

**THE INITIAL PHASE OF DEVELOPMENT FOR A QUESTIONNAIRE TO
ASSESS PERCEPTIONS OF SUBGROUPS IN SPORT**

by

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A thesis submitted to the School of Kinesiology and Health Studies

In conformity with the requirements for

the degree of Master of Science

Queen's University

Kingston, Ontario, Canada

(August 2023)

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Abstract

An emerging body of literature has noted the salience of subgroups in sport, emphasizing important implications for athletes and teams (Martin et al., 2020). Specifically, subgroups represent a grouping of individuals who exhibit reciprocating relations and that belong to but are discernible from a superordinate group (Martin et al., 2015). Importantly, growing evidence suggests that it is not the presence or absence of subgroups that is of consequence, but rather how teammates perceive and experience them. With the advancement of a conceptual framework for athlete perceptions of subgroups (McGuire et al., 2022), a warranted next step is to advance a psychometrically sound questionnaire. Measuring subgroups is nevertheless complex, given the need for an innovative tool that describes not only the distribution of teammates into subgroups but also perceptions of how subgroups relate to member behaviour. Thus, a collaborative, iterative, and critical process that differs from how many self-report tools are developed is needed for measurement development. To initiate the development of a subgroup measure in sport, we adopted a three-phase process that involved literature/questionnaire reviews and research team collaborative meetings (Phase 1), topic expert document review and semi-structured interviews (Phase 2; $N = 5$), and athlete think-aloud interviews (Phase 3; $N = 7$). Phase 1 resulted in a proposed subgroup questionnaire, with Phases 2 and 3 leveraging the knowledge of experts and experiences of athletes beyond the approval of items for representativeness and readability. These processes resulted in changes to the questionnaire structure (e.g., context descriptions), initial participant demographic and orientation sections, and proposed items. In addition, the benefits derived from incorporating more in-depth discussions with experts and athletes will be put forward (e.g., discussing expert intention and conducting virtual think-aloud interviews). This study contributes to the advancement of subgroup literature by proposing a questionnaire to evaluate athlete perceptions while also serving as an example of how expert and athlete input can be further incorporated into questionnaire development protocols.

Co-Authorship

This thesis was completed in collaboration with my supervisor, Dr. Luc J. Martin. As the primary researcher, I was responsible for participant recruitment, data collection and analysis, and drafting this thesis document. Dr. Martin provided guidance for the initial study conceptualization and design, along with study design modifications, and provided the primary feedback on this written thesis document. Additionally, Dr. M. Blair Evans (Western University) was instrumental in challenging early theoretical conceptualizations of our study and for providing valuable guidance for the initial questionnaire structure.

Acknowledgements

An incredible number of people deserve to be thanked as they have offered me an immeasurable amount of support throughout graduate school and my entire academic journey. I do not have the allotment to thank everyone properly; however, I am grateful to all my former academic instructors, classmates, students, teammates, and coaches who have made me the person and researcher I am today.

Firstly, thank you to my proposal and defence committee members for offering valuable insight and suggestions that have shaped this project. Thank you for sharing your time with me and allowing me to learn from your expertise.

Thank you to the participants, for none of this would have been possible without you.

To the members of the PLAYS research group, thank you for being some of the best people around. I cannot express how grateful I am to each of you; from chatting (or playing Spikeball) by the coffee maker, visiting the farm for a quick lunch, or our off-topic chats in the MKF lounge, you all helped me grow as a person and researcher. I am so fortunate to be surrounded by such fun, driven individuals.

To my supervisor, Dr. Luc Martin, thank you for allowing me to live my dream. You have been a constant example of what it means to be an inspiring leader and have regularly motivated me to be my best. Thank you for your patience, guidance, and support as I continue to grow into what I can only hope to be part of the researcher and professor that you are.

To my Northern family and friends, thank you for believing in me. I may be the first to embark on this crazy journey, but I am truthfully standing on the shoulders of giants. There is without a doubt, not a chance I would be where I am today without your positive words of encouragement and belief. I hope I have made you proud. To my dad, thank you for showing me true strength and courage. To my mom, thank you for showing me the meaning of hard work, dedication, and support. To both of you, I hope you know how grateful I am for your sacrifices that have allowed me to stand here today. No matter what I have or will achieve, there is nothing I will be prouder of than being your son.

