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The Nature of Conflict in Sport: Development and Validation of the Group Conflict Questionnaire

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Graduate Program in Kinesiology
A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy
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THE NATURE OF CONFLICT IN SPORT:
DEVELOPMENT AND VALIDATION OF THE GROUP CONFLICT QUESTIONNAIRE

(Thesis Format: Integrated Article)

by

Kyle F. Paradis

Graduate Program in Kinesiology

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

The School of Graduate and Postdoctoral Studies
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Abstract

The purpose of the present dissertation was to develop a questionnaire to assess intra-group conflict in sport teams. To this end, the current dissertation consisted of three phases which followed a logical progression that is typical in the questionnaire development process. A total of (N = 752) participants took part in the three phases (Phase 1: N = 10; Phase 2: N = 437; Phase 3: N = 305).

Phase 1 was a qualitative investigation of athletes' (N = 10) perceptions of the nature of conflict in sport. This phase was undertaken to gain a better understanding of the conflict phenomenon in sport groups. Results from Phase 1 indicated that participants experienced conflict in task and social situations, and that conflict manifested itself through cognitive (disagreements), behavioral (interference) and affective (negative emotions) components.

Phase 2 consisted of two projects. The objective of the first project was to utilise the results from Phase 1 to generate potential questionnaire items. These items were then assessed for content validity by a panel of experts (N = 6). A total of 50 items were generated and sent out to the experts. Based on their feedback, a total of 25 items were retained for further testing.

The objective of the second project of Phase 2 was to begin initial reliability (internal consistency) and validity (factorial) testing with the set of content valid items with a sample of athletes (N = 437). Results from this initial psychometric testing yielded a structurally reliable and valid (CFI = .946, RMSEA = .086, SRMR = .042) 14-item, two dimensional (*task conflict*, 7-items, and *social conflict*, 7-items) version of the Group Conflict Questionnaire.

Phase 3 was undertaken to further test the reliability (internal consistency) and validity (factorial, convergent, discriminant, known-group difference) for the Group Conflict Questionnaire with another sample of athletes (N = 305). Results provided evidence for reliability and validity for the four types assessed (CFI = .903, RMSEA = .109, SRMR = .060). The newly developed and validated 14-item, two dimensional, Group Conflict Questionnaire can be utilised for continued use to advance the knowledge of conflict in sport.

Keywords:

Group dynamics, social psychology, sport psychology, organizational psychology, conflict, reliability, validity, measurement, questionnaire development, confirmatory factor analysis

Co-Authorship Statement

The material contained within this document is my original work; however I would like to acknowledge the role of my doctoral supervisor Dr. Albert Carron, a Professor in the School of Kinesiology from the University of Western Ontario; and the role of Dr. Luc Martin, an Assistant Professor in the Department of Kinesiology and Physical Education at the University of Lethbridge. Dr. Carron and Dr. Martin provided constructive guidance and insight that resulted in an important contribution to this dissertation.

Dedication

This dissertation and my academic career thus far are dedicated to my parents.

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Introduction

The development of a measurement protocol is at the heart of science and is considered to be fundamental to the advancement of knowledge (Carron, Eys, & Martin, 2012). A number of questionnaires in sport psychology have aided in the advancement and understanding of various constructs. Some of these constructs include but are not limited to cohesion (Group Environment Questionnaire; Carron, Widmeyer & Brawley, 1985), role ambiguity (Role Ambiguity Scale; Beauchamp, Bray, Eys, & Carron, 2002), the coach-athlete relationship (Coach-Athlete Relationship Questionnaire; Jowett & Ntoumanis, 2004), coaching and leadership (Leadership Scale for Sports; Chelladurai & Saleh, 1980), athlete satisfaction (Athlete Satisfaction Questionnaire; Riemer & Chelladurai, 1998), collective efficacy (Collective Efficacy Questionnaire for Sports; Short, Sullivan & Feltz, 2005), imagery (Sport Imagery Questionnaire; Hall, Mack, Paivio, & Hausenblas, 1998) and passion (The Passion Scale; Vallerand et al., 2003).

Another construct in sport that would seem to be impactful is conflict as it is considered to be an inevitable part of any group (Robbins & Judge, 2010). This notion has also been supported through statements such as: “I’m only certain of three things in life—death, taxes, and conflict” (quoted in Lavoie, 2007, p. 34). Interestingly, Lavoie (2007) also noted that searches of subject indexes in various sport psychology texts failed to yield the term *conflict*. However, the prevalence and importance of conflict has been assessed and reported in a variety of organizational settings (e.g., Deutsch, 1990). For example, the management literature has highlighted the detrimental influence conflict can have on performance and satisfaction within groups (e.g., De Dreu & Weingart, 2003). Further, in the medical field, intra-group conflict has been linked to job stress,

absenteeism, intentions to leave the group, reduced productivity, and reduced coordination (Almost, 2006; Almost, Doran, McGillis-Hall, & Laschinger, 2010). In the context of sport, understanding the influence of conflict would be of paramount importance for coaches and athletes alike considering the potential implications for many important outcome variables such as performance and satisfaction.

One challenge with regard to gaining a better understanding of conflict in the sport context may lie in the complexity or abstract nature of the construct. This complexity also has posed a challenge in the development of both constitutive and operational definitions in other contexts (i.e., organizational psychology). In this regard, Barki and Hartwick (2004) suggested that “the lack of a clear conceptualization and operationalization of the construct of interpersonal conflict makes it difficult to compare the results of different studies and hinders the accumulation of knowledge in the conflict domain” (p. 216). In an attempt to remedy this shortcoming, Barki and Hartwick (2004) advanced the following definition: “a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals” (p. 234).

A second challenge in the assessment of conflict—one also mentioned by Barki and Hartwick (2004)—is the lack of a psychometrically sound measurement tool. The importance of good measurement protocols has been emphasized by both researchers and theoreticians. For example, Tenenbaum, Eklund, and Kamata (2012) pointed out that “measurement is essential to science, it must be trustworthy and accurate” (p. 3). Similarly, Lord Kelvin so eloquently noted in 1883 that “when you can measure what you are speaking about, and express it in numbers, you know something about it, but

when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts, advanced to the stage of science.”¹

The lack of a psychometrically sound instrument could account for some of the scarcity of literature on intra-group conflict in sport. To my knowledge, only three studies have been published which focused specifically on the construct of conflict in sport.

Mellalieu, Shearer, and Shearer (2013) assessed perceptions of interpersonal conflict among members of sport organization (i.e., athletes, coaches, managers, support staff) within various United Kingdom national teams at various major sporting events (i.e., Olympics, world championships). The authors assessed the team member’s perceptions of the frequency, intensity, and duration of conflict in addition to the cognitive, behavioral, and affective consequences. The assessment of conflict emerging from the interactions exclusively between teammates however is of particular interest in the present dissertation.

In a qualitative investigation, the main focus was on female varsity athletes’ perceptions of conflict between teammates (Holt, Knight, & Zukiwski, 2012). The authors conducted semi-structured interviews and found that conflict between teammates occurred around performance (or task) and relationship (or social) related issues.

¹It should be noted that Lord Kelvin’s quote was included only to provide a colorful historical perspective and further support and rationale for the importance of measurement in science and thus, the potential contribution of this dissertation, and not to disregard other types of research methodologies, as this dissertation contains a mixed methods approach including both qualitative and quantitative protocols.

In a quantitative investigation that was conducted by Sullivan and Feltz (2001), the purpose was to assess the relationship between conflict and cohesion in ice-hockey teams. To measure conflict, an untitled conflict style measure developed by Canary, Cunningham, and Cody (1988) was utilised. This measure assesses seven dimensions which are labelled *integrative tactics*, *topic shifting*, *personal criticism*, *showing anger*, *personal sarcasm*, *semantic focus*, and *denial*. The Sullivan and Feltz (2001) results indicated that a negative conflict style represented by the dimension of *topic shifting* was negatively related to task and social cohesion whereas a positive conflict style represented by the dimension of *integrative tactics* was positively related to social cohesion. While the Sullivan and Feltz (2001) study offered some interesting insights into the potential relationship between conflict and cohesion, results should be interpreted with caution for several reasons.

First, no conceptually sound constitutive definition of conflict was advanced prior to the development of the questionnaire used to measure conflict. The importance of having a strong theoretical understanding of a construct adds further validity and a degree of confidence that the targeted construct is in fact being accurately assessed. Second, and further to this point, it appears that the operational definition (i.e., the questionnaire) used to assess conflict was not psychometrically sound (e.g., $\alpha = .09$ for *denial* dimension).

Considering the relative lack of attention pertaining to intra-group conflict in sport, we conducted a search in other related literatures to help advance our own understanding of this construct. Fortunately in organizational psychology, there has been more than 70 years of conflict-related research (see Barki & Hartwick, 2004 for an overview). This body of research served as a useful starting point to help further

investigate the theoretical underpinnings of the construct. It seems reasonable to assume that research in organizational psychology assessing management teams, work groups, and task forces, could help inform sport psychologists about the general nature and correlates of conflict as sport teams and work groups possess common similarities (Barker, Rossi, & Puhse, 2010). For example, certain outcomes such as individual and team performance, member satisfaction, and member retention are of principal interest in both contexts.

In the organizational psychology literature, a considerable portion of the research examining conflict has been conducted (and/or influenced) by Karen Jehn and her colleagues (e.g., Jehn, 1995; 1997; Jehn & Bendersky, 2003; Jehn & Mannix, 2001). This is partly a reflection of the fact that Jehn (1995) advanced a conceptualization that has had a substantial impact on conflict-related research in organizations over the last two decades. The original Jehn (1995) conceptual model was formulated on the notion that three distinct but related types of intra-group conflict exist: *task*, *relationship*, and *process* conflict. According to Jehn (1997), task conflict is present when disagreements among group members occurred in relation to the content of tasks being performed including differences in viewpoints, ideas, and opinions. Relationship conflict exists when interpersonal incompatibilities were present among group members. Finally, process conflict is present when disagreements arose in regard to the manner in which tasks should be delegated and accomplished. The Jehn (1995) conceptualization provided an excellent foundation for understanding the nature of conflict and served as a catalyst for further research.

In addition to these three types of conflict, Jehn (1997) also highlighted four moderators of conflict on such group outcomes as satisfaction and performance (e.g., Jehn, Greer, Levine, & Szulanski, 2008). These four moderators are: *negative emotionality*, *importance of the conflict*, *acceptability norms of conflict within the group*, and *resolution potential of the conflict*.

Negative emotionality refers to the presence of negative emotions during the conflict, if the conflict is taken personally and negative emotions are experienced, then the conflict can intensify and/or escalate and performance and satisfaction will decrease.

The *importance of the conflict* is another moderator. If the conflict is perceived to be of great importance in that the group cannot proceed until it is resolved, then it will have greater effects on group outcomes rather than if the conflict is perceived as not very important and not detrimental to group functioning.

Acceptability norms refer to the group's allowance for conflict to exist. Some groups shun and discourage any sort of conflict whereas other groups encourage some conflict in the working process. If conflict arises in groups where a norm not to accept any type of conflict is present then its presence is more likely to have worse effects on member satisfaction and performance.

Finally, *resolution potential* refers to the perceived capability of the conflict being resolved quickly and easily vs. one that may be dragged out and difficult to resolve. Conflicts that can be quickly and easily resolved will have less effect on group outcomes than those conflicts that are ongoing sagas.

Over time, two general concerns have arisen with both the Jehn (1995) framework and definitions. First, insofar as the framework is concerned, process conflict has been

found to be too closely related to task conflict in that empirical distinctions between the two have seldom been made (Behfar, Mannix, Peterson, & Trochim, 2011). In fact, recently, Jehn and her colleagues (e.g., Bendersky et al., 2010) revisited the original framework and reduced the model from three to two dimensions—*task* (consisting of divergent, convergent, and logistical coordination conflicts) and *interpersonal* (consisting of status, compatibility, and commitment conflicts). It was concluded that process conflict should be considered under the general umbrella of task conflict.

Second, insofar as the nature of conflict is concerned, Jehn (1995) and colleagues have placed an emphasis on the term *disagreement* to the point of perceiving (either intentionally or unintentionally) that conflict is synonymous with just disagreement. Unquestionably, disagreement is at the root of any conflict; however, it is possible to have disagreement without necessarily having conflict. For example, good friends can have discrepant views about political or religious issues or beliefs—or even food preferences—but not necessarily be in conflict with one another. In fact, recent research in sport management found that conflict was deemed too strong a word to describe mere disagreements or differences of opinion (Hamm-Kerwin, Doherty, & Harman, 2011). A critical concern is that perceiving conflict to be synonymous with disagreement (be it intentional or not) severely risks underrepresenting the construct as a whole.

A more recent conceptualization of intra-group conflict in the organizational literature was advanced by Barki and Hartwick (2004). Historically, conceptualizations of conflict have focused on two main types: *task* and *relationship*. Consequently, the first main component in the Barki and Hartwick (2004) conceptualization is the representation of the task and relationship contexts of conflict. That is, conflict can be experienced in

both the task process and interpersonal relationship (i.e., social) process. This aspect is in line with the Jehn (1995) conceptualization. The second main component of their framework is founded on the assumption that for any interaction to be viewed as conflict, it must simultaneously contain cognitive, behavioral, and affective aspects, albeit it to varying degrees. Disagreement is representative of the cognitive component; interference with goal attainment as the behavioral component; and negative emotion as the affective component. Thus in summary, in their two dimensional framework, Barki and Hartwick (2004) considered conflict to be present when disagreements occur that are accompanied by negative emotions and interference behaviors over a given task or relationship issue. This is the main distinction from that of the Jehn (1995) conceptualization in that Jehn suggested that negative emotions are a moderator of conflict, Barki and Hartwick (2004) suggested that negative emotions are inherent in the nature of the construct along with interference and disagreement.

The Barki and Hartwick (2004) conceptualization served as the foundation for the current research for three reasons. First, the inclusion and distinction between task and social considerations in any conceptual model pertaining to a group dynamics construct is appropriate. Historically, group dynamics theoreticians have recognized the need to acknowledge both the task and social orientations of groups (e.g., Cartwright & Zander, 1968; Fiedler, 1967; Hersey & Blanchard, 1969).

The notion of a task and social orientation pertaining to intra-group conflict has been broadly supported both conceptually (e.g., Barki & Hartwick, 2004; Bendersky et al., 2010; Jehn, 1995) and empirically (e.g., Amason & Sapienza, 1997; De Dreu &

Weingart, 2003). Finally, initial support for this task and social distinction of conflict has also been found in the sport conflict-related research (e.g., Holt et al., 2012).

Second, the Barki and Hartwick (2004) conceptualization emphasizes the multidimensional nature of conflict that has been discussed extensively in the organizational psychology literature. Barki and Hartwick (2004) provided a strong supporting rationale for the argument that for an interaction to be considered as conflict, it must simultaneously contain some levels of cognitive (e.g., disagreement), behavioral (e.g., interference), and affective (e.g., negative emotions) components.

The purpose of the present dissertation was to build on the previous literature of intra-group conflict in sport and organizational psychology and begin the process of developing a conceptually and psychometrically sound questionnaire for sport. Specifically, the questionnaire's development involved the sequential completion of three phases: (a) a qualitative phase (Study 1) where athletes were interviewed about their perceptions of the nature of intra-group conflict, (b) an item generation, content validity, and construct validity phase where items were written and assessed by experts and a confirmatory factor analysis (CFA) was conducted (Study 2), and (c) a validity testing phase where cross validation of factorial validity was performed with a different sample through another CFA, in addition to tests of convergent, discriminant, and known-group difference validity (Study 3)².

² The integrated article format was chosen for this dissertation. Three manuscripts were prepared and submitted for publication in peer-reviewed journals. However, as a result of an Editor's decision not to accept Studies Two and Three as independent manuscripts, they were combined and resubmitted for review in that format. Thus, consistent with the Editor's ruling and the decision to submit the dissertation in the integrated article format, Studies 2 and 3 have been combined in the present document.

