validity. Some subscales, such as instrumental aggression, do not have strong reliability and provide data that cannot be used in analysis procedures. In addition to this, the BAAGI reactive aggression subscale provides a challenge in interpretation because the items do not seem to capture the true meaning of this construct. As a result, new measures should be developed, perhaps capturing sanctioned and unsanctioned aggression, and working toward a reclassification and redefinition of aggression.

4.3 Future Directions

The results of the present study provide interesting results and a few areas for future research. First, researchers can begin to rethink the way they classify and define aggression. Next, researchers can consider applying the same model but extending it to different sport contexts to test its application in new settings and with new populations. Lastly, researchers can continue to learn about the passion-aggression relationship by examining potential new mediators in the passion-aggression relationship.

4.3.1 A new conceptualization of aggressive behaviours in sport.

Perhaps one way of conceptualizing aggression is in multidimensional and hierarchical terms (see figure 4.1). Sanctioned and unsanctioned aggression can potentially act as main categories as they do not place a large emphasis on factors such as intent/goal of the act in their definitions, but rather, are more concerned with what happened within or outside of the rules and norms of the game. However, unsanctioned aggression can focus on the intent of the act when it
broken down into its themes of power, thrill, and anger aggression. Definitions that require more specific knowledge to accurately categorize a behaviour, such as instrumental and reactive aggression, and perhaps the themes of unsanctioned aggression, would act as subcategories to sanctioned and unsanctioned aggression. For example, an instrumental act could be categorized as sanctioned aggression if its sole purpose was advantageous gain, and it occurred within the rules, such as body checking. However, it could also be categorized as unsanctioned aggression if the player tripped an opponent, but did not mean to hurt them, and did this to stop him/her on a break away. Conversely, body checking could be a reactive act if it was carried out to hurt the individual, but it occurs within the rules of the game, so it would also be a sanctioned behaviour. Tripping an opponent could also be reactive if the player committing the act was angry and did it solely to hurt their opponent.

Figure 4.1 Flow chart conceptualizing categories and subcategories of aggression.
This conceptualization may also assist researchers in applying the terminology to the study of aggression when using self-report measures. Issues with measurement lie in the fact that the intent of the act is difficult to capture in a self-report measure (Gee, 2010, 2011). Gee & Sullivan (2006) state that in order to attempt capturing the intent of the act, researchers must go above and beyond the self-report measure and pair it with something like video-recall interview methods. This indicates that in order to capture the true meaning of instrumental and reactive aggression, more of a mixed methods or qualitative approach may be necessary. Since sanctioned and unsanctioned aggression do not focus on the goal or intent of the act, they serve as broader categories that may be more indicative of perceptions of or future use of aggressive behaviours in sport when employing only self-report measures. Future research using such methods could emphasize their focus on sanctioned and unsanctioned aggression, rather than on reactive and instrumental aggression. If researches take this approach it would require development and evaluation of a measure that captures sanctioned and unsanctioned aggression.

4.3.2 Future research on the passion-aggression relationship.

The mediation models in this study were only tested on one sport and only one level of that sport, a competitive level. The results supporting moral disengagement as a mediator of the passion-aggression relationship were not significant. However, this model should still be applied to other populations within sport, as results may be different in a sport that is not as inherently aggressive, and the findings may be different.

Another consideration for future research is to test a similar model but to use the long form of the Moral Disengagement in Sport Scale (Boardley & Kavussanu, 2007). The long version of the scale has some benefits over the short form. The long form breaks moral disengagement down into its eight separate mechanisms, rather than measuring it as a unidimensional construct. This could give researchers a better understanding of which mechanisms
are more pertinent to the sport population being studied. Perhaps the long version of this scale is sensitive enough to reveal relationships occurring in more aggressive sports such as hockey, where a uni-dimensional construct is not being used to great lengths.