Lastly, to my wife, Fiona. Thank you for helping me realize this dream. Whether it was high school classes, undergraduate lectures, our athletic careers, or your medical training, you have supported me, encouraged me to reach a little bit higher, and never doubted my ambitions, and for that, I am incredibly humbled. You have shown me immense compassion, love, and grace throughout this degree, and I will be forever grateful. Thank you. This one's for you, too.

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List of Abbreviations

APA: American Psychological Association

CA: Citizenship Alignment

CB: Citizenship Behaviour

CR: Critical Realism

DL: Deep-Level

FKG: Flesch-Kincaid Grade Level

FRE: Flesh Reading Ease

OCB-C: Organizational Citizenship Behaviour – Checklist

ODT: Optimal Distinctiveness Theory

PCTSQ: Positional Competition in Team Sports Questionnaire

SEP: Sport and Exercise Psychology

SL: Surface-Level

STSTQ: Sport Team Socialization Tactics Questionnaire

Chapter 1

Introduction

Despite a historical precedent for attempts to disband or avoid subgroups in sport (e.g., Ryska et al., 1999; Yukelson, 1995), recent research recommends a more nuanced approach to their consideration. For instance, the formation of subgroups is largely deemed to be an inevitable structural feature within interdependent sport teams (Wagstaff et al., 2017). This inevitability, however, is not necessarily problematic, given that various positive (e.g., prosocial behaviours, feelings of belonging) and negative (e.g., bullying, conflict) outcomes have been associated with their presence (e.g., Martin et al., 2015; Saizew et al., 2021; Wagstaff et al., 2017). In this regard, researchers suggest that it is less about the presence or absence of subgroups that should be of consequence, and rather, that emphasis should be placed on the types of behaviours that are being exhibited and how they are being perceived or interpreted by team members (e.g., Wagstaff et al., 2017).

With this recommendation in mind, McGuire et al. (2022) engaged the academic literature, topic experts, and current athletes in a systematic process to advance a conceptual framework pertaining to athlete perceptions of subgroups. The resulting framework highlights the following two main perceptual components: observability (which is further divided into surface-level and deep-level characteristic dimensions) and behaviours (which is further divided into organizational citizenship and organizational alignment dimensions). Here, McGuire et al. (2022) suggested that the interaction of these two domains will influence the ways in which team members view and experience (i.e., affectively, behaviourally, cognitively) the various subgroupings within their teams. Although researchers are now presented with a template from which to further explore subgroups in sport, important considerations remain.

Given the complex nature of subgroups, related fields such as education, organizational, and social psychology have employed multiple methods for their investigation. These methods

have included social network analyses (Bagwell et al., 2000), social-cognitive mapping (Cairns et al., 1985), and systematic observation (Brown & Dietz, 2009; Eder, 1985). Although these methods are unproblematic, each carries noticeable drawbacks. Mainly, these methods fail to understand the *perceptions* of the behaviours exhibited by the members of the subgroups, and also do not provide context related to grouping tendencies. For example, systematic observation can uncover which members are grouping together and the implications of these groups; however, it cannot accurately observe subgroup position nor capture team member perceptions (Brown & Dietz, 2009; Eder, 1985). Therefore, an approach that can explore both the perceptions of grouping tendencies, in addition to establishing further contextual information is needed.

To date, the research that has explored perceptions of subgroups in sport has been qualitative in nature, almost exclusively based on conversations with athletes and coaches (e.g., Saizew et al., 2021; Wagstaff et al., 2017). This is perhaps not surprising given the relative infancy of this line of research; however, scholars have suggested that psychometrically sound measures are ideally suited to better understanding a particular construct (e.g., Carron et al., 1985; McEwan et al., 2018). For example, a valid and reliable questionnaire could enable researchers to more concretely explore the antecedents most likely to influence grouping tendencies, in addition to linking perceptions held by athletes to both individual and team-level outcomes in sport. Similarly, the development of questionnaires further complements the transition from theory to practice, allowing scholars to test the impact of evidence-informed interventions with targeted end-users.

Therefore, the purpose of my thesis research is to begin the systematic process of questionnaire development. Inspired by Messick's (1995) notion of questionnaire validity, we recognize that development should not occur through a single study. Rather, the process should unfold over a series of phases involving a range of tasks and participants across various contexts (e.g., Hubley & Zumbo, 1996; McEwan et al., 2018; Messick, 1995). My research, then, involved

the preliminary development of a questionnaire, implementing a systematic and rigorous process involving our research team, topic experts, and athletes, to evaluate the proposed structure and specific items for content and substantive validity. These efforts serve as the first phase of a larger project to better understand the complex nature of subgroups by exploring athlete perceptions over time. The following chapters will describe this research process in its entirety, including an in-depth review of the relevant bodies of literature (Chapter 2), a description of the methodology employed (Chapter 3), a detailed account of the findings (Chapter 4), and a discussion of implications, study strengths and limitations, and future directions (Chapter 5).