The overall psychometric and statistical properties of the questionnaire were assessed. The general protocol represented by these three phases has been used recently in other questionnaire development endeavours (e.g., Carron et al., 1985; Eys, Loughead, Bray, & Carron, 2009; Martin, Carron, Eys, & Loughead, 2012).

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STUDY 1

ATHLETE PERCEPTIONS OF INTRA-GROUP CONFLICT IN SPORT TEAMS

Group dynamics has been described as “a field of inquiry dedicated to advancing knowledge about the nature of groups, the laws of their development, and their interrelations with individuals, other groups, and larger institutions” (Cartwright & Zander, 1968, p. 19). In the field of sport psychology, the study of group dynamics has increased our understanding with regard to the nature and measurement of various group constructs including: cohesion (e.g., Carron, Widmeyer, & Brawley, 1985), role ambiguity (e.g., Eys, Carron, Beauchamp, & Bray, 2005), the coach-athlete relationship (e.g., Jowett & Ntoumanis, 2004), coaching leadership (e.g., Chelladurai & Saleh, 1980), athlete (peer) leadership (e.g., Loughhead, Hardy, & Eys, 2006), athlete satisfaction (e.g., Riemer & Chelladurai, 1998), and collective efficacy (e.g., Short, Sullivan, & Feltz, 2005). However, one construct in sport that has generated relatively minimal research attention is intra-group conflict. For example, in a search of subject indices in various sport psychology textbooks, the term *conflict* failed to emerge (Lavoi, 2007). This is surprising considering the presence of conflict is believed to be inevitable in any group (Robbins & Judge, 2010). Lavoi (2007) also noted that conflict is an inevitable part of life and relationships, and thus, is an important phenomenon to understand in sport teams.

To date, some studies have referenced conflict in sport—including research on athlete participation and involvement in sport teams (Holt, Black, Tamminen, Fox, & Mandigo, 2008; Holt & Sparkes, 2001), friendships in youth sport (Weiss & Smith, 1999; Weiss, Smith, & Theebom, 1996), motivational climate (Ntoumanis & Vazou, 2005; Vazou, Ntoumanis, & Duda, 2005) and the coach-athlete relationship (Jowett, 2003). Interestingly however, the various forms of conflict in these studies were assessed to gain

a better understanding of other phenomena (i.e., motivational climate, youth sport settings, adherence) and not necessarily conflict specifically.

One study (Sullivan & Feltz, 2001) that directly assessed the presence of conflict in sport examined the conflict-cohesion relationship in recreational male ice hockey players aged 21-39 years (Mage = 27.8 years). The assessment involved the Group Environment Questionnaire (cohesion; Carron et al., 1985) and an untitled “conflict style measure” (conflict; Canary, Cunningham, & Cody, 1988) which consisted of seven dimensions labelled *integrative tactics*, *topic shifting*, *personal criticism*, *showing anger*, *personal sarcasm*, *semantic focus*, and *denial*. The results indicated *topic shifting* (a “negative conflict style”) was negatively related to task cohesion and social cohesion whereas *integrative tactics* (a “positive conflict style”) was positively related to social cohesion. However, there is no evidence that this operational definition of conflict is conceptually or psychometrically sound (i.e., authors reported $\alpha = .09$ for the *denial* dimension). Furthermore, no constitutive definition of conflict was advanced based on any apparent conceptualization.

A second study (Holt, Knight, & Zukiwski, 2012) that specifically examined conflict in sport focused on female intercollegiate athletes’ (Mage = 21.17 years) perceptions of the sources of teammate conflict. Participants were from four teams in the sports of ice hockey, volleyball, basketball, and field hockey. The results from semi-structured interviews indicated the presence of conflict relating to performance (i.e., task) and relationships (i.e., social). In addition, with regard to conflict resolution, the participants suggested that conducting team building early in the season, addressing conflict early, having mediators, and holding structured interviews could help to manage conflict.

A third study conducted by Mellalieu, Shearer, and Shearer (2013) assessed interpersonal conflict within an entire sport organization (i.e., athletes, coaches, management, and support staff) from various national teams representing the United Kingdom at major sporting competitions (i.e., Olympics, world championships). The authors assessed the frequency, intensity, and duration of conflict in these national teams, along with the cognitive, behavioral, and affective components. The importance of assessing conflict in various forms of groups is an important endeavour. The overall influence of conflict has been well represented in organizational psychology as in the study from Mellalieu et al. (2013). In fact, they found that within the sport organizational structure, athletes reported the highest number of conflicts. Thus, the intricate nature of conflict between athletes remains an important area to further investigate due to its implications for team functioning and thus was the primary interest of the present study.

Despite the previous aforementioned studies, the lack of research attention directed towards intra-group conflict in sport is particularly disheartening when contrasted with the extensive amount of research conducted in other fields of inquiry. For example, in organizational psychology, there has been more than 70 years of research on conflict (cited in Barki & Hartwick, 2004). At first glance, it might seem reasonable to assume that research assessing work groups can inform sport psychologists about the nature and correlates of conflict in sport teams. Work groups and sport teams do possess some strong similarities (Barker, Rossi, & Puhse, 2010). For example, outcomes such as individual and group productivity and member satisfaction are of principal concern in both work groups and sport teams. Also, there is a common interest in group dynamics constructs that might influence these outcomes—cohesion, leadership, role clarity, role acceptance, role satisfaction, and group norms among others. However, the utility of the

findings from the body of research emanating from organizational psychology is limited for two principal reasons.

One reason is the wide variety of *constitutive definitions* (and by extension, operational definitions) used as the bases for investigations. In one perspective, for example, conflict is represented by *incompatibilities* and *interpersonal interference or obstruction* (e.g., Alper, Tjosvold, & Law, 2000). Characteristic of this perspective is the definition advanced by Wall and Callister (1995) who defined conflict as “a process by which one party perceives that its interests are being opposed or negatively affected by another party” (p. 517). Wilmot and Hocker (2001) also defined conflict as “an expressed struggle between at least two persons who perceive incompatible goals, scarce resources, and interference from others in achieving their goals” (p. 41). While these definitions are useful, this perspective in and of itself is not sufficient to define the full nature of conflict. Individuals may attempt to prevent each other from attaining their goals (e.g., two athletes that are competing for the same position on a team) but may not be in disagreement or hold negative feelings towards each other.

In another perspective, conflict has been defined by the existence of *negative emotions* (e.g., tension, jealousy, anxiety, frustration, anger, friction, hostility) in task and social situations (e.g., Jehn, 1994; Bodtger & Jameson, 2001). Characteristic of this perspective is the definition advanced by Pelled, Eisenhardt, and Xin, (1999): “a condition in which group members have interpersonal clashes characterized by anger, frustration, and other negative feelings” (p. 2). While conflict will undoubtedly spurn negative emotions in individuals, this perspective in and of itself does not describe the full depth of conflict. For example, the persons involved may dislike each other based on

personality, work ethic, personal attributes, or past experiences, but may not be in any specific disagreement or interference with one another.

In the third and perhaps most common perspective, conflict has been viewed as *disagreement*. An early definition advanced by Dahrendorf (1958) defined conflict as “all relations between sets of individuals that involve an incompatible difference of objective...” (p. 135). More recently—and representative of this perspective—is the work of Jehn and her colleagues (e.g., Jehn, 1995; 1997; Jehn & Bendersky, 2003; Jehn & Chatman, 2000; Jehn, Greer, Levine, & Szulanski, 2008; Jehn & Mannix, 2001; Jehn, Northcraft, & Neale, 1999; Jehn, Rupert, & Nauta, 2006). Jehn defined conflict as perceptions by group members that they hold discrepant views or have interpersonal incompatibilities (Jehn, 1995).

A limitation in any definition that treats conflict as simply a lack of agreement is that it underrepresents the construct. Good friends can have discrepant views about issues or beliefs but not necessarily be in conflict with each other. In fact, in non-profit organizational settings, people deemed “conflict,” too strong a word to describe disagreements or differences of opinion (Hamm-Kerwin, Doherty, & Harman, 2011). Undoubtedly, disagreement is at the root of conflict, but at what point does a disagreement escalate into conflict?

More recently, Barki and Hartwick (2004) conducted a comprehensive summary and evaluation of the research, constitutive and operational definitions, and conceptualizations advanced in organizational psychology. They suggested that after the 70+ years of scientific scrutiny, a generally accepted constitutive and operational definition for conflict is still lacking. They also pointed out common problems with many constitutive (and by extension) operational definitions. For example, statements such as

“arises from,” “occurs when,” or “exists when,” risk simply providing descriptions of the antecedents of conflict and/or the conditions under which it can occur without describing its fundamental nature. As Pondy (1967) pointed out, “the term conflict refers neither to its antecedent conditions, nor to individual awareness of it, nor affective states, nor its overt manifestations, nor its residues of feelings, precedents, or structure, but all these taken together” (p. 319).

Using their literature summary as a basis, Barki and Hartwick (2004) suggested that in order for an interaction between two parties to be considered a conflict, it must contain not only a disagreement, but also negative emotions, and interference behaviors. Consistent with this suggestion, they defined conflict as “a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals” (p. 234).

The second (related) reason why the findings from organizational psychology are limited in their utility for sport lies in its conceptual underpinnings (or lack thereof). Historically, the most promising conceptualization—one that has had the greatest impact on research over the past two decades—was advanced by Jehn (1995). This conceptualization formed the basis for an operational definition that has been used extensively by Jehn and her colleagues to study the effects of conflict on various group outcomes (e.g., Jehn, 1995; 1997; Jehn & Bendersky, 2003).

Jehn’s (1995) conceptual model is founded on the assumption that three types of intra-group conflict are possible: *task*, *relationship*, and *process*. According to Jehn (1997), *task* conflict exists when disagreements (over performance issues) among group members occur in relation to the content of tasks being performed including differences in viewpoints, ideas, and opinions. *Relationship* conflict exists when disagreements and

interpersonal incompatibilities (e.g., tension, animosity) are present among group members. Finally, *process* conflict exists when disagreements arise in regard to the manner in which tasks should be accomplished (e.g., delegation). Despite the overall comprehensiveness of the conceptualization advanced by Jehn, it does possess one critical shortcoming—the perception that conflict is synonymous with a disagreement, risks underrepresenting the construct.

As indicated previously, a conceptualization or typology of intra-group conflict was also advanced by Barki and Hartwick (2004). Their first main component—the one introduced above—is founded on the assumption that interpersonal conflict contains cognitive, behavioral, and affective components. These are represented by disagreement, negative emotions, and interference behavior respectively. The second main component is a distinction between the task and the interpersonal relationship contexts of conflict. Given that the conflict literature has focused on these two main contexts (i.e., task and relationship), they proposed a two-dimensional framework comprised of the aforementioned disagreements, interference, and negative emotions experienced in the a) task processes and the b) interpersonal relationship contexts respectively.

The inclusion of both task and relationship considerations in any conceptual model for conflict seems reasonable. Historically, there has been a longstanding recognition among group dynamics theoreticians on the need to acknowledge both the *task* and the *social* orientations of groups (e.g., Cartwright & Zander, 1968; Fiedler, 1967; Hersey & Blanchard, 1969). From the perspective of the study of conflict in work groups, this task and social orientation also has been broadly supported (e.g., Amason & Sapienza, 1997; De Dreu & Weingart, 2003; Jehn & Bendersky, 2003; Jehn & Chatman, 2000; Jehn & Mannix, 2001; Rahim, 2002). Finally, this distinction has also had support

in terms of the types of conflict that arise in a sport setting (e.g., Holt et al., 2012). Holt and his colleagues found that *performance* (i.e., task) conflict is a product of issues centered on practice or competition concerns, and playing time, whereas *relationship* (i.e., social) conflict is a product of issues reflecting interpersonal disputes or disagreements and personality clashes—issues that are not directly related to performance. As such, the aforementioned literature supported the adoption of a two-dimensional model of task and social conflict as a conceptual starting point for the present study.

The adoption of Barki and Hartwick's (2004) conceptualization for a sport setting seems to make intuitive sense. As such, we aim to add to the literature in sport psychology on conflict by adopting this approach. Thus, the purpose of the present study was to improve our understanding of the *nature* of intra-group conflict in sport through the perceptions of competitive level athletes. The relative paucity of attention paid to intra-group conflict led to some decisions about the protocol adopted. First, a qualitative methodology was used. This provided the opportunity to use participants as active agents in the research process. Second, the conceptualization advanced for intra-group conflict by Barki and Hartwick (2004) was used as a deductive frame-of-reference. Specifically, participants' responses were analyzed with a view to determining whether intra-group conflict in sport teams (1) occurs in both task and relationship (i.e., social) contexts and (2) contains cognitive (i.e., disagreement), affective (i.e., negative emotions), and behavioral components (i.e., interference).

Method

Participants

Our goal was not to obtain sport- or gender-specific insights into the nature of conflict. Rather, we set out to gain heterogeneous insights regarding the nature of conflict in sport teams in general. In this regard, a purposeful sampling approach was used (Patton, 2002). That is, four specific sampling criteria were established in order to recruit participants who would be able to provide independent, insightful, and potentially heterogeneous responses. The first was to recruit an equal number of male and female athletes to obtain perspectives from both genders. The second was to recruit athletes with a minimum of two years tenure on their respective teams in order to ensure extensive competitive experiences. The third was to ensure that only one athlete representative from any given team participated; this ensured that awkward situations attending within teams were avoided. Finally, athletes were purposely recruited from a heterogeneous sample of teams and sports. The four criteria were used as a basis for the selection of the sample in order to increase generalizability of results. Intercollegiate athletes that met the above criteria were recruited individually.

Participants were 10 current and former intercollegiate athletes ($n = 5$ males, $n = 5$ females) from Canadian universities. They ranged in age from 21 to 30 years ($M_{age} = 25.00$, $SD = 2.87$) and had a mean tenure of 4.0 years with their respective teams (Canadian intercollegiate athletes typically have five years of eligibility to play at the intercollegiate level). The first and third authors recruited and contacted athletes directly via email to participate in the study.

Certain athletes competed in multiple sports and thus drew from those experiences. Specifically, Athlete Seven competed in both track and field and rugby and

Athlete Nine in both hockey and lacrosse. The five male participants (Mage = 25.0, Mtenure = 4.4 years) were Athletes Four (golf), Six, (ice hockey), Seven (track and field and rugby), Eight (volleyball), and Nine (lacrosse and ice hockey). The five female participants (Mage = 25.0; Mtenure = 3.6 years) were Athletes One (rugby), Two (volleyball), Three (curling), Five (rowing), and Ten (dance).

Procedure

Approval was obtained from the lead author's institutional research ethics board (Appendix A). The semi-structured interviews were conducted in an informal lab/office setting at the convenience of the athlete which lasted approximately 20-40 minutes in duration (20.12 - 39.55; M = ~ 30 minutes). A semi-structured interview guide was used following general recommendations from Rubin and Rubin (2011). The set-up of qualitative protocols used in past group dynamics research (e.g., Eys, Loughead, Bray, & Carron, 2009; Martin, Carron, Eys, & Loughead, 2011) served as a general template to develop the interview questions for the present study.

The outline for the semi-structured interviews (Appendix B) contained four sections: *introductory questions*, *transition questions*, *key questions*, and *concluding questions*. The goal of the introductory questions was to obtain demographic information from the athletes as well as to “break the ice” and begin the interview process (e.g., “What sport do you play?” and “How long have you played?”). The transition questions sought to direct attention towards the notion of conflict and conflict experiences within the team (e.g., “How often would conflict arise in your team?” “What sort of conflict would arise in your team?” and “What form did the conflict take?”). The key questions—which represented the main inquiries of the interview—were designed to gain insight into the athlete's perceptions of the nature, antecedents, and consequences of conflict in teams

(e.g., “How would you define conflict?” “What are some typical indicators that a team has conflict?” and “What goes on in a group with conflict?” The present study only deals with issues surrounding the nature of conflict). Finally, concluding questions were used to obtain any final thoughts, to clarify any issues that were discussed, and to conclude the interview (e.g., “Is there anything that you would like to add?” and “Is there anything you did not get a chance to say?”).