Lastly, different constructs could be tested as mediators in the passion-aggression relationship. Constructs such as goal orientation (Duda & Nicholls, 1992) could be tested. Goal-orientation could have implications with regard to passion as a task goal orientation has a large focus on mastery and an ego goal orientation focuses on dominating others, and being perceived as the best (Duda & Nicholls, 1992). This is similar to a harmonious passion and obsessive passion, respectively. Those with an obsessive passion have many contingencies tied to their performance in their passionate domain (Vallerand et al., 2003; Vallerand, 2010), and one way to fulfill such contingencies is by dominating or being better than others. Goal orientation has also been found to be related to aggression (Dunn & Dunn, 1999). As a result of goal orientation sharing a relationship with passion and aggression, it might be a mechanism explaining why the passion-aggression relationship occurs.

The present study confirms some hypotheses based on the DMP (Vallerand et al., 2003) including harmonious passion’s relation to sanctioned aggression and obsessive passion’s relation to reactive and unsanctioned aggression. Moral disengagement did not serve as a mediator in the passion-aggression relationship, but role-salience mediated harmonious passion’s relationship with both reactive and unsanctioned aggression. In addition to the primary purpose of the study, exploratory models were tested. Unsanctioned aggression appears to be a viable construct in sport, in which future research should seek to apply. Overall, the passion-aggression relationship is one worth further attention, and may provide insight that allows researchers to fill current gaps in theories of aggression.
References


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Appendices

Appendix A  Coach Contact – Face-to-Face Recruitment Email

Dear [name],
I am a master’s student conducting research at the University of British Columbia. I have been involved in hockey for 14 seasons as a player and for 3 seasons as a coach. I am currently conducting a study with Dr. Peter Crocker that explores the effects passion for hockey has on behavioural outcomes in competitive male ice hockey. The purpose of this research is to examine how the type of passion an individual has for hockey influences their behaviour in sport. Further, we are exploring mechanisms that might explain the relationship between passion and behavioural outcomes, such as disengagement strategies, the importance of an individual’s role, and the perceptions an athlete has regarding how others expect them to fill their role.

The study involves athletes who are competing at the Midget A1, Major Midget, Junior B or Junior A levels to complete one questionnaire. We are asking if it is possible for you to assist us in setting up a data recruitment session with your team. We would require two meetings. The first meeting will involve us introducing and explaining the study, and the ethics behind the study. Approximately one week later, we would like to meet with the team a second time to administer the questionnaire to the interested athletes. The questionnaire asks questions relating to the athlete’s passion for hockey, their disengagement strategies they may use in sport, the importance of their role in hockey, how they think other's expect them to fill their role in hockey, and their aggressive behaviours. The questionnaire takes approximately 10 to 15 minutes for athletes to complete.

In addition to the data recruitment sessions, I would like to kindly ask you if you could provide copies of the official game sheets for each of the games your team competes in from the time of data collection to the end of your season. Currently, measuring aggressive behaviours in sport is difficult to do because self-report measures have not proven to be entirely reliable. I am trying to make sure I get an accurate measure of aggression so that we can better understand what leads to aggressive behaviours in competitive ice hockey. Game sheets for each team would be useful for me to have because it allows me to track penalty records of each player involved in the study, which would increase the accuracy of my study results.

The reason I am contacting you is to kindly ask for your assistance in recruiting athletes for the described study. If you are interested in assisting in the project, you can please contact myself (Sarah Kiengersky) at sarah.kiengersky@alumni.ubc.ca or 778-870-8489 in order to discuss setting up a data recruitment time for your team. If you are finding it difficult to make time for a data recruitment session, please do not hesitate to contact me for arrangements to be made so your team can still participate in this study.

Please do not hesitate to contact me if you have any questions or would like additional information about the study. Thank you in advance for any assistance that you may be able to provide.