Chapter 2

Literature Review

In sport, the benefits associated with a unified team are widely recognized. As many sports either require or involve the presence of groups for competition or training (Eys et al., 2020a), numerous researchers have explored the specific contexts and factors that benefit these groups (Beauchamp & Eys, 2014). Accordingly, a growing body of literature is dedicated to understanding structural features, interpersonal processes, and emergent states that influence both individual and team-level outcomes within interdependent sport (e.g., Eys et al., 2020a; Eys et al., 2020b). One structural feature described as an inevitability in sport involves the smaller groups that originate from within a superordinate group—in other words, subgroups. Throughout the following subsections, I offer a summary of the subgroup literature in relation to their nature, development, and resulting outcomes. I also discuss the ways in which subgroups have been explored in sport and other contexts (e.g., education, organizational psychology) and introduce a summary of the general methods and approaches to research previously used in sport psychology and questionnaire development. Through this description and synthesis, I will provide a rationale for the necessity of my thesis work, which involves the preliminary phases of questionnaire development.

2.1 Foundational Subgroup Literature

2.1.1 Nature of Subgroups

Although there are a variety of terms used to describe smaller collectives of group members, such as cliques, peer groups, or subgroups, they are often described with similar characteristics and defining features. For consistency in terminology, I use the term ‘subgroup’ throughout the remainder of the document. Generally, subgroups represent clusters of close-knit individuals that display distinct task and social relations (Martin et al., 2015; McGuire et al., 2022). Further, to be characterized as a subgroup, members must belong to a larger superordinate

group where membership and task objectives are identified (Martin et al., 2015; Wagstaff et al., 2017). Subgroups also display reciprocating relationships between members (Henrich et al., 2000) who must share a level of interdependence that differentiates them from the remainder of the superordinate group (Carton & Cummings, 2012; Martin et al., 2015; Wagstaff et al., 2017). This description provides an overview of ‘what subgroups are,’ but does little in relation to explaining how they develop and how athletes perceive and experience them.

2.1.2 Perceiving and Experiencing Subgroups

Subgroups are understood to be a complex and dynamic structural feature within groups. In this regard, they are expected to develop for a variety of reasons, and their associated outcomes relate to how they are interpreted and experienced by their membership and other members from the superordinate group. Sport scholars initially considered social psychology theories to understand their presence in teams. For example, subgroup development could be explored through theories including Faultline Theory (Thatcher & Patel, 2012) and the Optimal Distinctiveness Theory (ODT; Brewer, 2012). Such theories posit development due to a wide range of circumstances and factors, including shared commonalities, beliefs, and proximity. Faultline Theory specifically suggests that subgroups develop based on hypothetical dividing lines (i.e., faultlines) that differentiate people within a particular superordinate group (Thatcher & Patel, 2012). In sport, typical examples of such faultlines include team tenure, position, and starting status. On the other hand, ODT posits that members seek to assimilate and belong while simultaneously striving for differentiation and autonomy by connecting with a smaller and more intimate grouping of members (i.e., optimally distinct groups; Brewer, 2012). Exploring subgroups through these established theories has helped sport researchers to better understand why they form (e.g., Martin et al., 2015; 2016).

Indeed, the described theories suggest that subgroup development is not random, and that formation is a complex and unavoidable process. This is supported in the sport context, whereby

subgroups have been described as developing based on both intentional and purposeful behaviours (e.g., to obtain status, share resources) as well as unintentionally for practical reasons such as proximity (e.g., living arrangements) and similarity (e.g., shared positions, team tenure). As a result, researchers consider the formation of subgroups to be an inevitable but variable structural feature that is contingent on several factors with varying levels of intentionality (Martin et al., 2015). Importantly, researchers have also found that athletes can readily identify and describe the various subgroups present within a superordinate team (Wagstaff et al., 2017). Using a case study approach, Wagstaff and colleagues (2017) noted the extent to which team members were able to provide rich descriptions of subgroup members, the nature of their groups, and how they were perceived by other team members. Accordingly, an important element related to their ‘inevitability’ is that they are visible and describable from other superordinate members (e.g., Carton & Cummings, 2012). As a consequence, the ability for members to identify and describe subgroups is a necessary element for them to be ‘perceived’ by athletes.