Analysis

Each interview was audiotaped and the lead author transcribed the interviews verbatim. This process resulted in 145 typed (double spaced) transcript pages that were uploaded into the Nvivo 9 qualitative statistical software program where data were categorised and coded. Specifically, meaning units, which Tesch (1990) defined as “a segment of text that is comprehensible by itself and contains one idea, episode, or piece of information” (p. 116), were created. Thus, a meaning unit could reflect a word, phrase, sentence, or paragraph of text.

A thematic analysis was used and the coding was carried out using a combination of inductive (e.g., Cote, Baria, Salmela, Baria, & Russell, 1993) and deductive approaches (e.g., Munroe-Chandler, Hall, Fishburne, & Strachan, 2007). An inductive analysis is grounded in the data whereas a deductive analysis is guided by a theoretically informed framework (Patton, 2002; Tesch, 1990). As such, the inductive approach involved the identification and classification of emerging themes from the data while the deductive approach was based on a conceptual understanding; in the present study this consisted of (a) the task versus social distinction of conflict, and (b) the cognitive, behavioral, and affective components of conflict. As Munroe-Chandler et al. (2007) noted that, “combining inductive and deductive techniques as the most realistic analysis method

given that no researcher designs a study without some initial hypotheses based on previous research and theory” (p. 106).

In order to enhance the trustworthiness and credibility of our findings; self-reflective bracketing was undertaken prior to conducting any interviews (e.g., Benson, Eys, Surya, Dawson, & Schneider, 2013). This provided the opportunity for the lead author to reflect on his own experiences pertaining to conflict as a former intercollegiate athlete (e.g., Dale, 1996) and to acknowledge any preconceptions or biases held in relation to the topic of interest in an attempt to become more self-aware on how such biases might influence the data collection process or data analysis process (e.g., Giorgi, 2009). Member checks were also performed after the interviews whereby participants were provided with an opportunity to add or omit any additional information, all of which served to corroborate the data. With regard to data analysis, the lead author and his supervisor coded the transcripts together and reached 100% agreement before item categorisation (e.g., Lincoln & Guba, 1985; Maxwell, 2002; Sparkes, 1998). Finally, as a means of analyst triangulation (Patton, 2002), a critical review of meaning units and an expert audit review were performed whereby all three members of the research team reached a triangular consensus (Sparkes, 1998), which lent validity to the categorization of results.

Results

Initially, responses were categorized on the basis of *task* versus *social*—the context in which the conflict occurred. Responses were also categorized based on their reference to *cognitive* (e.g., disagreement), *affective* (e.g., negative emotions), and *behavioral* manifestations (e.g., interference) of conflict. In the sections that follow, the results pertaining to the nature of conflict are presented initially (i.e., where a distinction

between task and social contexts was not apparent) followed by a presentation of the nature of conflict in task and social contexts.

The Nature of Conflict

Cognitive. A common reference in the discussions of the nature of conflict was to disagreement. For example, Athlete Eight (a volleyball player) said that: “in the broad context, I would think of it [conflict] as a general disagreement on one topic or potentially one goal...where people’s views don’t align with one another.” Athlete Four (a golfer) advanced a similar viewpoint: “it’s definitely some kind of disagreement about a viewpoint or a certain way things should be done.” Athlete Two (a volleyball player) also discussed disagreement in her view of conflict: “I guess I would see conflict as something negative, so generally a clash of ideas or personalities...or two sides not agreeing on a certain concept.” Athlete Ten (a dancer) also commented that: “conflict could be anything really revolving around a disagreement between individuals or groups.” Athlete Seven (a track/rugby player) viewed conflict as: “disagreements between two groups or two entities on a certain aspect.” Finally, Athlete Nine (a hockey player) said that conflict in a team sport setting was: “A disagreement between two players on the same team ... who don’t necessarily see eye to eye and ... rub each other the wrong way.”

It was apparent that disagreement was one of the first things that came to mind when athletes thought of intra-group conflict as they stated it explicitly in their responses. However, as a caveat, it was apparent that athletes did not consider conflict to be solely represented by disagreement. For example, Athlete Two (a volleyball player) suggested that conflict is of a greater severity than just disagreement: “The situation has to be pretty severe to call it conflict. I don’t think it’s something as simple as disagreeing on

something ... it has to really divide people and keep them divided ... It has to be of a greater severity ... like war, some huge kind of outbreak ... like aggression, disagreement, all those things combined together, I don't see it as just a difference of opinion." A similar view of the nature of conflict was also put forth by Athlete Nine (a hockey/lacrosse player): "[conflict is] not just a typical disagreement you might have with someone else; conflicts just go deeper than that and you're going to have worse arguments and more intense conflicts."

Affective. Consistent with the Barki and Hartwick (2004) conceptualization, athletes referenced the emotional aspects of conflict. Athlete Eight (a volleyball player) stated: "conflict is a lot more [intense], the emotional connection in the conflict is a lot more." Athlete Ten (a dancer) also referenced the negative emotions associated with her example of a conflict episode: "I did feel a little bit of resentment towards the group at times or at least towards particular individuals ... it wasn't an enjoyable experience at all." Athlete Three (a curler) also recalled a conflict situation with her coach where emotions escalated: "The coach was extremely upset with me and kind of freaked out and yelled at me about the situation and almost threatened me in a way like 'if you do that again, either you or me is not going to be on this team anymore', so it kind of made me worry." It was also apparent that athletes felt that the situation becomes emotionally charged when individuals are in conflict situations. Many recalled that it took an emotional toll on them and often made them contemplate quitting the sport.

Behavioral. In discussing the conflict situations they had observed or in which they were involved, athletes repeatedly made references to specific behaviors that they felt made the interaction a conflict. For example, Athlete Five (a rower) recalled that: "in the boat, people would yell and scream and there was lots of swearing and a lot of

frustration, so people would slam their oars down or fall out of the boat on purpose.” The conflict situation Athlete Nine (a hockey/lacrosse player) recalled was characterized by: “lots of snide remarks, lots of sarcasm, lots of patronizing... it’s pretty cruel stuff.” A similar observation was made by both Athlete Six (a hockey player): “There would be verbal sarcasm, silent treatment and someone might ignore somebody if they are pissed off” and Athlete Seven (a track/rugby player): “it was a prime example of a negative culture ... the bad mouthing and trash talking continued from the senior players and trickled down to the rookies and continues on every year.”

Nature of Task Conflict

When athletes were queried with regard to the nature of conflict, a clear element of task conflict arose. In addition to this emergence, an important overriding perception was that it (task conflict) is inevitable in competitive sport. For example, Athlete Eight (a volleyball player) observed: “If there is not some kind of conflict... then you’re not that invested in it.”

Typically when athletes discussed conflict in task situations, its multidimensional nature (i.e., cognitive, affective, behavioral) was referenced. Athlete Five (a rower) stated: “If one person kind of screws up a little bit, the whole thing is ruined ... so ... I’d be so angry [with them]” [e.g., affective].

Additionally, Athlete Nine (a hockey/lacrosse player) pointed out: “When there’s conflicts around the task it’s usually two guys that are passionate and want the same results, but they are just going about achieving that result in different ways. They have different ideas on how they would go about it” [e.g., behavioral]. Athlete Nine went on to say: “Guys just want to be heard and a lot of times guys are getting mad at other guys

because they don't see their point of view or don't see their reasoning or thought process behind certain ideas or decisions" [e.g., cognitive].

Nature of Social Conflict

Social conflict was also perceived by the athletes in a variety of different ways from their experiences. One of these can be classified as poor relations away from the sport itself. For example, Athlete Six (a hockey player) thought of it as: "When team members are not getting along off the ice." Other athletes thought of social conflict as being more than simply not getting along. For example, Athlete Eight (a volleyball player), seemed to touch on various aspects of social conflict: "In the broad context, I would think of it as a general disagreement about one topic [e.g., disagreement]...and I think it has a really negative connotation associated with it" He then went on to elaborate... "People are being defensive [e.g., behavioral] and it's like I'm getting attacked [personally] for this? I really have to stick up for myself or I just lose face in front of a lot of people" [e.g., affective].

As well as confrontations, social conflict also manifests itself through isolation and exclusion. It should be noted that we debated whether these behaviors were consequences of conflict or if they did in fact reflect the nature of conflict. The context advanced by the athletes as well as the long-term nature of the isolation and exclusion led us to conclude that these were a manifestation of the perceived nature of conflict.

The behavioral act of isolating or excluding teammates could accompany disagreement as Athlete One (a rugby player) suggested: but also could be viewed as serious interference behaviors in social conflict. Athlete One made this clear when she stated: "lack of inclusion of others, I think that was our primary issue, exclusion was definitely one of the main conflict issues." She went on to describe a specific situation

that addressed this, “There was a group that began to isolate themselves more and have a [year end] party and purposely not invite certain people on the team to our final party... that was a big issue on the team.” [e.g., behavioral]

Athlete Ten (a dancer) reflected on the social conflict in her team and felt the tension just permeated through the group, as well as the interference she felt from her teammates attempting to exclude her from social events and the negative emotions she felt towards them: “In terms of social conflict, I could definitely tell that there were cliques in the group. Whether they were meant to happen or not I don’t know... I definitely felt excluded at times from particular cliques and especially because I did really enjoy everyone ... I had a few really close friends on the team but I didn’t want to talk to anyone anymore and there were times I felt like I couldn’t talk to certain people on the team and I know I was not the only person that felt that way.”

Athlete Nine (a hockey/lacrosse player), reflected on a social conflict situation he experienced firsthand when significant others got involved: “I’ve seen personal things get involved too, and it’s a shame when it does, because you know normally it’s stuff that is totally unrelated [to the sport] but I mean, there’s conflicts on teams over girls and stuff like that and that’s when it gets a little bit harder to resolve because as teammates you want to help whoever is involved in the conflict to sort it out but in a situation where there’s external forces like girlfriends or something like that, where can you step in? You really can’t... so it’s definitely not limited to things within the team.”

Discussion

The purpose of the present study was to determine what perceptions that members of competitive sport teams held with regard to the nature of intra-group conflict. The results offer a number of points that warrant discussion.

In terms of the general nature of conflict, athletes provided a variety of responses pertaining to how they perceived conflict and what occurs during a typical conflict situation. Several examples were provided supporting the Barki and Hartwick (2004) suggestion that conflict contains cognitive, behavioral, and affective components. Insofar as the cognitive component is concerned, the term “disagreement” was mentioned several times with conflict being described as a disagreement, a difference of opinion, or differing viewpoints. This perspective of disagreement-as-conflict is consistent with the organizational psychology literature (e.g., Jehn, 1997). There is no disputing that disagreement is at the heart of any conflict. However, as the athletes also noted, it typically does not stop at just disagreement. This notion also supports the findings from volunteer sport organizations that conflict goes beyond mere disagreement (Hamm-Kerwin et al., 2011).

Athletes also highlighted the affective component of conflict through references to negative emotional states, feelings of resentment, jealousy, anger, frustration, and irritation. In addition, athletes reported the presence of heavy emotional investment and heated emotional debates surrounding various issues. This perception of heightened emotion-as-conflict also has support in the organizational psychology literature (e.g., Amason, 1996; Amason & Sapienza, 1997).

Finally, athletes also identified a behavioral component of conflict. The behavioral component reflected a variety of actions or behaviors that the athletes undertook that led to the perception of the presence of conflict. Some behaviors mentioned included interference with attainment of goals, the presence of negative body language, avoidance behavior, silent treatment, verbal insults, and physical fighting. The perception of behaviors-as-conflict has been highlighted in the work of Alper et al.

(2000). Also, Dyer and Song (1997) considered conflict to be the interference with respect to the attainment of goals.

When athletes were asked for their definition of conflict, their response(s) typically included a reference to one or more of the Barki and Hartwick (2004) components—cognitions (e.g., disagreement), affect (e.g., emotion) and behavior (e.g., interference). However, typically all three components were not referenced simultaneously in a single response but rather in multiple responses over the course of the interview. This also could have been due to the nature of the questions asked. As was mentioned above, much of the organizational psychology literature has defined conflict-as-disagreement (e.g., Jehn, 1997). It should be noted that Jehn (1997) proposed that all conflicts have some degree of emotionality, but this proposal is not reflected in her definition. In the present study, several athletes alluded to the fact that conflict (as they viewed it) goes beyond just disagreement. These athletes' perspectives support the Barki and Hartwick (2004) proposal that conflict is a concurrent combination of three components.

Another point for discussion relates to the support found in the present results for the (deductive) categorization of conflict into task and social components based on (1) the conceptual model advanced by Jehn (1997) and (2) the findings highlighting performance and relationship conflict in sport (Holt et al., 2012). Our results are consistent with the Holt et al. (2012) findings and partially consistent with Jehn's (1997) conceptualization of conflict. Jehn (1997) indicated that, "there is an apparent distinction between task and relationship [conflict] similar to other organizational theories that distinguish between task and interpersonal dimensions of organizational life" (p. 531). As was suggested earlier, this task and social distinction is well supported from various

group dynamics theoreticians with regards to the orientation of groups (e.g., Carron et al., 1985; Cartwright & Zander, 1968; Fiedler, 1967; Hersey & Blanchard, 1969).

However, where our findings differ from the Jehn (1997) conceptualization is the lack of support for the presence of process conflict in sport—which is an integral component of Jehn’s (1997) conceptualization. The notion of process conflict in sport also did not seem to emerge in the results of the Holt et al. (2012) study. One possible explanation is that process issues are subsumed under the general category of task conflict. Recently, a revision of Jehn’s (1997) original three dimensional conflict conceptualization (i.e., task, relationship, and process) was undertaken by Bendersky et al. (2010) which proposed that conflict was in fact two dimensional, comprised of task and relationship conflict; and that process conflict was actually a form of task conflict.

Another possible explanation for the absence of process conflict is the fundamental nature of elite level sport teams (which contrasts with the fundamental nature of work groups). Typically, in elite-level sport, the coach is responsible for establishing and dictating process (i.e., game strategies, player delegations, decisions on how things are done); the athletes typically have little to no input. Essentially, in such an autocratic environment, there may be minimal opportunity for process conflict to emerge among athletes.

Competition between teammates also seemed to emerge as a possible type of intra-group conflict. Interestingly, in a recent study, Boardley and Jackson (2012) examined intra-group moral behavior when teammates are viewed as rivals. Surprisingly, one finding from their study was that high task cohesion (specifically attraction to group-task) predicted greater antisocial behavior. The authors attributed the finding to some of the potential disadvantages to high task cohesion such as communication problems and

reduced social relations (Hardy, Eys, & Carron, 2005). Considering that high task cohesion was associated with poor communication, reduced social relationships, and greater anti-social behavior, perhaps elements of task conflict may also be associated with such findings. As such, researchers could assess the relationship between cohesion, conflict, and moral behavior within competitive sport teams.

The importance of understanding intra-group conflict in sport teams also relates to the importance of learning the causes and implications that could stem from such conflict. In terms of possible causes, Jehn et al. (1999) found in a comparison of homogeneous versus heterogeneous groups that diversity or differences among group members in values, goals, personality, ethnicity, and socio-economic status can all lead to conflict. In addition, Jehn and Bendersky (2003) found that individual differences in demographics could contribute to conflict. Future research should further investigate the possible antecedents of conflict in sport.

In terms of the possible implications of conflict, De Dreu and Weingart (2003), in a meta-analysis, found that both types of conflict (i.e., task and relationship) had negative relationships with performance and satisfaction. Similarly, in sport, common outcomes that have been assessed are athlete satisfaction (e.g., Riemer & Chelladurai, 1998) and performance success (e.g., Carron, Colman, Wheeler, & Stevens, 2002). Considering the importance of both performance and satisfaction in the context of sport, a worthwhile endeavour for future research would be the assessment of the conflict-performance and conflict-satisfaction relationships.