Sincerely,
Sarah Kiengersky

Contact information:
Sarah Kiengersky, BA
Master’s Student, Sport Psychology
School of Kinesiology
University of British Columbia

sarah.kiengersky@alumni.ubc.ca
Appendix B  Athlete Information Letter

ATHLETE INFORMATION LETTER

Dear Athlete,

My name is Sarah Kiengersky and I am a Master’s student conducting research at the University of British Columbia. I have been involved in hockey for 14 years as a player, and for 3 seasons as a coach I would like to invite you to participate in a study that explores how passion effects specific behaviours in hockey. If you are aged 15 and older and are competing in competitive ice hockey (A1, Major Midget, Junior B, or Junior A) you are eligible to participate in this study.

The purpose of this research is to examine how competitive athletes’ passion for hockey influences their behaviour in sport. This process may be influenced by various disengagement strategies, how you perceive your role, or how you feel others expect you to fill your role. It is important to study sport behaviour so we can better understand what influences athlete’s use of such behaviours.

This study involves completing a questionnaire about your passion for hockey, how you might engage in specific behaviours, how you perceive the importance of your hockey role, how you think others expect you to fill your role and your use of specific behaviours in hockey. You can also complete this study online by following the link below. The questionnaire will be completed mid to late season during the 2013-2014 season and takes approximately 10 to 15 minutes to finish.

Please note there is no obligation for you to participate in this study. Your involvement would be much appreciated, but is completely voluntary. Your participation status and all information will remain confidential. In addition, your participation decision will NOT affect your standing with your team or coaches. Furthermore, while a coach or official in your sport organization may have assisted in contacting potential participants, they will not be informed of your participation decision.

If you wish to complete the questionnaire for this study online, please go to the link below: [Insert Link Here]

If you have any questions please contact Sarah Kiengersky [Contact Information]

Sincerely,

Sarah Kiengersky, BA
School of Kinesiology
University of British Columbia
Contact Number: [Contact Information]

Version: November 26, 2013
Appendix C  Athlete Implied Consent

ATHLETE IMPLIED CONSENT

Principal Investigator:
Dr. Peter Crocker, PhD
School of Kinesiology
University of British Columbia
Contact Number:

Sarah Kiengersky, BA
School of Kinesiology
University of British Columbia
Contact Number:

Why are we doing this study?
You are invited to take part in a research study entitled: “The Relationship Between Passion and Aggression: Exploring the Potential Mediating Roles of Moral Disengagement, Role Salience, and Other’s Expectations.” The purpose of this research is to examine how an athlete’s passion for sport influences their behaviour in sport settings. The type of passion an athlete has for their sport might influence how they behave in sport, and it is important to study this so we can better understand the processes that lead to behaviours in hockey.

What is involved in this study?
You will be asked to complete a survey. The survey will take approximately 10 to 15 minutes to complete. You will be asked about your passion for sport, how you feel about your role in sport, how you think other’s expect you to fill your role in sport and how you try to deal with the consequences of your behaviour in sport. You will also be asked about your behaviour in hockey. You do not have to answer any question you do not feel comfortable answering. If you wish to withdraw from the study, you may do so at any time without having to give any reason for doing so with no negative consequences.

Are there any risks in this study?
We do not think there are any risks involved in this study. You can refuse to answer any question and doing so will result in no penalty. You can stop answering the survey at any time, again resulting in no penalty. Any data collected prior to withdrawal will be omitted from the study and destroyed. In the event that you would like to further discuss feelings regarding the topics in the surveys, you may wish to contact Family Services of Greater Vancouver (Counselling Services: [Contact Number])

What’s the benefit of this study?
There are no immediate benefits related to participation in this study, however some athletes may enjoy the opportunity to reflect on how they feel about hockey and how they behave when they are playing hockey. The information we collect for this study will help in the future to design programs for coaches and athletes to learn about passion and behaviours in sport. If you would like to know about the results of the study, feel free to contact Sarah [Contact Number]. A summary of the results and copies of any resulting publications will be provided at your request.
How will your privacy and confidentiality be maintained?
Information gathered on the questionnaire will be used for research purposes only, and the identity of individual participants will only be known to members of the research team. Once all surveys are completed, they will be identified by code number only and will be securely stored for a minimum of five years as required by the University of British Columbia guidelines. You will not be identified by name in any reports of the completed study.