In conjunction with their inevitability, subgroup membership and how teammates perceive them appear to be dynamic and could change based on situational factors (e.g., injuries, player trades, playing time) and team processes (e.g., communication, leadership) across a season (Martin et al., 2015; Wagstaff et al., 2017). This example is specific to subgroups; however, general group dynamics literature also supports the dynamic nature of other structural features in sport (e.g., norms, roles; Eys et al., 2020a). Indeed, Wagstaff et al. (2017) found athlete perceptions of subgroups to change depending on important ‘tipping points’ in a season, advocating for coaches to pay particular attention to grouping tendencies at the beginning of the season or during times of extended success or failure. Similarly, Saizew et al. (2021) noted how sport type, team size, and individual athlete performance were all necessary considerations for how subgroups could change throughout a season. Consequently, the varying subgroup

memberships and how teammates perceive them are expected to shape (or be shaped by) relevant team processes and emergent states within a team.

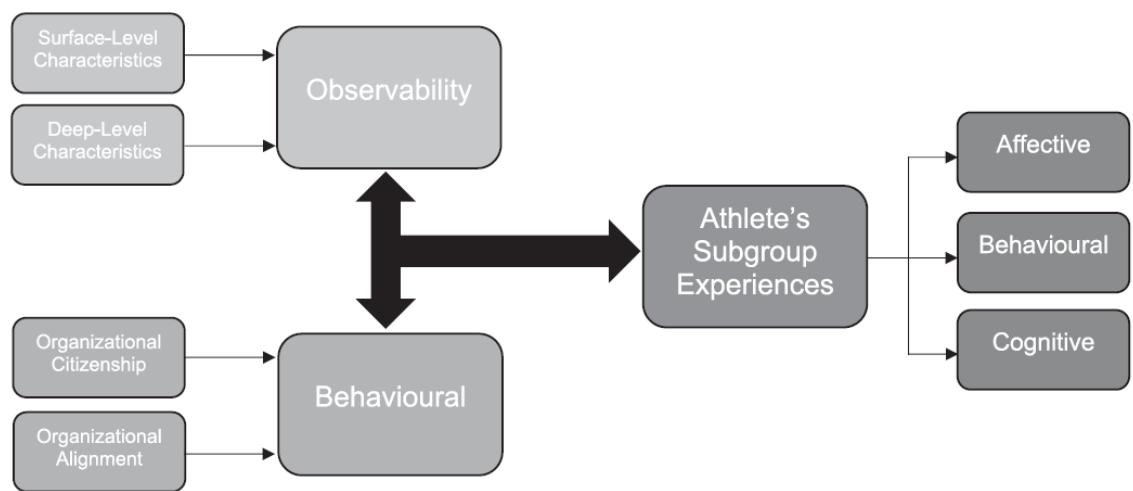
In a similar way to which researchers have attempted to explore the complexity of subgroup development and their dynamic nature, the consideration of their associated outcomes is also nuanced (Cronin et al., 2011). Interestingly, early literature pertaining to subgroups tended to caution against their development, citing both debilitating outcomes for individuals (e.g., isolation, bullying) and teams (e.g., intrateam conflict, poor performance; Ryska et al., 1999; Yukelson, 1995). More recently, researchers have cautioned against such an avoid-at-all-cost approach, recommending an emphasis on their recognition and management. For example, determining whether a particular subgroup will be ‘positive’ or ‘negative’ is less about their presence and more about understanding how they behave and are perceived by team members (Wagstaff & Martin, 2018). Such findings suggest that subgroup behaviour and the perceptions of these behaviours among superordinate team members are what is of importance (Wagstaff et al., 2017). However, before future research could explore the associated outcomes of subgroups, a greater understanding of how athletes perceived and experienced them was needed.