Another point that warrants discussion is the possibility that positive outcomes may be associated with conflict. Some athletes suggested that task conflict, if resolved early, could in fact be beneficial. Athletes also indicated that this type of conflict can be a

growing moment and can help direct focus. The notion that conflict can be positive has both been refuted (e.g., De Dreu & Weingart, 2003) and supported (e.g., Jehn & Mannix, 2001) in previous literature. In the present study however, and consistent with previous research (e.g., De Dreu & Van Vianen, 2001; De Dreu & Weingart, 2003), there were no perceived positive outcomes suggested from social conflict. Future research in sport should continue to assess the potential for positive outcomes from conflict. Considering the inevitability of conflict, the ability for a team to derive positive outcomes from these situations would be profound.

Practical Implications and Future Directions

The following are some practical implications that coaches and/or sport psychology practitioners might consider when trying to manage or resolve conflict within their teams. First, it is important to note the context, in that conflict can arise around performance (i.e., task) or relationships (i.e., social) issues—a finding also reported in the Holt et al. (2012) study. As such, it is important for sport psychology practitioners to identify and isolate the context(s) in which the conflict occurred so situation-specific strategies can be developed and utilised to address these issues.

Sport psychology practitioners should proactively develop (i.e., prior to the first presence of conflict) group norms that encourages the discussion of conflict issues openly (Jehn, et al., 2008). If athletes are in an environment where the open, constructive discussion of conflict is acceptable and encouraged, the ability to address and resolve the conflict early becomes much more likely.

Another recommendation advanced from previous sport literature was to address conflict early (Holt et al., 2012). Previous organizational research has also echoed this point that high performing teams should deal with conflict in the early stages of their

formation (Greer, Jehn, & Mannix, 2008). Due to the effects of both task and social conflict on both team performance and satisfaction (e.g., De Dreu & Weingart, 2003), the importance of understanding how conflict may evolve and grow over time would certainly motivate those involved to resolve it quickly. The long lasting impact of conflicts that go unresolved would be detrimental for any high performance team (Greer et al., 2008; Holt et al., 2012).

Finally, from a sport perspective, a preventative measure for avoiding conflict may be the implementation of team building interventions early in the season (Holt et al., 2012). As many of the athletes in the present study noted, low cohesion and the presence of cliques often were issues associated with task and social conflict. For example, a focus on group norms could be a useful tool here to establish structure. The development of agreed upon group norms establishes a set of behavioral guidelines for athletes to abide by which could go a long way to avoiding conflict issues (Paradis & Martin, 2012).

Carron and Spink (1993) also outlined in their conceptual model of team building that having athletes engage in sacrifice behaviors could be beneficial for improving the group's processes. Individual sacrifices that help others and are for the good of the team could help increase perceptions of cohesion and enable athletes to gain an appreciation of each other (Martin, Paradis, Eys, & Evans, 2013). Holt et al. (2012) also supported and advanced the recommendation of using team building interventions to aid in creating a cohesive atmosphere. Researchers and practitioners alike could assess the effectiveness of such team building interventions on the impact of conflict prevention.

Overall, results from the present study supported a conclusion that intercollegiate sport athletes view conflict as dynamic and complex in nature principally encompassing cognitive, behavioral, and affective components with regard to task and social contexts.

The present study has served as a starting point for what is certainly a new discussion on the nature of conflict in a sport setting. Future research could utilise our results to develop quantitative measures with the use of participants as active agents in item development of a questionnaire. It has been suggested that measurement is at the heart of science and is fundamental to the advancement of knowledge (Carron, Eys, & Martin, 2012).

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STUDY 2

DEVELOPMENT AND VALIDATION OF AN INVENTORY TO ASSESS CONFLICT IN SPORT TEAMS: THE GROUP CONFLICT QUESTIONNAIRE

Conflict, defined as “a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals” (Barki & Hartwick, 2004, p. 234), has been widely reported in a variety of settings (e.g., Deutsch, 1990). In the sport context, however—with a few recent exceptions (e.g., Holt, Knight, & Zukiwski, 2012; Mellalieu, Shearer, & Shearer, 2013; Sullivan & Feltz, 2001)—the investigation of conflict has been sparse and underdeveloped. Specifically, Lavoie (2007) noted that searches of subject indexes in various sport psychology texts failed to yield the term *conflict*.

Due to the limited research available in sport, literature from other domains (i.e., organizational psychology) was utilized to grasp a better understanding of the construct. A considerable portion of this literature can be attributed to (or has been influenced by) the work of Karen Jehn and her colleagues (e.g., Jehn, 1995; 1997; Jehn & Mannix, 2001). Jehn (1995) advanced a conceptual model of conflict that was formulated on the notion that three distinct but related types of intra-group conflict exist: *task*, *relationship*, and *process* conflict. According to Jehn (1997), *task* conflict exists when disagreements among group members occur in relation to the content of tasks being performed including differences in viewpoints, ideas, and opinions. *Relationship* conflict exists when interpersonal incompatibilities are present among group members. Finally, *process* conflict is present when disagreements arise in regard to the manner in which tasks should be delegated and accomplished. This conceptualization provided an excellent

foundation for understanding the nature of conflict and served as a catalyst for further research (e.g., Bendersky et al., 2010).

As a consequence of subsequent investigations, however, two general concerns with regard to the definition and conceptualization of conflict were identified. First, insofar as the conceptual framework is concerned, empirical distinctions between process and task conflict have seldom been made—they often seem to be very closely related (Behfar, Mannix, Peterson, & Trochim, 2011). In recognizing this limitation, Bendersky et al. (2010) revisited the original framework and combined the process and task conflict dimensions, thus resulting in two general dimensions—*task* (e.g., divergent, convergent, and logistical coordination conflicts) and *interpersonal* (e.g., status, compatibility, and commitment conflicts).

Second, insofar as the nature of conflict is concerned, Jehn (1997) and other colleagues have adopted the term *disagreement* to the point of perceiving (either intentionally or unintentionally) it to be synonymous with *conflict*. Unquestionably, disagreement is at the root of any conflict; however, it is still possible to have disagreement without necessarily having conflict. For example, individuals in a conversation may disagree with regard to political or religious issues or beliefs but are not necessarily in conflict with one another. In fact, recent research supports the tenet that conflict is too strong a word to describe disagreements or differences of opinion (Hamm-Kerwin, Doherty, & Harman, 2011). Consequently, a critical concern is that perceiving conflict to be synonymous with disagreement severely risks the underrepresentation of the construct.

In this regard, Barki and Hartwick (2004) suggested that “the lack of a clear conceptualization and operationalization of the construct of interpersonal conflict makes it difficult to compare the results of different studies and hinders the accumulation of knowledge in the conflict domain” (p. 216) and subsequently advanced a more recent conceptualization of intra-group conflict. Historically, conceptualizations of conflict have focused on two main types: *task* and *relationship*. Thus, the first aspect of the Barki and Hartwick (2004) conceptualization is the representation of these two dimensions. The second aspect is the identification of three components (cognitive, behavioral, and affective) required for a situation to be categorized as conflict. In this regard, disagreement is represented as the cognitive component, interference with goal attainment as the behavioral component, and negative emotion as the affective component. Accordingly, Barki and Hartwick (2004) consider conflict to exist when disagreements, negative emotions, and interference behaviors are concurrently present in a group context. In addition, these can be experienced in both task and relationship (i.e., social) contexts. In recognition of the need to distinguish between conflict and disagreement, the Barki and Hartwick (2004) conceptual model was adopted as a theoretical guide for the present study.

As indicated above, the literature with regard to conflict in sport is sparse. This is surprising considering the inevitability of conflict in any group context (Robbins & Judge, 2010), as indicated by the following quote, “I’m only certain of three things in life—death, taxes, and conflict” (quoted in Lavoie, 2007, p. 34). Consistent with this suggestion, due to its interdependent and competitive nature, sport provides a fertile platform for the investigation of conflict. One potential explanation for the lack of

sustained investigation is the availability of a validated measurement tool. In their recent text, Tenenbaum, Eklund, and Kamata (2012) highlighted the importance of questionnaire development by stating, “measurement is essential to science, it must be trustworthy, and accurate” (p. 3). Similarly, questionnaire development has been described as fundamental to the advancement of knowledge (Carron, Eys, & Martin, 2012).

Therefore, the purpose of the present study was to develop and validate a sport specific conflict questionnaire—The Group Conflict Questionnaire (GCQ). The GCQ was developed using a common multi-phase approach to questionnaire development (e.g., Carron, Widmeyer, & Brawley, 1985; Eys, Loughead, Bray, & Carron, 2009; Martin, Carron, Eys, & Loughead, 2012).

Specifically, our approach encompassed three phases (a qualitative phase, a questionnaire development and structural validity phase, and a construct validity phase), which are described in greater detail in the methods section. Phase 1 involved a qualitative investigation in which athletes served as active agents to gain a better understanding of their perceptions of the nature of conflict in sport. This phase involved the utilization of participant responses in combination with a literature review, definition and conceptual model (e.g., Barki & Hartwick, 2004) for the formulation of an initial item pool in Phase 2.

With regard to Phase 2, two sequential stages were undertaken. First, potential items for the GCQ were developed and six researchers with expertise in group dynamics in the context of sport were recruited to assess content validity of the initial items. The experts were asked to determine the extent to which the items represented (1) conflict in

sport generally, and (2) the proposed conceptual model specifically. Second, factorial validity of the preliminary questionnaire was assessed via Confirmatory Factor Analysis (CFA). This analysis yielded a 14-item (7-task and 7-social) inventory that measures perceptions of intra-group conflict on a 9-point Likert-type scale. Consistent with the conceptual model (i.e., Barki & Hartwick, 2004), each item made reference to (a) disagreements (i.e., cognitive), (b) negative emotions (i.e., affective), and (c) interference behaviors (i.e., behavioral). Further, items were developed for both task and social situations. This task/social distinction has been supported in the sport literature through qualitative interviews (Holt et al., 2012).

In recognition of the fact that validity testing is an ongoing process (e.g., Carron et al., 1985; Eys et al., 2009; Martin et al., 2012), it was necessary to conduct further assessment to determine the construct validity of the GCQ. Thus, Phase 3 involved the assessment of factorial, convergent, discriminant, and known-group difference validity (e.g., Brawley, Carron, & Widmeyer, 1987; Martin, Carron, Eys, & Loughhead, 2013). Each assessment of validity is subsequently described in greater detail.

The first type of validity tested was factorial validity, demonstrated through the model fit and factor loadings obtained from a CFA. A common practice in validity testing is to perform cross validation studies with independent samples whenever possible (Tabachnick & Fidell, 2013). As such, this second factorial validity test would be used to complement the one undertaken during Phase 2 with a different sport sample. Providing additional evidence of factorial validity would further support the construct validity of the GCQ.

The demonstration of convergent validity occurs when constructs that are theoretically related, are in fact shown to be empirically related (e.g., Smith, Cumming, & Smoll, 2008). One construct in organizational settings that has been consistently related (albeit negatively) to conflict is satisfaction (e.g., De Dreu & Van Vianen, 2001; De Dreu & Weingart, 2003). Therefore, for the present study, it was hypothesised that task and social conflict would be negatively related to satisfaction in a sport setting.

Another construct used to assess convergent validity was cohesion, defined as “a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998, p. 213). Cohesion plays an important role in the functioning and effectiveness of all groups (e.g., Carron et al., 1985). In fact, Sullivan and Feltz (2001) suggested that conflict may be the antithesis of cohesion leading to being inversely related in a sport setting. Thus, it was hypothesized that task and social conflict would be negatively related to task and social cohesion.

Discriminant validity is demonstrated when theoretically plausible differences do in fact emerge between constructs (e.g., Smith et al., 2008). The construct used to test this type of validity in the present study was passion, defined as “a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy” (Vallerand et al., 2003, p. 757). The Dualistic Model of Passion consists of harmonious passion which “results from an autonomous internalization of the activity into the person’s identity” and obsessive passion which “results from a controlled internalization of the activity into one’s identity” (Vallerand et al., 2003, p. 757). Previous research has shown that negative emotions (also a component of conflict) were

positively related to obsessive passion and negatively related to the quality of interpersonal relationships and interpersonal connectedness, whereas a negative relationship was demonstrated between negative emotions and harmonious passion (Phillipe, Vallerand, Houliort, Lavigne, & Donohue, 2010). That is, more positive emotions were experienced in inter-personal relationships by those who were harmoniously passionate compared to those who were obsessively passionate. On the basis of these findings, it was expected that task and social conflict would share different relationships with harmonious and obsessive passion. It was hypothesized that conflict (task and social) would be significantly inversely related to harmonious passion but significantly positively related to obsessive passion. In addition, it was hypothesized that social conflict would be more strongly related to obsessive passion.

The third form of validity assessed was known-group difference. This is demonstrated when populations that are theoretically hypothesized to differ are in fact shown to have significant mean differences pertaining to the target variable (Rowe & Mahar, 2006). One common method of assessing known-group difference is with sport type (i.e., individual vs. team; Brawley et al., 1987; Martin et al., 2013). Martin et al. (2013) found that athletes participating in team sports perceived greater perceptions of cohesion than those participating in individual sports. Based on these results, it was hypothesized that team sport athletes would experience less social conflict than those in individual sports. However, we felt the same hypothesis was not tenable for task conflict. That is, individual sport athletes logically should experience little to no task conflict since their tasks are carried out independently. Likewise, given the fact that team sport athletes must work together to carry out their tasks, it would seem more logical that they would

experience greater task conflict. Thus, it was hypothesized that team sport athletes would experience greater task and less social conflict than their individual sport counterparts.

The second known-group difference test involved team tenure (e.g., Brawley et al., 1987; Martin et al., 2013) as the differentiating variable. New team members have an adjustment period in which they try to fit in, adapt to the culture and norms, compete for positions, and demonstrate their worth. As suggested by Tuckman (1965), this *storming* phase in group development often leads to conflict situations. Likewise, veteran athletes are typically comfortable in their roles and positions on the team, abide by team norms, and are familiar with the team culture. Thus, it was hypothesized that athletes with less team tenure would report higher perceptions of task and social conflict.

Method

Phase 1: Qualitative Assessment of Athlete Perceptions of Conflict in Sport

A comprehensive discussion of the rationale and research associated with Phase 1 has been provided elsewhere (i.e., Study 1) and is not repeated here. As indicated previously, the main objective of Phase 1 was to gain an understanding of athlete perceptions of conflict in sport. This involved conducting semi-structured interviews with questions geared toward developing a better understanding of athletes' perceptions of intra-group conflict. Associated with this objective was the question of whether there was support for the Barki and Hartwick (2004) conceptualization in a sport setting. The results from Phase 1 indicated that an interaction representing intra-group conflict arises in both task and social contexts and also contains cognitive (i.e., disagreement), behavioral (i.e., goal interference), and affective (i.e., negative emotions) components.

Phase 2: Item Generation, Content Validity, and Factorial Validity

Item generation. The first objective of Phase 2 was to develop items for the questionnaire. Care was taken to incorporate the information obtained by athletes in Phase 1, as participant responses represent a rich source of content valid perceptions for the nature of any construct (Carron et al., 1985). As indicated, results were used from the qualitative portion coupled with our knowledge of the literature to generate 50 items reflecting task ($n = 25$) and social ($n = 25$) conflict. Each of those items contained a reference to a disagreement, affect, and behavioral interference.

Generally, in test development, it is important that items do not contain more than one response option (e.g., “I feel happy and energetic”). Respondents may agree with one option but not agree with the second making it impossible for them to provide a valid response. Also, however, it is equally important in test development that each item fully represents the construct as it is defined conceptually. Thus, consistent with our constitutive definition, which of course was derived from Barki and Hartwick (2004), each of our items contained reference to a cognitive, behavioral, and affective component.