• Your answers to the survey will not be connected to your name. Results of the study will be analyzed in group form (e.g., “30% of the athletes reported a passion for hockey”). Results will be reported at a conference for researchers in sport psychology, and results will also be published in a journal that is read by researchers, coaches, and sport psychologists. These results will be public documents, meaning that anyone can read them. A summary of the study results will be available upon request.

• You do not waive any legal rights by reading or agreeing to consent to participate in this study.

• You are free to withdraw from this study at any time with absolutely no penalty. The decision to withdraw will NOT result in any loss of services or any other negative consequences. To withdraw from this study, please contact the researcher: Sarah Kiengersky, 778-870-8489, sarah.kiengersky@alumni.ubc.ca.

Who can you contact if you have questions about the study?
If you have any questions or want more information about the study please contact the investigators with the contact information provided at the beginning of this form.

Who can you contact if you have concerns about the study?
If you have any concerns about your rights as a research subject and/or your experiences while participating in this study, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

ATHLETE CONSENT: PARTICIPATING IN THIS STUDY.

• You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your participation on your team.

• You may wish to discuss this study with your parents before deciding to participate, however the decision is entirely up to you and your responses will be confidential.

• By submitting a questionnaire, you are consenting to participate in this study.

If you wish to participate in this study and have attended an informational session with your team, you can complete the questionnaire at the second meeting with your team or you may go online to complete the survey at: [Insert Link Here]

or you may contact the researchers for a copy of the questionnaire.

If you reside outside of the Metro Vancouver or Lower Mainland area or have not had the researcher visit your team and wish to participate, you may complete the questionnaire online at: [Insert Link Here]

or you can contact the researcher for a copy of the questionnaire.
Appendix D  Coach Contact – Online Recruitment Email Template

Dear [name],

My name is Sarah Kiengersky and I am a master’s student conducting research at the University of British Columbia. I have been involved in hockey for 14 seasons as a player and for 3 seasons as a coach. I am currently conducting a study with Dr. Peter Crocker that explores the effects passion for hockey has on behavioural outcomes in competitive male ice hockey. The purpose of this research is to examine how the type of passion an individual has for hockey influences their behaviour in sport and to explore mechanisms that might explain the relationship between passion and behavioural outcomes, such as disengagement strategies, the importance of an individual’s role, and the perceptions an athlete has regarding how others expect them to fill their role.

The study involves athletes who are competing at the Midget AAA, Major Midget, Junior B or Junior A levels to complete one questionnaire. We are asking if it is possible for you to assist us in recruiting athletes for this study. Online questionnaires have been set up for athlete participation. The questionnaire asks questions relating to the athlete’s passion for hockey, their disengagement strategies they may use in sport, the importance of their role in hockey, how they think other’s expect them to fill their role in hockey, and their aggressive behaviours. The questionnaire takes approximately 10 to 15 minutes for athletes to complete. We are asking that you forward the athlete letter of information (attached to this email) to the athletes competing on your team. The link to the online questionnaire is included in the athlete information letter.

In addition to the data recruitment sessions, I would like to kindly ask you if you could provide copies of the official game sheets for each of the games your team competes in from the time of data collection to the end of your season. Currently, measuring aggressive behaviours in sport is difficult to do because self-report measures have not proven to be entirely reliable. I am trying to make sure I get an accurate measure of aggression so that we can better understand what leads to aggressive behaviours in competitive ice hockey. Game sheets for each team would be useful for me to have because it allows me to track penalty records of each player involved in the study, This would increase the accuracy of my study results.

The reason I am contacting you is to kindly ask for your assistance in recruiting athletes for the described study. If you are interested in assisting in the project can you please contact myself (Sarah Kiengersky) at sarah.kiengersky@alumni.ubc.ca or 778-870-8489 in order to discuss your team’s participation in this study.

Please do not hesitate to contact me if you have any questions or would like additional information about the study. Thank you in advance for any assistance that you may be able to provide.