For this reason, McGuire et al. (2022) undertook a systematic process to advance a conceptual framework pertaining to athlete perceptions of subgroups. These authors conceptualized athlete experiences with subgroups by highlighting two main domains involving their observability (which further separate into the surface-level and deep-level characteristic dimensions) and behaviours (which further separate into the organizational citizenship and organizational alignment dimensions; See Figure 1 for a visual representation of the framework). The observability category illustrates how athletes recognize and consider subgroups within a team and involves two key domains: surface-level and deep-level characteristics. Surface-level characteristics are those more readily observable commonalities within a team, such as age, position, or team tenure. In contrast, deep-level characteristics are commonalities among

teammates that often require more time to uncover or understand, such as long-term career goals, political views, religious or spiritual beliefs, and personality (McGuire et al., 2022). Athletes have been found to consider subgroups and the reciprocating relations formed under deep-level boundaries as more meaningful and valued when compared to those based largely on surface-level characteristics (McGuire et al., 2022).

Figure 1

Conceptualization of Athlete Subgroup Experiences



Note. Image retrieved from McGuire et al. (2022).

The behaviours observed or interpreted by team members pertaining to subgroups represent the other main dimension of the proposed framework. Specifically, McGuire et al. (2022) noted how athletes described a range of behaviours enacted by subgroup members, and these varied in relation to the benefits to the group, such as adaptively acting as role models to maladaptively attempting to establish superiority and power. Similarly, these behaviours were generally described as either aligning or not with the superordinate team’s objectives and normative expectations. These ideas were categorized into two dimensions: organizational citizenship and organizational alignment. Organizational citizenship encompasses those behaviours that are not directly tied to an organization’s ‘rewarding system’ but that generally favour the support of members and the functioning of a group—in other words, members act as

‘good citizens’ towards one another (McGuire et al., 2022). Thus, behaviours are likely to be displayed along a continuum from beneficial to neutral to detrimental (McGuire et al., 2022). Additionally, organizational alignment considers those behaviours that align with the established values and norms of the superordinate team (McGuire et al., 2022). For example, a leadership group might ensure they are attending and making an effort at mandatory workouts. However, given the inevitability and complexity of subgroup perceptions, a necessary next step to better understand their impact in relation to athletes’ experiences is accurately assessing their presence and influence within a team.

To date, our understanding of subgroups in sport has been derived from single-instance (e.g., Martin et al., 2015) or repeated interviews (e.g., Saizew et al., 2021; Wagstaff et al., 2017) with athletes and coaches, or interviews with experts and athletes (e.g., McGuire et al., 2022). These studies/methods were critical for advancing our understanding of subgroup behaviours and characteristics, but there are nevertheless opportunities to further explore important antecedents and consequences of athlete perceptions through questionnaire development efforts.

2.2 Methods and Approaches to Research in Sport and Exercise Psychology

Over the last few decades, research approaches in sport and exercise psychology (SEP) have advanced to include data collection procedures such as behavioural observations, psychophysiological measures, ethnography, psychometrics, Likert-type and open-ended questionnaires, interviews, among others (e.g., Eklund, 2014; Meredith et al., 2018). This advancement in measurement approaches among SEP researchers attempts to meet the demands of various emerging theories, perspectives (e.g., ontological and epistemological views; Meredith et al., 2018), and intricate research questions. To ensure an appropriate research approach, SEP researchers are tasked with considering the type of data (e.g., qualitative, quantitative), the methods (and timing) of data collection (e.g., cross-sectional, case study), and the context in which those data will originate (e.g., natural or artificial; Blaikie, 2010; Meredith et al., 2018).

These choices are important considerations for researchers to ensure credible, trustworthy, and accurate knowledge that can advance theory and practice in their field (Meredith et al., 2018).

In SEP, there has long been a challenge to balance the use of both behavioural (i.e., observation) and non-behavioural (i.e., questionnaires, interviews) research methods. For example, when investigating variables related to the athlete, coach, or parent experiences in sport, Herbison et al. (2020) noted that SEP researchers have tended to employ non-behavioural methods. There are however numerous examples of behavioural methods being used, with examples spanning coach behaviours (e.g., Smith et al., 1977), emotions (e.g., Allan et al., 2016), coach-athlete interactions (e.g., Erickson et al., 2011), and athlete-athlete interactions (e.g., Vierimaa & Côté, 2016). Accordingly, within the following sections I provide a brief overview of the types of behavioural and non-behavioural research efforts that have been undertaken in SEP. These are not exhaustive descriptions, but rather, serve to simply introduce the approaches and provide a frame of reference for questionnaire development.