What this means is that it would be possible for a respondent to agree with one component of the item (e.g., a disagreement was present) but not another (e.g., there was no accompanying emotion or anger). In this case, the interaction would not be classified as conflict. At the risk of overstating the case, it is important to reiterate that in order for an interaction to be considered conflict, all three components must be present in some form. However, that doesn't necessarily mean the three components must be present at the same intensity level at the same time. However, if respondents find that they are

unable to agree with all three components of conflict within each item, then the experiences they are reflecting on would not represent conflict as we have defined and operationalized it, and thus would answer accordingly.

Content validity. The second objective of Phase 2 was to determine the content validity (i.e., item content relevance; see Dunn, Bouffard, & Rogers, 1999) of the proposed items. Ten experts (tenured professors at various universities) in the field of sport psychology with research interests that lie in group dynamics principles were contacted and invited to take part in the item assessment. A total of six agreed to participate, which satisfied the suggested minimum number (i.e., five) of expert reviewers necessary for controlling against chance agreement (Lynn, 1986). In order to avoid biased assessment of the items (Crocker & Algina, 1986), the experts had not been involved in any portion of the test construction nor had previously seen the items and were not told of the proposed dimension (i.e., task or social). In addition, the experts were given the Barki and Hartwick (2004) definition and conceptual framework.

The experts reviewed all items independently and were specifically asked to identify whether an item represented task or social conflict as well as the degree to which it incorporated disagreement, negative emotions, and interference behavior. The experts were also asked to provide qualitative feedback with regard to each item. The purpose of the qualitative feedback was to determine the basis for low ratings (e.g., “not clear if this is a task or social conflict item”) and potential ways in which the item could be improved or whether it should be deleted.

Responses were provided on a 5-point Likert-type scale: 1 = poor match, 2 = fair match, 3 = good match, 4 = very good match, 5 = excellent match (e.g., Dunn et al.,

1999). Thus, for example, a task conflict item viewed as an excellent match would obtain a rating of 5 for task conflict (and a 1 for social conflict). Conversely, an item considered to be a poor match would obtain a rating of 1 for task conflict (and 5 for social conflict). Additionally, experts were asked to rate the degree to which the items represented disagreement, negative emotions, and interference behaviors on the same scale providing an overall score for each item in these categories. The combined means from all six expert raters were tallied and on the basis of these expert ratings, 25 items were removed and 25 items were retained. Specifically, 15 items ($M = 3.17 - 4.83$) pertaining to task conflict and 10 items ($M = 3.00 - 4.50$) pertaining to social conflict were maintained for further psychometric analyses.

Factorial Validity. The third objective of Phase 2 was to utilise the content valid items in an assessment of factorial validity via a CFA. A general rule of thumb is that at least 300 cases is *good* (Comrey & Lee, 1992) and *comforting* (Tabachnick & Fidell, 2013) when performing factor analysis. Likewise, Gorsuch (1983) suggests that a ratio of five individuals to every one variable is needed for analysis and no less than 100 cases.

Participants

Demographic information (Appendix C) was collected from participants who were 437 athletes ($n = 230$ females, $n = 207$ males) with a mean age of 18.61 ($SD = 1.51$) years who had an average experience of 7.86 ($SD = 4.32$) years in their respective sport and an average tenure of 3.11 ($SD = 2.35$) years on their respective team. Athletes' self-identified their competition level ($n = 305$ competitive, $n = 132$ recreational), starting status ($n = 362$ starters, $n = 75$ non-starters), and sport type (e.g., soccer, hockey, basketball, volleyball, rugby etc.).

Measures

Conflict. As indicated above, two dimensions of conflict were assessed (Appendix D): *task* (e.g., “The team’s ability to be successful is jeopardized because of heated disagreements during competition”) and *social* (e.g., “Emotions run high in social situations over personal disagreements brought to light”). Items contained a reference to a cognition (such as disagreement), a negative affective emotion (such as anger), and behavioral action (such as sabotage). Responses were provided on a 9-point Likert-type scale anchored at 1 (strongly disagree) and 9 (strongly agree). Thus higher scores reflected stronger perceptions of conflict.

Analysis

A CFA using maximum likelihood estimation was conducted via Amos 20.0 (Arbuckle, 2011) based on a two-factor model of task and social conflict. A CFA is a confirmatory technique that is theory driven (Schreiber, Stage, King, Nora, & Barlow, 2006) and in which the researcher has an a priori specified theoretical model (Schumacher & Lomax, 2010). As indicated previously, the Barki and Hartwick (2004) conceptualization served as the underlying theoretical model for our work.

Assessing model fit was done through the examination of various fit indices including the Comparative Fit Index (CFI; Bentler, 1990), the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993), and the Standardized Root Mean Square Residual (SRMR; Bentler, 1995). Tabachnick and Fidell (2013) noted that the most commonly reported fit indices have been the CFI and the RMSEA. Also, Hu and Bentler (1999) have suggested the CFI and the SRMR are the most important indices for reporting model fit. For the CFI, values greater than .90 represent good fit (e.g., Bentler,

1990) whereas values greater than .95 represent excellent fit (e.g., Hu & Bentler, 1999). For the RMSEA, values less than .08 indicate excellent fit whereas values less than .10 indicate moderate fit (e.g., Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). For the SRMR, values less than .06 represent excellent fit and values less than .08 represent moderate fit (Bentler, 1995; Browne & Cudeck, 1993; Hu & Bentler, 1999).

Phase 2 Results

Descriptive Statistics

Descriptive statistics including means, standard deviations, Cronbach's alphas, bivariate Pearson correlations (between task and social conflict dimensions), and skewness and kurtosis data (for both the 25-item and the 14-item versions) are reported in Table 1.

Confirmatory Factor Analysis

Results from the CFA on the 25-item version of the questionnaire yielded a set of statistically significant fit indices but did not meet all the desired cut-off values (χ^2 (274) = 1502.11, $p = .00$; CFI = .837, RMSEA = .101, SRMR = .065). All item factor loadings (see Table 2) were significant ($p = .00$) and ranged from .582-.845 for task conflict and from .646-.830 for social conflict. Task and social conflict were significantly related and co-varied at .81 ($r = .76$).

Post-hoc modifications were performed in an attempt to find a more parsimonious and better fitting model. The initial step involved eliminating items with the lowest factor loadings. Historically, factor loadings above .70 are considered *excellent* while loadings above .60 are considered *very-good* (Comrey & Lee, 1992). In this regard, considering our analysis indicated that most factor loadings were very-good, the decision was made to

retain 14 items with factor loadings greater than .70 which resulted in 11 items being removed: eight items for task conflict (.582-.641) and three items for social conflict (.646-.677). A second CFA was then conducted with the 14 remaining items.

The second CFA produced a statistically significant model with improved fit indices that met the desired cut-off values ($\chi^2 = (76), 323.07, p = .00$; CFI = .946, RMSEA = .086, SRMR = .042). The factor loadings for all of the items (see Table 3) were significant ($p = .00$) and ranged from .641-.893 for task conflict and from .711-.842 for social conflict. Task and social conflict were also significantly related and co-varied at .79 ($r = .74$). A chi-square difference test ($\Delta\chi^2 (198) = 147.01, p = .00$) showed that the second parsimonious (nested) model was indeed significantly superior. All factor loadings for the 25-item and the 14-item CFA's are found in Tables 2 and 3, respectively. Finally, the inter-item correlations for the final 14-items are found in Table 4 and the questionnaire items are found in Table 5 (deleted items are crossed out).

Phase 3: Cross Validation and Further Tests of Validity

The objective for Phase 3 was to cross-validate the results of the CFA from Phase 2 with a different sample (Tabachnick & Fidell, 2013) for factorial validity, while also performing additional tests of validity (convergent, discriminant, known-group difference).

Participants

Participants were 305 athletes ($n = 183$ females, $n = 122$ males) with a mean age of 20.79 ($SD = 1.56$) years. Athletes had an average experience of 9.45 ($SD = 4.82$) years in their respective sport and an average tenure of 2.85 ($SD = 2.45$) years on their respective team. Athletes self-identified their competition level ($n = 223$ competitive, $n =$

82 recreational) and starting status (n = 260 starters, n = 45 non-starters) and the sample came from a variety of sports (e.g., soccer, baseball, track and field, golf, tennis, etc.).

Measures

Conflict. The GCQ (Appendix D) was administered to assess perceptions of intra-group conflict. The 14-item version included seven items that assessed *task* conflict ($\alpha = .90$; e.g., “The team’s ability to be successful is jeopardized because of heated disagreements during competition”) and seven items that assessed *social* conflict ($\alpha = .92$; e.g., “Emotions run high in social situations over personal disagreements brought to light”). Responses were provided on a 9-point Likert-type scale anchored at the extremes by 1 (Strongly Disagree) and 9 (Strongly Agree). Thus, higher scores reflect higher perceptions of conflict.

Cohesion. Cohesion was measured using the Group Environment Questionnaire (GEQ; Carron et al., 1985). The GEQ (Appendix E) consists of 18-items measuring four dimensions of cohesion: *Individual Attractions to the Group-Task* (ATG-T; four items, $\alpha = .76$; e.g., “I am happy with the amount of playing time I get”), *Individual Attractions to the Group-Social* (ATG-S; five items, $\alpha = .85$; e.g., “Some of my best friends are on this team”), *Group Integration-Task* (GI-T; five items, $\alpha = .81$; e.g., “Our team is united in trying to reach its performance goals”), and *Group Integration-Social* (GI-S; four items, $\alpha = .83$; e.g., “Our team would like to spend time together in the off-season”). Responses are provided on a 9-point Likert-type scale anchored at 1 (Strongly Disagree) and 9 (Strongly Agree). Thus, higher scores represented stronger perceptions of cohesion.

Satisfaction. Satisfaction was measured using two subscales from the Athlete Satisfaction Questionnaire (ASQ; Riemer & Chelladurai, 1998). Specifically from the ASQ (Appendix F), three items ($\alpha = .90$) were used to measure *team integration* (satisfaction by the members with the contributions and coordination of their efforts towards the teams' task; e.g., "How satisfied are you with team members' dedication to work together towards team goals") and three items ($\alpha = .83$) were used to measure *team performance* (satisfaction by team members with the teams overall level of performance; e.g., "How satisfied are you with the extent to which the team has met its goals for the season"). Responses were provided on a 7-point Likert-type scale anchored at 1 (Not at all Satisfied) and 7 (Completely Satisfied). Thus, higher scores represented greater satisfaction.

Passion. Passion was measured using the Passion Scale (PS; Vallerand et al., 2003). The Passion Scale (Appendix G) consists of 14-items that measure two dimensions of passion: *harmonious* (seven items, $\alpha = .83$; e.g., "This activity is in harmony with other activities in my life") and *obsessive* (seven items, $\alpha = .94$; e.g., "I am emotionally dependent on this activity"). Responses are provided on a 7-point Likert-type scale anchored at 1 (Do not Agree at all) and 7 (Completely Agree). Thus, higher scores reflect greater passion.

Analysis

Factorial validity was assessed by conducting a CFA using the maximum likelihood estimation via AMOS 20.0 (Arbuckle, 2011). Convergent and discriminant validity were assessed using Pearson product moment correlations to

determine the relationships between conflict, cohesion, satisfaction, and passion. Known-group difference validity was assessed using discriminant function analysis to determine if conflict (task and social) could differentiate group differences and membership between sport type (individual and team) and team tenure (≤ 1 year and ≥ 2 years).

Phase 3 Results

Descriptive Statistics

Descriptive statistics are found in Table 6, bi-variate Pearson correlations are found in Table 7, inter-item correlations for the GCQ are found in Table 8, and item factor loadings for the GCQ are found in Table 9.

Factorial Validity

A CFA was conducted with AMOS 20.0 (Arbuckle, 2011) to further assess the factorial validity of the GCQ. The CFA yielded a statistically significant desired model fit ($\chi^2 (76) = 348.72, p = .00; CFI = .903, RMSEA = .109, SRMR = .060$). The inter-factor correlation between task and social conflict was also moderate ($\phi = .65$) and the internal consistency values were $\alpha = .90$ for task and $\alpha = .92$ for social conflict. The factor loadings ranged from .637-.855 for task conflict and .671-.842 for social conflict, with the majority of factor loadings above .70 (with the exception of two items; one task item at .637 and one social item at .671). Thus, results from the CFA support the presence of factorial validity.

Convergent Validity

The first test of convergent validity involved the examination of the relationship between conflict (task and social) and cohesion (task and social).

It was hypothesized that task and social conflict would be significantly (but inversely) related to task and social cohesion (in both manifestations of individual attractions to the group and group integration). The results supported the hypotheses. Task conflict was significantly and negatively related to all four dimensions of cohesion: *ATG-T* ($r = -.314, p < .01$), *GI-T* ($r = -.342, p < .01$), *ATG-S* ($r = -.267, p < .01$), and *GI-S* ($r = -.254, p < .01$). Likewise, social conflict was also significantly and inversely related to all four dimensions of cohesion: *ATG-T* ($r = -.201, p < .01$), *GI-T* ($r = -.282, p < .01$), *ATG-S* ($r = -.180, p < .01$), and *GI-S* ($r = -.181, p < .01$). Thus, higher perceptions of task and social conflict were associated with lower levels of task and social cohesion.

The second test of convergent validity involved an examination of the relationships between conflict (task and social) and satisfaction (team integration and team performance). It was hypothesized that both types of conflict would be significantly and negatively related to both measures of satisfaction. Results supported the hypothesis; task conflict was significantly and negatively related to satisfaction with *team integration* ($r = -.373, p < .01$) and *team performance* ($r = -.355, p < .01$). Likewise, social conflict was significantly and negatively related to satisfaction with *team integration* ($r = -.266, p < .01$) and *team performance* ($r = -.276, p < .01$). Thus, higher perceptions of task and social conflict were associated with lower levels of satisfaction with team integration and team performance.

Discriminant Validity

As was pointed out above, discriminant validity was tested by assessing the difference between relationships for both types of conflict (task and social)

and passion (harmonious and obsessive). It was hypothesized that task and social conflict would have a significant negative relationship with harmonious passion, and a significant positive relationship with obsessive passion. Likewise it was hypothesized that social conflict would have a stronger relationship to obsessive passion compared to task conflict. Results provided only partial support for these hypotheses. Specifically, task ($r = -.219, p < .01$) and social conflict ($r = -.210, p < .01$) were both significantly and inversely related with harmonious passion; however, no significant relationships were demonstrated with obsessive passion (task $r = .042, p > .05$; social $r = .070, p > .05$).

Known-Group Difference Validity

The first known-group difference validity test involved team tenure as the grouping variable and task and social conflict as the independent variables. It was hypothesized that athletes with less tenure would have greater perceptions of conflict. Results supported this hypothesis (Wilks' $\lambda = .96, \chi^2(2) = 12.55, p = .004$). The canonical correlation was .33 and the standardized canonical discriminant function coefficients were .51 (task conflict) and 1.12 (social conflict). The functions at group centroids were .20 for ≤ 1 -year tenure and -.25 for ≥ 2 -year tenure. A total of 57.7% of original grouped cases were classified correctly. As indicated above, those athletes with less tenure experienced more task and social conflict ($M = 3.60$ and 3.19 respectively) than athletes with longer tenure ($M = 3.18$ and 2.37 respectively).

The second known-group difference test used sport type (individual vs. team) as the grouping variable and task and social conflict as the independent

variables. It was hypothesized that athletes participating in team sports would experience more task conflict but less social conflict than athletes participating in individual sports. Results provided support for the hypothesis (Wilks' $\lambda = .96$, $\chi^2(2) = 11.19$, $p = .004$). The canonical correlation was .20, the standardized canonical discriminant function coefficients were 1.19 (task conflict) and -1.10 (social conflict), and the functions at group centroids were .10 for team sport and -.36 for individual sport. A total of 54.4% of original grouped cases were classified correctly. As hypothesized, those athletes in team sports experienced more task conflict ($M = 3.43$) than those athletes in individual sports ($M = 3.05$), whereas those in individual sports experienced more social conflict ($M = 3.11$) than those in team sports ($M = 2.83$).