Sincerely,

Version: November 26, 2013
Sarah Kiengersky

Contact information:
Sarah Kiengersky, BA
Master’s Student, Sport Psychology
School of Kinesiology
University of British Columbia
sarah.kiengersky@alumni.ubc.ca
Appendix E  Athlete Questionnaire

**Demographics**

Directions: Please answer the following questions as accurately and honestly as possible.

1. What is your current age: ________ years

2. Based on these categories from the Canadian Census, how do you describe yourself? Please check *ALL* that apply:
   - White/Caucasian
   - Chinese
   - Japanese
   - Korean
   - Aboriginal/First Nation (e.g. North American Indian, Metis, Inuit)
   - Filipino
   - South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
   - South East Asian (e.g., Cambodian, Indonesian, Vietnamese)
   - Black (e.g., African, Haitian, Jamaican, Somali)
   - West Asian/Middle East (e.g., Afghani, Arab, Iranian)
   - Other ethnic/cultural group, please specify:
     ________________________________

3. What level of hockey are you currently competing at?
   - Midget AAA
   - Major Midget
   - Junior A
   - Junior B
   - WHL

4. How long have you played competitive hockey? (Note: competitive hockey includes rep, A, AA, AAA, Major Midge, Junior B, Junior A, and CHL levels).
   ________ years

5. How long have you been a member of the team you currently play on?
   ________ years
6. What position do you play? Please check the position that you play most often.

- [ ] Left Wing
- [ ] Centre
- [ ] Right Wing
- [ ] Defence

6. Do you consent to us using your penalty records (e.g., number of penalties and number of penalty minutes) from official game sheets? (These will be used to increase the accuracy of behavioural measures in sport.)

- [ ] Yes (see below)  -  [ ] No

If yes, please provide your player number and team name so you can be identified on the official game sheets.

Player Number: _____________

Team Name: _____________________________________________________
### Aggressive Behaviour in Hockey

**Directions:** The following instrument includes a number of statements which people use to describe themselves in specific sport situations. Please do not omit an item even though it may be difficult to make a choice. Your decision, 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. Use the following code for your responses:

1…Strong Agreement  
2…Agreement  
3…Disagreement  
4…Strong Disagreement

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strong Agreement</th>
<th>Agreement</th>
<th>Disagreement</th>
<th>Strong Disagreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am usually unaware of angry feelings when I compete</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>During an athletic performance, I am often more irritated than people may think.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>I enjoy frustrating my opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>When things go wrong in a game, I do not tend to take it out on my opponent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>I relish picking my opponent apart piece by piece until that individual has nothing left.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>When I have an opponent down, I delight in keeping him/her down.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>When my opponent gets the best of me, I often get mad enough to throw something</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>At times I cannot control my urge to harm an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>At times I am surprised by my anger toward an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>When the unexpected happens in a contest, I always adjust without becoming irritated.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>I am usually calm and poised before participating in an athletic event.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>It is easier for me to compete against an opponent I do not know personally.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>Performing well is more important to me than the satisfaction I get from beating somebody.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>It does not take much to upset me in an athletic contest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>There have been times when I have “rubbed it in” after I have done something well, or my rival has done something poorly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>You have to punish people if you want to win.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>When my coach doesn’t treat me right, I can feel resentment build up inside myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>I generally perform better when I keep my emotions under control and concentrate solely on my performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>I usually do not withdraw from my teammates after frustrating competitive experiences.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>20. Seldom is my opponent able to pressure me into making an error.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>21. There have been times, in the heat of competition, when I have become aware of another side of me that I didn’t realize existed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>22. I have never had a temper tantrum in a competitive sport situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>23. During competition, I more often go into an inner shell to listen to my own voice than listen to the outside noise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>24. A winner is someone whose performance is completely detached from emotional responses to other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>25. I like to compete because I can take my frustrations out on my opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>26. My anger against officials seldom goes unchecked</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>27. It is easier for me to get psyched up for a competitive situation by thinking negative thoughts about my rival</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>28. I have never intensely disliked an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>29. I have never felt any desire to harm an opponent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>30. I am aware of my opponent only for the sake of strategy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
Passion in Hockey