Discussion

The purpose of the present study was to develop and validate a conceptually and psychometrically sound conflict questionnaire for sport. The overall process followed previous protocols of questionnaire development in group dynamics research (e.g., Carron et al., 1985; Eys et al., 2009; Martin et al., 2012). That is, three phases were undertaken including a qualitative phase, an item generation/content and structural validity phase, and a construct validity phase involving factorial, convergent, discriminant, and known-group difference validity. The resulting product of these three phases was the GCQ—a questionnaire that contains 14-items measuring two dimensions of intra-group conflict: task and social. The first point of discussion relates to the research protocol and specifically pertains to the vigor of the questionnaire development process.

As mentioned, the process we used followed other similar protocols (e.g., Carron et al., 1985; Martin et al., 2012) as well as the recommendations from measurement experts (e.g., Dunn et al., 1999; Tenenbaum et al., 2012). A conceptual model and definition initially advanced by Barki and Hartwick (2004) were established as starting points—“theory provides a framework for starting a process” (Tenenbaum et al., 2012, p. 4). Another common step when developing measures is to define the construct being measured (Tenenbaum et al., 2012). The definition gave meaning to the construct in which we were interested and our qualitative investigation further supported the theory and definition of conflict that was adopted. A content validity stage—one that is often overlooked in the questionnaire development process (Dunn et al., 1999)—followed. The importance of the proper execution of this phase cannot be overstated; “a typical psychological measure involves extensive literature review and expert judgment” (Tenenbaum et al., 2012, p. 4). As the development of the GCQ adhered to these recommendations, the content validity of the established items was supported.

With regard to the factorial validity of the GCQ, results from the initial tests were promising. A proposed model is deemed to be valid when: (a) items targeting a specific factor have high factor loadings and (b) the correlations between the factors are not excessively high (Kline, 2011). Psychometric properties of the GCQ demonstrated initial support for the final 14-item version of the GCQ and Cronbach’s alpha (Cronbach, 1951) internal consistency scores of both subscales were excellent (i.e., $\alpha \geq .90$). In addition, the CFA conducted in Phase 2 produced a moderate to strong inter-factor correlation ($\phi = .74$) between task and social conflict. That is, the two types of conflict were moderately related—a finding that is consistent with previous research (e.g., De Dreu & Weingart,

2003). The strength of this relationship was also not surprising considering it is consistent with a number of previous studies (e.g., ICC = .81; Jehn, & Mannix, 2001). It should be noted that while the relationship between task and social conflict from our results was moderate to strong, it can be assumed that they are unique constructs as it was below .90 (Kline, 2011). As for model fit, the fit indices for the CFI, RMSEA, and SRMR yielded acceptable values. In terms of factor loadings, items loaded strongly on the appropriate dimensions exceeding .70 with the exception of one item that was above .60. Taken as a whole, our results indicated that the GCQ is an excellent representation of the construct (e.g., Comrey & Lee, 1992).

With regard to the CFA in Phase 3, all factor loadings with the exception of two items were above .70 (rated as excellent by Comrey & Lee, 1992) with the remaining two items above .60 (rated as very good by Comrey & Lee, 1992). The inter-factor correlation ($\phi = .65$) was below the .90 suggested threshold which indicated that the factors are related but distinct (Kline, 2011). Likewise, the fit indices for the CFI, RMSEA, and SRMR indicated reasonable to adequate model fit. In this regard, these results also contributed to the suggestion that the GCQ can be used with confidence to accurately assess task and social conflict in a sport context.

In terms of convergent validity of the GCQ, two relationships were tested: conflict-cohesion and conflict-satisfaction. Significant inverse relationships were found in both analyses providing support for convergent validity. Our results were consistent with previous research; conflict has been found to be negatively related to both satisfaction (e.g., De Dreu & Weingart, 2003) and cohesion (e.g., Sullivan

& Feltz, 2001). Thus, the emergence of these relationships was not surprising, but is promising for the utilisation of the GCQ as a valid measure.

Another point of discussion pertains to the partial support of discriminant validity. Given the significant inverse relationships between conflict (task and social) and harmonious passion, it was somewhat surprising that there was no significant relationship between conflict and obsessive passion. Previous research has offered support for the inverse relationship between harmonious passion and conflict. For example, Phillippe et al. (2010) found that harmonious passion positively predicted higher quality interpersonal relationships. As such, it would make sense that those who are harmoniously passionate would experience less conflict. On the other hand, one would also surmise that those who are obsessively passionate would experience greater conflict.

A more in depth look at previous passion research may offer support for this result (i.e., no relationship between conflict and obsessive passion). For example, Paradis, Martin, and Carron (2012) found a positive relationship between obsessive passion and cohesion in competitive athletes. In other studies, Lafrenière, Jowett, Vallerand, Donahue, and Lorimer (2008) found harmonious passion to be positively related to high quality coach-athlete relationships whereas obsessive passion was generally unrelated to the quality of the relationship. Similarly, Lafrenière, Jowett, Vallerand, and Carbonneau (2011) found that harmonious passion indirectly predicted high quality coach-athlete relationships through autonomy supportive behaviors, whereas obsessive passion predicted controlling coaching behaviors, but did not predict the quality of the coach-athlete

relationship. Based on these previous results, it appears as though obsessive passion is often unrelated to certain group relationship variables. Interestingly however, Phillippe et al. (2010) found that negative emotions (a component of conflict) significantly mediated the link between obsessive passion and the quality of interpersonal relationships. Perhaps then, conflict may serve as a mediator to obsessive passion with factors such as relationship quality. Considering the established nature of the mediating role of cohesion in sport teams (e.g., Paradis & Loughhead, 2012; Spink, 1998) a fruitful endeavour for future research would be the examination of the mediating role of conflict as well.

Pertaining to the known-group difference tests, both tests involving team tenure and sport type as the grouping variables supported the proposed hypotheses. In terms of team tenure, athletes with less tenure perceived more conflict than those with greater tenure. Results are also supported in the group development literature that suggests newcomers to a team may go through a *storming* stage (e.g., Tuckman, 1965), which involves adjusting to the team norms, competing for position, and establishing themselves within the team. From a practical perspective, team building interventions in early season could help manage conflict situations experienced during group development. Likewise coaches acknowledging the initial challenges of group development process may look to ensure athlete roles are clarified and team norms are outlined from the group's inception.

With regard to sport type, an interesting discrepancy was supported. Specifically, team sport athletes perceived greater amounts of task conflict

whereas individual sport athletes perceived more social conflict. In team sports, athletes are consistently required to strategize, plan, and work together to achieve common goals. It is not surprising then, that in comparison to individual sports—where athletes do not experience the same amount of interdependence—greater task conflict emerges. On the other hand, individual sport athletes may not have the same opportunities to form strong relationships as do team sport athletes, simply by virtue of the limited amount of time spent together. As such, social conflict may be more likely to arise in individual sport if athletes aren't as familiar with teammates and are not as used to interacting with each other.

Previous work reported the importance of understanding teammate preferences in individual sport and how these can reduce intra-team conflict (Beauchamp, Lothian, & Timson, 2008). In fact, after a team building intervention focusing on cohesion, track and field athletes reported that intra-team conflict was reduced (Beauchamp et al., 2008). It would seem important then for individual sport athletes to make an extra effort to get to know their teammates. Building on this, future research should continue to compare and contrast the conflict experiences of individual and team sport athletes.

Overall, in terms of known-group difference, results have provided some initial support for this type of validity for the GCQ, finding significant differences in the two tests conducted. With that, we can suggest some initial support of known-group difference validity for the two grouping variables examined (team tenure and sport type). However, these are just two of many potential grouping

variables in sport. Thus, further assessment of this type of validity for the GCQ with other group variables is warranted.

The development and advancement of research protocols yields new findings that warrant the refinement and evolution of scientific methodological practices. The development and initial validation of the GCQ has provided an opportunity to advance knowledge pertaining to intra-group conflict by further examining the complex relationships conflict shares with other group constructs. The initial support for the validity of the GCQ is promising. As such, researchers should proceed to utilise the instrument for further investigations in sport and can be confident in the results obtained from its use.

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Table 1
Descriptive Statistics

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>A</i>	<i>R</i>	<i>Skewness</i>	<i>Kurtosis</i>
Task Conflict (25 items)	3.68	1.62	.94	.76	.39	-.61
Social Conflict (10 items)	2.96	1.64	.93	.76	.75	-.36

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>A</i>	<i>R</i>	<i>Skewness</i>	<i>Kurtosis</i>
Task Conflict (7 items)	3.20	1.86	.92	.74	.81	-.23
Social Conflict (7 items)	2.90	1.74	.92	.74	.81	-.34

Note. N = 437; Conflict measured on 1-9 scale, thus higher scores reflect greater conflict; r significant at $p = .01$.

Table 2

Factor Loading, Means, and Standard Deviations for 25 item CFA

Item #	<i>Task Conflict</i>	<i>Social Conflict</i>	<i>Mean</i>	<i>Standard Deviation</i>
1	.582		4.17	2.20
2	.591		4.16	2.14
3	.585		4.80	2.26
4	.641		5.18	2.29
5	.641		4.37	2.41
6	.630		2.07	1.79
7	.800		3.25	2.37
8	.802		3.85	2.47
9	.752		2.38	1.98
10	.834		3.01	2.26
11	.845		3.33	2.45
12	.559		3.91	2.38
13	.741		2.53	1.98
14	.608		4.06	2.36
15	.715		4.05	2.25
16		.732	2.72	2.02
17		.783	3.22	2.29
18		.797	2.98	2.25
19		.830	3.32	2.26
20		.828	3.23	2.29
21		.646	3.83	2.53
22		.677	3.40	2.23
23		.804	2.88	2.03
24		.674	2.05	1.58
25		.726	1.94	1.60

Note. N = 437; Conflict measured on 1-9 scale, thus higher scores reflect greater conflict; All factor loadings significant at $p = .00$.

Table 3

Factor loadings, Means, and Standard Deviations for 14 item CFA

Item #	<i>Task Conflict</i>	<i>Social Conflict</i>	<i>Mean</i>	<i>Standard Deviation</i>
7	.790		3.25	2.37
8	.805		3.85	2.47
9	.804		2.38	1.98
10	.893		3.01	2.26
11	.889		3.33	2.45
13	.737		2.53	1.98
15	.641		4.05	2.25
16		.747	2.72	2.02
17		.813	3.22	2.29
18		.809	2.98	2.25
19		.842	3.32	2.26
20		.813	3.23	2.29
23		.783	2.88	2.03
25		.711	1.94	1.60

Note. N = 437; Conflict measured on 1-9 scale, thus higher scores reflect greater conflict; All factor loadings significant at $p = .00$.

Table 4

Correlation Matrix of the final 14-item GCQ

<i>Item</i>	7	8	9	10	11	13	15	16	17	18	19	20	23	25
7	-													
8	.694	-												
9	.656	.652	-											
10	.671	.704	.729	-										
11	.683	.710	.709	.826	-									
13	.579	.526	.590	.664	.654	-								
15	.561	.561	.471	.525	.548	.522	-							
16	.416	.468	.421	.466	.470	.462	.407	-						
17	.491	.574	.491	.556	.547	.509	.452	.687	-					
18	.430	.460	.484	.559	.524	.521	.456	.601	.668	-				
19	.488	.510	.484	.523	.534	.496	.471	.661	.698	.737	-			
20	.597	.565	.531	.640	.595	.496	.528	.563	.608	.652	.693	-		
23	.551	.546	.546	.613	.568	.572	.452	.565	.590	.590	.617	.695	-	
25	.506	.448	.478	.535	.499	.461	.313	.496	.599	.562	.560	.557	.636	-

Note. N = 437; All inter-item correlations significant at $p < .01$.

Table 5

Items in the Group Conflict Questionnaire

Task Conflict Items

1. ~~Members of our team have heated disagreements about each other's personal commitment~~
 2. ~~Members of our team have emotional arguments about how to go about achieving team goals~~
 3. ~~Members of our team have emotional arguments in competitive situations over what's best for the team~~
 4. ~~Members of our team have emotional disagreements when things don't go the way they'd like~~
 5. ~~Arguments get very heated between teammates who have differing viewpoints about what should be done during competition~~
 6. ~~Members of our team sabotage each other's performance over emotional disagreements~~
 7. The team's ability to be successful is jeopardized because of heated disagreements during competition
 8. Strong disagreements during practice between members of our team disrupt our progress towards achieving team goals
 9. It is nearly impossible to function effectively because of the intensity of the disagreements between members of our team during practices
 10. The extreme animosity associated with the disagreements among members of our team affects our performance
 11. The anger associated with the disagreements among members of our team affects our performance
 12. ~~Members of our team who are competing for the same position are often resentful of each other~~
 13. Members of our team have intense disagreements to the point of dysfunction
 14. ~~Member of our team have emotional disagreements about their respective playing time~~
 15. There is tension among members of our team over disagreements about performance expectations
-

Social Conflict Items

16. Personal friction among members of our team leads to angry confrontations at social gatherings
 17. The heated disagreements among members of our team in social situations become personal
 18. Members of our team stop speaking to each other over personal disagreements in social situations
 19. Emotions run high in social situations about personal differences brought to light
 20. The negativity from personal disagreements makes it difficult for members of our team to be friends
 21. ~~The presence of cliques on our team leads teammates to purposely avoid each other~~
 22. ~~As a result of the tension surrounding disagreements, members of our team don't make an effort to get together outside of practices and competitions~~
 23. Members of our team have negative emotional confrontations that hinder the enjoyment of social events
 24. ~~Members of our team often get into heated disruptive arguments at team parties~~
 25. Disagreements at social gatherings escalate quickly that damages and tears our team apart
-

Table 6

Descriptive Statistics for Conflict, Cohesion, Passion, and Satisfaction

	Mean	SD	Skewness	Kurtosis	α
Task Conflict	3.35	1.64	.47	-.64	.90
Social Conflict	2.90	1.67	.69	-.54	.92
Attraction to Group-Task	7.14	1.37	-1.25	2.02	.76
Attraction to Group-Social	7.01	1.46	-.79	.30	.85
Group Integration-Task	6.46	1.31	-.40	-.17	.81
Group Integration-Social	6.15	1.53	-.09	-.74	.83
Harmonious Passion	5.76	.88	-.98	1.31	.83
Obsessive Passion	3.89	1.56	.03	-.88	.94
Team Integration	5.28	1.09	-1.06	1.20	.90
Team Performance	5.33	1.12	-1.03	1.07	.83

Note. N = 305; Conflict measured on 1-9 scale; Cohesion Measured on 1-9 scale; Passion measured on 1-7 scale; Satisfaction measured on 1-7 scale, this higher scores reflect greater perceptions of each respective variable assessed

Table 7

Bivariate Correlations for Conflict, Cohesion, Passion, and Satisfaction

	1	2	3	4	5	6	7	8	9
1. Task Conflict	-								
2. Social Conflict	.610**	-							
3. Attraction to Group Task	-.314**	-.201**	-						
4. Attraction to Group Social	-.267**	-.180**	.600**	-					
5. Group Integration Task	-.342**	-.282**	.653**	.511**	-				
6. Group Integration Social	-.254**	-.181**	.458**	.755**	.608**	-			
7. Harmonious Passion	-.219**	-.210**	.508**	.527**	.421**	.401**	-		
8. Obsessive Passion	.042	.070	.148**	.215**	.130*	.262**	.439**	-	
9. Team Integration	-.373**	-.266**	.671**	.520**	.734**	.481**	.370**	.072	-
10. Team Performance	-.355**	-.276**	.619**	.455**	.600**	.393**	.336**	.005	.727**

Note. N = 305; ** $p < .01$; * $p < .05$

Table 8

Inter-item correlation matrix for the GCQ

<i>Item</i>	7	8	9	10	11	13	15	16	17	18	19	20	23	25
7	-													
8	.532	-												
9	.540	.651	-											
10	.608	.643	.716	-										
11	.595	.581	.555	.741	-									
13	.556	.447	.541	.541	.602	-								
15	.544	.426	.410	.507	.543	.545	-							
16	.320	.324	.486	.343	.323	.461	.381	-						
17	.366	.433	.551	.411	.416	.468	.390	.707	-					
18	.319	.338	.371	.309	.307	.417	.300	.583	.649	-				
19	.313	.437	.438	.384	.402	.437	.364	.596	.710	.752	-			
20	.404	.448	.463	.498	.358	.422	.365	.583	.610	.657	.691	-		
23	.471	.439	.493	.467	.401	.501	.436	.579	.584	.608	.627	.711	-	
25	.364	.358	.404	.318	.398	.511	.358	.511	.548	.451	.512	.539	.663	-

Note. N = 305; All inter-item correlations significant at $p < .01$.

Table 9

Item Factor loadings, Item Means, and Standard Deviations for the GCQ

Item #	<i>Task Conflict</i>	<i>Social Conflict</i>	<i>Mean</i>	<i>Standard Deviation</i>
7	.731		3.52	2.21
8	.740		3.77	2.30
9	.782		2.39	1.81
10	.855		3.17	2.11
11	.808		3.62	2.22
13	.706		2.59	1.74
15	.637		4.37	2.10
16		.750	2.68	1.83
17		.815	3.28	2.22
18		.795	3.03	2.27
19		.842	3.15	2.12
20		.813	3.06	2.11
23		.797	3.00	2.04
25		.671	2.08	1.68

Note. N = 305; Conflict measured on 1-9 scale, thus higher scores reflect greater conflict; All factor loadings significant at $p = .00$.

Summary

The general purpose of the present dissertation was to develop a questionnaire to measure conflict in sport. In order to achieve this purpose, three phases of research were undertaken. Phase 1 consisted of a qualitative investigation of athletes' perceptions of conflict in sport. In Phase 2, items for the questionnaire were developed, content validity was assessed through a panel of experts, and factorial validity was assessed through a Confirmatory Factor Analysis. In Phase 3 various types of validity of the Group Conflict Questionnaire including factorial, convergent, discriminant, and known-group difference validity were assessed.

Conflict was defined as “a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals” (Barki & Hartwick, 2004, p. 234). Likewise the Barki and Hartwick (2004) conceptualization of conflict (conflict contains cognitive, behavioral, and affective components, that take place in task and/or social situations) was adopted as a guide for the current dissertation.

The purpose of Phase 1 was to gain insight on athlete perceptions of conflict in sport. A total of ten varsity athletes took part in semi-structured interviews. The results from Phase 1, which assessed athletes' perceptions of conflict in sport, was the starting point in the questionnaire development process and a precursor for the subsequent studies. The results from Phase 1 supported the Barki and Hartwick (2004) conceptualization of conflict in that athletes perceive conflict takes place in task and social situations, and is comprised of cognitive, behavioral, and affective components.

The purpose of Phase 2 was to generate items for the questionnaire and assess the content validity and factorial validity of those items. Content validity was assessed following the recommendations of Dunn, Bouffard, and Rogers (1999) whereby experts were contacted to assess how well the items represented the construct of interest. A total of 50 items were generated and sent out to ten experts, six of whom provided feedback. Based on the expert feedback, a total of 25 items were retained for the factorial validity assessment. The factorial validity assessment yielded evidence of a good factor structure. A good model fit, strong factor loadings, favourable internal consistency values and moderate inter-factor correlations were obtained. The final version of the Group Conflict Questionnaire consists of 14-items that measure two dimensions of conflict. That is, seven items assess task conflict and seven items assess social conflict. Responses for the questionnaire are provided on a 9-point Likert-type scale with higher scores representing stronger perceptions of conflict.

The purpose of Phase 3 was to assess the overall validity of the GCQ. To fulfill this purpose, four types of validity were tested: factorial, convergent, discriminant, and known-group difference. Factorial validity was demonstrated based on adequate model fit and factor loadings. Convergent validity was established with the emergence of the negative inverse relationships between conflict (task and social) and cohesion and satisfaction. Discriminant validity was partially established through the finding of a significant negative relationship between harmonious passion and conflict (task and social). However, no significant relationship was found between obsessive passion and conflict. Initial evidence of known-group difference validity was also demonstrated. Specifically, differences were found based on sport type and team tenure. Athletes who

had less tenure on a team perceived more task and social conflict than athletes with more tenure on a team. Likewise, athletes competing in a team sport perceived more task conflict than athletes competing in individual sport. However, athletes competing in an individual sport perceived more social conflict than athletes competing in a team sport.

Taken as a whole, results of the dissertation offer several unique contributions to the literature as well as provide implications for future research. The scarcity of conflict research in the sport setting has not gone unnoticed (e.g., Lavoie, 2007). The contributions of Mellalieu, Shearer, and Shearer, (2013), Holt, Knight, and Zukiwski, (2012), and Sullivan and Feltz (2001), notwithstanding, the dearth of conflict research may be attributed to the lack of a well-developed measurement tool. With the development of the Group Conflict Questionnaire emerging from this dissertation, researchers now have an inventory available to them for use in further examinations of conflict and its correlates in sport.

Results from the present dissertation also indicate that the GCQ possesses adequate psychometric properties with evidence of both reliability and validity. The results have also confirmed some past theoretical and empirical correlates of conflict through the inverse relationships found between cohesion, satisfaction, and harmonious passion. However, the correlates of conflict are certainly not limited to those assessed in this dissertation. Other potential variables that would seem theoretically related to conflict that may be of particular interest in sport would be collective efficacy, coaching and athlete leadership, role ambiguity, motivational climate, cognitive and somatic anxiety, performance, and adherence/drop-out. The development of the GCQ has now enabled researchers to determine such relationships.

The present dissertation has made the conceptual distinction that conflict is in fact a distinct construct from that of disagreement, or intra-team competition, however, that is not to say that conflict is not related to, or cannot emerge from disagreement or intra-team competition. It was important from a conceptual (and by extension operational) perspective not to confuse these constructs. Empirical support of this conceptual distinction can be found from past competition research whereby cohesion actually increases as a result of competition (e.g., Dion, 1979). However, taking the findings of the present dissertation into consideration, cohesion was negatively related to conflict. These empirical findings further support the notion that conflict is indeed distinct from variables like disagreement or intra-team competition. The operational definition advanced based on the conceptualization of conflict that was adopted has offered some conceptual clarity among these constructs which is one major contribution from this dissertation.

Given the preliminary correlational findings pertaining to conflict emanating from this dissertation, researchers should also consider examining conflict through experimental designs to infer causality with important group constructs. For example, the relationships with conflict between cohesion, satisfaction, and harmonious passion were likely circular and reciprocal in nature. That is, the correlational values reported cannot specifically determine the direction of prediction. Primarily, results cannot determine if lower conflict causes higher cohesion or if higher cohesion causes lower conflict. Likewise, results cannot determine if lower conflict causes higher satisfaction or if higher satisfaction causes lower conflict. Future researchers are strongly encouraged to take the steps necessary through experimental designs to determine causation between these

variables. Determining causation would be a fruitful endeavor to advance the conflict literature and aid researchers in identifying variables to target for intervention. Such intervention variables might focus on conflict resolution or conflict management as a tool to improve cohesion and/or satisfaction.

Another future consideration for sport conflict researchers is group size (e.g., Widmeyer, Brawley, & Carron, 1990) and group composition (e.g., Widmeyer, 1990). Conflict inevitably will differ in frequency, intensity, and duration between sport teams of different roster size. Likewise the composition of the group in terms of the compatibility of resources (i.e., the individuals and their attributes that make up the group) would intuitively influence group conflict. The result of a previous research study has shown that increasing group size is related to decreased cohesion (e.g., Widmeyer et al., 1990). Likewise the increase of group size has been suggested to lead to an increase in density, crowding, threat, and personal inhibition coupled with a decrease in communication, participation, responsibility, and attention (Carron & Eys, 2012). As a consequence, the resulting member satisfaction and group morale is also affected. One could surmise then that the size of the group and the composition of the group would have a moderating influence on the conflict experienced within sport teams.

Another consideration for future work emanating from this dissertation is the continuation in the assessment of the task and social nature of groups. This task and social distinction of groups has long been acknowledged by group dynamics theoreticians (e.g., Cartwright & Zander, 1968). It can be assumed then that the task and social orientations of groups may have different associations with task and social conflict. Literature on group development suggests that groups pass through a sequence of linear

stages that include *forming*, *storming*, *norming*, *performing*, and *adjourning* (Tuckman, 1965; Tuckman & Jensen, 1977). In the *storming* stage, conflict is likely to occur.

Depending on the type and nature of the group, different types of conflict may emerge.

In task-oriented groups such as high level sport teams, task conflict may arise first.

However, in socially oriented groups such as recreational sport clubs, social conflict may arise first. Considering the notion that conflict is inevitable in any group (e.g., Robbins & Judge, 2010), it would be important to determine which type of conflict (task or social) arises first and/or has the greatest impact in the group development process.

The debate on whether conflict has a positive or negative impact on group outcomes has long been discussed in the organizational literature (e.g., De Dreu & Weingart, 2003, Jehn & Bendersky, 2003; Jehn & Mannix, 2001). Some positive outcomes of task conflict that have been identified in organizational settings include reduced groupthink, better decision making, and improved communication (e.g., Jehn & Bendersky, 2003; Jehn & Mannix, 2001). On the other hand, a meta-analysis assessing the impact of conflict on performance and satisfaction showed that any conflict generally had a negative impact and was detrimental to the group (De Dreu & Weingart, 2003). The results from this dissertation would seem to support the findings of the meta-analysis. However, the notion that a seemingly negative construct like conflict has the potential for positive influences on a group is intriguing and is worth further examination in a sport context. The development of the GCQ could also be utilised here as a tool to further assess the positive or negative influence of conflict.

Finally, the development of the Group Conflict Questionnaire may also offer some practical implications for both researchers and sport psychology consultants alike.

Consultants now have a tool to assess conflict levels in problematic teams and determine if task, social, or both types of conflict are an issue. Researchers and consultants should consider designing specific conflict resolution and conflict management interventions to help improve team functioning of which the GCQ can provide baseline and follow-up assessments to determine the effectiveness of such an intervention. In sport settings, team building interventions have been of primary interest for years, however, most reported interventions have focused on variables such as cohesion, satisfaction, goals, roles, and adherence (e.g., Carron & Spink, 1993; Bruner & Spink, 2010; 2011; Martin, Carron, & Burke, 2009; Paradis & Martin, 2012; Prapavessis, Carron, & Spink, 1996; Spink & Carron, 1993). However, team building interventions in sport have typically not considered conflict as a target variable. Future researchers and practitioners may want to develop an intervention in which conflict is the target variable as an avenue to improve cohesion, satisfaction, etc.

Overall, the current dissertation has provided some insight to the nature of conflict in sport teams. Specifically, the development of a psychometrically sound questionnaire to measure conflict in sport has been advanced and initial findings of correlates of conflict in sport have been either confirmed or established. The development of the GCQ has made a contribution to the sport psychology literature and has provided researchers with the tools for continued study.

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Appendix A:

The University of Western Ontario

Research Ethics Board Approval Notices



Use of Human Participants - Ethics Approval Notice

Principal Investigator: Dr. Albert Carron
File Number: 101987
Review Level: Delegated
Approved Local Adult Participants: 800
Approved Local Minor Participants: 0
Protocol Title: Examining the Nature of Conflict in Sport Teams: Development of a Measurement Tool -18624S
Department & Institution: Health Sciences/Kinesiology, Western University
Sponsor:
Ethics Approval Date: March 14, 2013 **Expiry Date:** April 30, 2013

Documents Reviewed & Approved & Documents Received for Information:

Document Name	Comments	Version Date
Increase in number of local Participants	The number of participants has been increased from 600 to 800.	


This is to notify you that The University of Western Ontario Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the applicable laws and regulations of Ontario has granted approval to the above referenced revision(s) or amendment(s) on the approval date noted above.

This approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the NMREB's periodic requests for surveillance and monitoring information.

Members of the NMREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussions related to, nor vote on, such studies when they are presented to the NMREB.

The Chair of the NMREB is Dr. Riley Hinson. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer to Contact for Further Information

 Grace Kelly	Janice Sutherland
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Use of Human Participants - Ethics Approval Notice

Principal Investigator: Dr. Albert Carron
File Number: 101987
Review Level: Delegated
Approved Local Adult Participants: 600
Approved Local Minor Participants: 0
Protocol Title: Examining the Nature of Conflict in Sport Teams: Development of a Measurement Tool -18624S
Department & Institution: Health Sciences/Kinesiology, Western University
Sponsor:
Ethics Approval Date: September 24, 2012 **Expiry Date:** April 30, 2013

Documents Reviewed & Approved & Documents Received for Information:

Document Name	Comments	Version Date
Revised Western University Protocol	New instruments have been added and the study end date extended to April 30, 2013 as the study has not yet been started.	
Other	Instrument - State-Trait Anxiety Inventory State Scale Short	
Other	Instrument - The Passion Scale	
Other	The Group Environment Questionnaire	
Other	The Athlete Satisfaction Questionnaire	

This is to notify you that The University of Western Ontario Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the applicable laws and regulations of Ontario has granted approval to the above referenced revision(s) or amendment(s) on the approval date noted above.

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The Chair of the NMREB is Dr. Riley Hinson. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer to Contact for Further Information

<input checked="" type="checkbox"/> Grace Kelly	<input type="checkbox"/> Janice Sutherland
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This is an official document. Please retain the original in your files.

Appendix B:
Semi-Structured Interview Guide

Conflict in Sport Teams

Semi-Structured Interview Guide

Introduction:

I am a researcher in sport and exercise who is interested in understanding the nature of conflict in sport teams. I want to thank you for agreeing to participate in our research. I will be asking you a series of questions specifically to do with your participation in team sports. Specifically I will be asking about different types of conflict situations that you have either been involved in or experienced on your current team or a team you have been a part of in the past. Additionally, I will ask what may have led to the conflict and what, if any method was used to resolve the conflict. If at any time you feel that you do not want to carry on with the discussion, you may stop and leave without consequence. The information you share during this discussion will remain strictly confidential. The discussion should last approximately 30-60 minutes. The purpose of this discussion is for me to learn about your thoughts and experiences. Finally, I would ask that you please keep anything discussed in here confidential. If you agree to proceed with the discussion, please complete the short questionnaire and then we'll begin. If at any point during the discussion you would like to stop and leave you are free to do so.

Opening question:

To begin, can you please tell me your name, and what you sport you play, highest level of competition and position?

Introductory question:

When a group forms, the individuals involved have to interact with each other and participate in the activities as a group. In relation to these groups, what does the term 'conflict' mean to you? What is your understanding of what conflict is? In other words give us your definition of conflict?

Transition questions:

I am interested in learning a little more about your experiences in these groups....
How often would conflict arise in your group?

Who were the people in the conflict, was it always the same people or different every time?

Were you directly involved yourself in the conflict or were you close with someone who was?

Was the conflict resolved? Who resolved it? Were you a part of the resolution?

Key Questions

1. What form did the conflict take? Was it physical (fist fight) psychological (silent treatment) verbal (sarcasm)?
2. How did this affect you and your performance? The team and team's performance?
3. How did the conflict affect the relationships with teammates?
4. Did the conflict ever cause you or our teammates to want to quit or dropout of the team or sport?
5. Thinking back to your experiences on a team, what are some of the things you have observed that would lead you to believe that your team had conflict? What are typical indicators that a group has conflict?
6. Is it possible to have a group without any conflict or is some sort of conflict inevitable?
7. Is conflict always a negative thing, or can some positive outcomes result from conflict?

Ending question:

Moderator will provide a summary of key points raised in the interview.

Followed by "Those are all the questions I would like to ask you about. Is there anything that we should have talked about but didn't? Please take a moment to think about your involvement in these groups and please speak openly if you have any additional thoughts you would like to add".

Concluding Discussion:

"That concludes our interview. I want to thank you for sharing so much information about yourself and your experiences. I want to assure you again that this information will be treated in the strictest confidence. Thank you for your time.