*While thinking of HOCKEY and using the scale below, please indicate your level of agreement with each item.*

<table>
<thead>
<tr>
<th></th>
<th>Not Agree at all</th>
<th>Very slightly agree</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Mostly Agree</th>
<th>Strongly Agree</th>
<th>Very Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This activity is in harmony with other activities in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. I have difficulties controlling my urge to play hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. The new things that I discover with hockey allow me to appreciate it even more.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. I have almost an obsessive feeling for hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. Hockey reflects the qualities I like about myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. Hockey allows me to live a variety of experiences.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. Hockey is the only thing that really turns me on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. Hockey is well integrated in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. If I could, I would only play hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. Hockey is in harmony with other things that are part of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11. Hockey is so exciting that I sometimes lose control over it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12. I have the impression that hockey controls me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>13. I spend a lot of time playing hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>14. I like hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>15. Hockey is important for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>16. Hockey is a passion for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>17. Hockey is a part of who I am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
# Moral Disengagement in Hockey

A number of statements describing thoughts that players might have about competitive hockey are listed below. Please read these statements carefully and indicate your level of agreement with each one by circling the appropriate number. Please respond honestly.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is okay for players to lie to officials if it helps their team</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. Bending the rules is a way of evening things up</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. Shouting at an opponent is okay as long as it does not end in violent conduct</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. It is unfair to blame players who only play a small part in unsportsmanlike tactics used by their team</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. A player should not be blamed for injuring an opponent if the coach reinforces such behavior</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. Insults among players do not really hurt anyone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. It is okay to treat badly an opponent who behaves like an animal</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. Players that get mistreated have usually done something to deserve it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
**Importance of Hockey Roles**

**Directions:** Please circle the response that you feel best represents the degree to which you agree or disagree with the statement on the left. Circle the response that you feel is most representative of how you feel, and not how others would expect you to respond.

Please indicate your **level of agreement** with each statement.

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Being an aggressive hockey player is something I rarely think about</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>2. I would feel a loss if I were forced to give up being an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>3. I really don’t have any clear feelings about being an aggressive hockey player</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>4. For me, being an aggressive hockey player means more than just playing aggressive hockey.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>5. Being an aggressive hockey player is an important part of who I am</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
### Other’s Expectations in Hockey

**Directions:** When responding to this questionnaire, please think of how your coaches might expect you to fill the role of an aggressive hockey player. Circle the response that you feel best represents the degree to which you agree or disagree with the statement on the left. Circle the response that you feel is most representative of how you feel, and not how others would expect you to respond.

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My coaches think of me in terms of being an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>2. My coaches think that being an aggressive hockey player is important to me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>3. It is important to my coaches that I continue as an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>4. It really wouldn’t matter to my coaches if I decided to give up playing hockey aggressively.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>5. My coaches are not aware that I am an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>6. My coaches expect me to continue being an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>7. My coaches would not be surprised if just stopped being an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>8. My coaches would probably be disappointed in me if I just decided to stop being an aggressive hockey player.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
**Sanctioned/Unsanctioned Acts in Hockey**

**Directions:** Please respond to each statement based on your level of agreement on the scale below. Please answer honestly and truthfully to all statements.

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Disagree somewhat</th>
<th>Neither agree nor disagree</th>
<th>Agree somewhat</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aggressive acts that occur within the written rules and unwritten rules of hockey, carried out with no intent of harming other individuals are acceptable if it helps my team win the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Aggressive acts that occur outside the written and unwritten rules of the sport and involve intent to harm another player are acceptable if they help my team win the game.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I would be willing to intentionally hurt an opposing player simply to intimidate him or her and their teammates.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I have no problem committing an aggressive act that occurs within the formal and unwritten rules of hockey.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I am willing to commit an aggressive act that occurs outside the written and unwritten rules of hockey</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I am willing to play physically according to the rules of the game in order to help my team win.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>