Appendix C:
Demographic Information

Demographics**Age:** _____**Gender:** _____**Sport:** _____**Years played:** _____**Years on current or most recent team:** _____**Position played:** _____**Starter or non-starter:** _____**Highest Level competed:** _____

Appendix D:
Group Conflict Questionnaire

Members of sport teams do not always agree completely as to what the team should do and how it should go about doing it. Also, team members can get frustrated, angry, or irritated when the actions of teammates interfere with or detract from their personal performance and objectives. This may result in conflict. There are no right or wrong answers so please give your immediate reaction. Some of the questions may seem repetitive but please answer all questions. Your candid responses are very important to us. Your responses will be kept in strict confidence. Neither your coach nor anyone other than the one administering the questionnaire will see your responses. This portion of the questionnaire is designed to assess your perceptions of the presence of conflict within your athletic team DURING COMPETITIONS OR PRACTICES.

Using the following scale, please circle a number from 1 to 9 to indicate your level of agreement with each of these statements.

Conflicts Associated with Individual and Team Performance

1. Members of our team have heated disagreements about each other's personal commitment

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

2. Members of our team have emotional arguments about how to go about achieving team goals

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

3. Members of our team have emotional arguments in competitive situations over what's best for the team

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

4. Members of our team have emotional disagreements when things don't go the way they'd like

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

5. Arguments get very heated between teammates who have differing viewpoints about what should be done during competition

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

6. Members of our team sabotage each other's performance over emotional disagreements

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

7. The team's ability to be successful is jeopardized because of heated disagreements during competition

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

8. Strong disagreements during practice between members of our team disrupt our progress towards achieving team goals

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

9. It is nearly impossible to function effectively because of the intensity of the disagreements between members of our team during practices

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

10. The extreme animosity associated with the disagreements among members of our team effects our performance

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

11. The anger associated with the disagreements among members of our team effects our performance

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

12. Members of our team who are competing for the same position are resentful of each other

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

13. Members of our team have intense disagreements to the point of dysfunction

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

14. Members of our team have emotional disagreements about their respective playing time

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

15. There is tension among members of our team over disagreements about performance expectations

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

This portion of the questionnaire is designed to assess your perceptions of the presence of conflict within your athletic team DURING SOCIAL SITUATIONS (away from practices and competitions). As was the case above, there are no right or wrong answers so please give your immediate reaction. Again, we want to point out that some of the questions may seem repetitive but please answer all questions. Your candid responses are very important to us. Your responses will be kept in strict confidence. Neither your coach nor anyone other than the one administering the questionnaire will see your responses.

Conflicts Associated with Team Interpersonal Interactions.

16. Personal friction among members of our team leads to angry confrontations at social gatherings

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

17. The heated disagreements among members of our team in social situations become personal

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

18. Members of our team stop speaking to each other over personal disagreements in social situations

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

19. Emotions run high in social situations about personal differences brought to light

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

20. The negativity from personal disagreements makes it difficult for members of our team to be friends

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

21. The presence of cliques on our team leads teammates to purposely avoid each other socially

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

22. As a result of the tension surrounding disagreements, members of our team don't make an effort to get together outside of practices and/or competitions

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

23. Members of our team have negative emotional confrontations that hinder the enjoyment of our social events

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

24. Members of our team often get into heated disruptive arguments at team parties

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

25. Disagreements at social gatherings escalate quickly that damages and tears our team apart

1	2	3	4	5	6	7	8	9
Strongly Disagree		Somewhat Disagree		Neither Agree Nor Disagree		Somewhat Agree		Strongly Agree

Appendix E:
Group Environment Questionnaire

Appendix F:
Athlete Satisfaction Questionnaire

The Athlete Satisfaction Questionnaire (ASQ)

The following questions are designed to ask you about your satisfaction with your experiences in sport.

How satisfied are you with...

1. How the team works to be the best

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

2. The degree to which my teammates share the same goal

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

3. Team members dedication to work together towards team goals

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

4. The extent to which teammates play as a team

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

5. The team`s overall performance this season

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

6. The extent to which the team has met its goals for the season

1	2	3	4	5	6	7
Not at all Satisfied			Moderately Satisfied		Extremely Satisfied	

Appendix G:
Passion Scale

The Passion Scale

The following questions are designed to ask about how passionate you feel about your sport.

1. This Activity allows me to live a variety of experiences.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

2. The new things that I discover with this activity allow me to appreciate it even more.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

3. This activity allows me to live memorable experiences.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

4. This activity reflects the qualities I like about myself.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

5. This activity is in harmony with other activities in my life.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

6. For me it is a passion that I still manage to control.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

7. I am completely taken with this activity.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

8. I cannot live without it.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

9. The urge is so strong. I can't help myself from doing this activity.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

10. I have difficulty imagining my life without this activity.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

11. I am emotionally dependent on this activity.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

12. I have a tough time controlling me need to do this.

1	2	3	4	5	6	7
Do not agree at all					Completely agree	

Curriculum Vitae

Name: Kyle Francis Paradis

Post-secondary Education and Degrees:

The University of Western Ontario
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University of Windsor
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Laurentian University
Sudbury, Ontario, Canada
2004-2008 B.A.[H].

Honours and Awards:

Ontario Graduate Scholarship
2013-2014

Queen Elizabeth II Graduate Scholarship in Science & Technology
2012-2013

Academic All Canadian for Varsity Athletics
2008/2009-2013/2014

University Entrance Scholarship
2004

Related Work Experience

Sessional Lecturer
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The University of Western Ontario
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Graduate Teaching Assistant
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Graduate Teaching Assistant
University of Windsor
Courses: *Applied Sport Psychology, Group Dynamics in Sport, Principles of Coaching, Human Movement and Aging, Perceptual and Motor Development*
2008-2010

Professional Affiliations	<p>Canadian Society for Psychomotor Learning and Sport Psychology (SCAPPS) 2008-present</p> <p>North American Society for the Psychology of Sport and Physical Activity (NASPSPA) 2008-present</p> <p>Association for Applied Sport Psychology (AASP) 2008-present</p>
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Publications:

Carron, A. V., & **Paradis, K. F.** (2014). The home advantage. In R. Eklund & G. Tenenbaum (Eds.), *Encyclopedia for Sport and Exercise Psychology*, Sage Publications Inc. ISBN: 978145220386

Paradis, K. F., Carron, A. V., & Martin, L. J. (in press). Athlete perceptions of intra-group conflict in sport teams. *Sport and Exercise Psychology Review*.

Paradis, K. F., Cooke, L. M., Martin, L. J., Hall, C. R. (2013). Too much of a good thing? Examining the relationship between passion for exercise and exercise dependence. *Psychology of Sport and Exercise, 14*(4), 493-500.

Paradis, K. F. (2013). The annual meeting of the North American Society for the Psychology of Sport and Physical Activity 2012. *Sport and Exercise Psychology Review, 9*(1), 66-71.

Martin, L. J., **Paradis, K. F.**, Eys, M. A., & Evans, M. B. (2013). Cohesion in sport: New directions for practitioners. *Journal of Sport Psychology in Action, 4*(1), 14-25.

Paradis, K. F., & Martin L. J. (2012). Team building in Sport: Linking theory and research to practical application. *Journal of Sport Psychology in Action, 3*(3), 159-170.

Paradis, K. F., Martin, L. J., & Carron, A. V. (2012). Examining the relationship between passion and perceptions of cohesion in athletes. *Sport and Exercise Psychology Review, 8*(1), 22-31.

Paradis, K. F., & Loughhead, T. M. (2012). Examining the mediating role of cohesion between athlete leadership and athlete satisfaction in youth sport. *International Journal of Sport Psychology 43*(2), 117-136.

Published Abstracts:

Paradis, K. F., Carron, A. V., & Martin, L. J. (2013). Development of the Group Conflict Questionnaire [Abstract]. *Journal of Sport & Exercise Psychology, 35*, S104-S105.

Paradis, K. F., Cooke, L. M., Martin, L. J., Hall, C. R., & Carron, A. V. (2012). The relationship between passion for exercise and exercise dependence [Abstract]. *Journal of Sport & Exercise Psychology, 34*, S268.

Paradis, K. F., Martin, L. J., & Carron, A. V. (2012). A comparison of coaches' and athletes' transformational and transactional leadership behaviors [Abstract]. *Journal of Sport & Exercise Psychology, 34*, S269.

Paradis, K. F., Martin, L. J., & Carron, A. V. (2011). Examining the effects of harmonious and obsessive passion on cohesion and intention to return in competitive and recreational athletes [Abstract]. *Journal of Sport & Exercise Psychology, 33*, S174 - S175.

Paradis, K. F., & Loughead, T. M. (2010). Perceptions of formal and informal athlete leader effectiveness in youth sport [Abstract]. *Journal of Sport & Exercise Psychology, 32*, S184 - S185.

Conference Presentations:

Paradis, K. F., Carron, A. V., & Martin, L. J. (2013, October). The nuances of the group environment: An assessment of group conflict and group cohesion. Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Kelowna, British Columbia, Canada.

Donkers, J., Martin, L. J., Anderson, S., & **Paradis, K. F.** (2013, October). Can cohesion predict social acceptance and intention to return in children? Poster presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Kelowna, British Columbia, Canada.

Cooke, L. M., **Paradis, K. F.,** Martin, L. J., & Hall, C. R. (2013, June). *An assessment of the relationship between passion for exercise and satisfaction with the basic psychological needs.* Poster presented at the Fifth International Conference on Self-Determination Theory, Rochester, New York, USA.

Paradis, K. F., Carron, A. V., & Martin, L. J. (2013, June). Development of the Group Conflict Questionnaire. Paper presented at the North American Society for the Psychology of Sport and Physical Activity Conference, New Orleans, Louisiana, USA.

- Paradis, K. F.,** Carron, A. V., & Martin, L. J. (2012, November). Athlete perceptions of the nature, antecedents, and consequences of intra-group conflict in sport. Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Halifax, Nova Scotia, Canada.
- Paradis, K. F.,** Cooke, L. M., Martin, L. J., Hall, C. R., & Carron, A. V. (2012, June). *The relationship between passion for exercise and exercise dependence.* Paper presented at the North American Society for the Psychology of Sport and Physical Activity Conference, Honolulu, Hawaii, USA.
- Paradis, K. F.,** Martin, L. J., & Carron, A. V. (2012, June). *A comparison of coaches' and athletes' transformational and transactional leadership behavior.* Poster presented at the North American Society for the Psychology of Sport and Physical Activity Conference, Honolulu, Hawaii, USA.
- Paradis, K. F.,** Martin, L. J., & Carron, A. V. (2011, October). *The relationship between athlete leadership status, starting status, and passion in athletes.* Poster presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Winnipeg, Manitoba, Canada.
- Paradis, K. F.,** Martin, L. J., & Carron, A. V. (2011, June). *Examining the effects of harmonious and obsessive passion on cohesion and intention to return in competitive and recreational athletes.* Paper presented at the North American Society for the Psychology of Sport and Physical Activity Conference, Burlington, Vermont, USA.
- Paradis, K. F.,** Carron, A. V., & Martin, L. J. (2011, March). *Examining the nature of conflict in sport teams.* Paper presented at the Eastern Canadian Sport and Exercise Psychology Symposium, Waterloo, Ontario, Canada.
- Martin, L. J., **Paradis, K. F.,** & Carron, A. V. (2011, March). *Examining the relationship between leadership style and team attributional style.* Paper presented at the Eastern Canadian Sport and Exercise Psychology Symposium, Waterloo, Ontario, Canada.
- Paradis, K. F.,** & Loughhead, T. M. (2010, October). *Examining the mediating role of cohesion in the relationship between athlete leadership and athlete satisfaction in youth sport.* Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Ottawa, Ontario, Canada.
- Paradis, K. F.,** & Loughhead, T. M. (2010, June). *Perceptions of formal and informal athlete leader effectiveness in youth sport.* Paper presented at the North American Society for the Psychology of Sport and Physical Activity Conference, Tucson, Arizona, USA.

Paradis, K. F., & Loughead, T. M. (2010, March). *Examining the effectiveness of athlete leaders in youth sport*. Paper presented at the Eastern Canadian Sport and Exercise Psychology Symposium, Montreal, Quebec, Canada.

Paradis, K. F., & Loughead, T. M. (2010, March). *Comparing formal and informal athlete leadership effectiveness in youth sport*. Poster presented at the University of Windsor Kinesiology Research Day, Windsor, Ontario, Canada.

Paradis, K. F., & Loughead, T. M. (2009, November). *Follow the (athlete) leader: Examining the factorial validity of two leadership inventories in youth sport*. Poster presented at the Canadian Society for Psychomotor Learning and Sport Psychology Conference, Toronto, Ontario, Canada.

Paradis, K. F., Loughead, T. M., & Eys, M. A. (2009, September). *Investigating the coach-athlete relationship in relation to role perceptions*. Paper presented at the Association for Applied Sport Psychology Conference, Salt Lake City, Utah, USA.

Paradis, K. F., Eys, M. A., & Loughead, T. M. (2009, March). *Role perceptions and the coach-athlete relationship*. Paper presented at the Eastern Canadian Sport and Exercise Psychology Symposium, Toronto, Ontario, Canada.

Paradis, K. F., Eys, M. A., & Loughead, T. M. (2009, March). *Investigating role perceptions in the coach-athlete relationship*. Poster presented at the University of Windsor Kinesiology Research Day, Windsor, Ontario, Canada.

Invited Presentations:

Paradis, K. F. (2014, January). The nature of conflict in sport: Development and validation of the Group Conflict Questionnaire. Presented at the Western Kinesiology Graduate Seminar Speaker Series, London, Ontario, Canada.

Paradis, K. F. (2013, March). Getting involved in kinesiology research. Presented at the 7th annual University of Windsor Kinesiology Research Day, Windsor, Ontario, Canada.

Carron, A. V., & **Paradis, K. F.** (2012, October). Most important group factors associated with team success. Invited address presented at the American Cancer Society's Coaches vs. Cancer Meeting. Madeille College, Buffalo, New York, USA.

Paradis, K. F. (2012, October). The nature and correlates of intra-group conflict in sport. Presented at the Western Kinesiology Graduate Seminar Speaker Series, London, Ontario, Canada.

Paradis, K. F. (2012, May). "Going Mental": The psychological factors of sport performance. Presented at the Golf Association of Ontario-Scarborough District Introduction to Competitive Golf Clinic, Scarborough, Ontario, Canada.

Paradis, K. F., & Fitzsimmons, C. R. S. (2012, April). Running a smooth course: Overcoming obstacles to accelerate success. Presented at the Running Room "Learn to Run" Clinic, London, Ontario, Canada.

Paradis, K. F. (2011, May). Setting the right course. Effective goal setting for golfers. Presented at the Cedar Brae "Junior Sniper" Golf Academy, Scarborough, Ontario, Canada.

Paradis, K. F. (2011, April). Building psychological skills: The effective use of goal setting and imagery techniques. Presented at the Ontario Hockey League Regional Youth Development Camp, Oshawa Ontario, Canada.

Paradis, K. F. (2011, February). Cohesion as a mediator in youth sport: The influence on the athlete leadership-athlete satisfaction relationship. Presented at the Western Kinesiology Graduate Seminar Speaker Series, London, Ontario, Canada.

Academic Theses:

Paradis, K. F. (2014). The Nature of Conflict in Sport. Development and Validation of the Group Conflict Questionnaire. Doctoral Dissertation, School of Kinesiology, Faculty of Health Sciences, The University of Western Ontario, London, Ontario, Canada.

Paradis, K. F. (2010). Investigating the mediating role of cohesion in the relationship between athlete leadership and athlete satisfaction in youth sport. Master's Thesis, Department of Kinesiology, Faculty of Human Kinetics, University of Windsor, Windsor, Ontario, Canada.

Paradis, K. F. (2008). Investigating coach-athlete relationships and role perceptions in youth sport. Undergraduate Honours Thesis, School of Human Kinetics, and Department of Psychology, Laurentian University, Sudbury, Ontario, Canada.