2.3 Questionnaire Development Approaches

Like Schutz (1994), the American Psychological Association (APA) noted in 1985 (see Hinkin, 1995) the importance of measures exhibiting sound validity, including content validity, criterion-related validity, construct validity, and internal consistency. However, after investigating over 277 questionnaire development practices in psychology-based research, Hinkin (1995) noted a clear need for more content validity across these measures, primarily in the item development phase. This lack of content validity was attributed to a missing link between the theoretical domain and the eventual proposed item (Hinkin, 1995). This oversight during the item development phase is surprising as Messick (1995) argued that a critical feature of content validity is construct representation, where a researcher attempts to break down a particular construct (e.g., subgroups) into its component processes (i.e., observability, behaviours). As such, Messick (1995) noted the missing link between theory and the quality of

the items may be a result of one of two threats. It could be due to construct underrepresentation, where the items are too narrow and do not account for all relevant dimensions of the intended construct, or construct-irrelevant variance, where the items are too vague, and capture the relevant dimensions in addition to other, unrelated dimensions that are not of interest. In either instance, a fundamental feature of questionnaire development should be the purposeful creation of items, with proper consideration given to each items' theoretical underpinning, and its relevance to the overarching domains of interest to ensure strong content validity. To do so, the development process should involve a comprehensive approach involving multiple steps and various methods (Messick, 1995).

The entirety of the questionnaire development process can be separated into two prominent phases: questionnaire (a) conceptualization and development and (b) standardization and validation (Kyriazos & Stalikas, 2018). The conceptualization and development phase encompasses building the measure by engaging with theoretical concepts, establishing a proposed structure for the questionnaire, and writing the most appropriate items for the target population (Chadha, 2009). Once a proposed questionnaire is put forth, researchers can engage in the standardization and validation phase, which could include a range of approaches to test for example, the structural, convergent, and/or discriminant validity of the scale (Kyriazos & Stalikas, 2018). Across these two general phases, researchers will have different considerations, often spanning theoretical or empirical advances or practical or market need (Irwing & Hughes, 2018). Depending on the main objectives, certain phases may be accentuated or overlooked, which has been showcased in Table 1. For example, Furr (2011) considers five phases in questionnaire development, with no apparent focus on establishing early content validity. While all examples place an emphasis on setting or defining the construct, only two of the chosen six examples highlight the importance of an expert review (e.g., DeVellis, 2017; Irwing & Hughes, 2018). Concerningly, none of the examples chose to highlight the importance of involving the

test demographic for the purpose of item readability and understanding prior to their large scale, validation studies. As evident by these examples, many questionnaire development procedures tend to place an emphasis on later phase item validity, rather than establishing early content validity.

Table 1

The Questionnaire Development Process as Considered by Multiple Sources

Source	Developmental Phases
Crocker & Algina (1986)	
DeVellis (2017)	
Furr (2011)	
Streiner et al., (2014)	
Price (2017)	
Irwing & Hughes (2018)	

Note. Table adapted from Kyriazos and Stalikas (2018).

2.3.1 Questionnaire Conceptualization and Development Approaches in SEP

Although SEP questionnaires have been developed using a variety of methods, the initial item development phase can be reduced to two sub-phases: (a) item generation and (b) item review (e.g., establishing content validity through participant and expert reviews). Initial item generation is typically based on exploring and applying existing research or conceptual

frameworks to address specific latent variables. For example, in developing the Sport Team Socialization Tactics Questionnaire (STSTQ), Benson and Eys (2017) conceptualized 78 initial items from existing organizational socialization research and qualitative work exploring socialization tactics among sport teams. Similarly, Harenberg et al. (2021) proposed a conceptual framework of positional competition and along with the existing literature on competition in sport, developed 127 initial items for the Positional Competition in Team Sports Questionnaire (PCTSQ). In these examples, both research groups developed items through deductive and inductive methods, a strategy recommended in the literature (see Boateng et al., 2018). Deductive methods consist of describing the domain of interest through literature reviews and assessing relevant questionnaires (Hinkin, 1995), while inductive methods involve generating items through the responses of individuals, for example, qualitative data obtained in focus groups or interviews (Morgado et al., 2018). A combination of deductive and inductive methods allows researchers to accurately define the domain (deductive) while moving from a definition to its conceptualization outside of the abstract point of view (inductive; Boateng et al., 2018). Therefore, it has been suggested that developing items through initial engagement with the available and relevant literature, followed by involving participants of interest for the purpose of establishing content validity is an appropriate beginning strategy (Boateng et al., 2018).

For item generation, it is recommended to over-develop an initial item list. Considering the examples above, Benson and Eys (2017) initially developed 78 items and completed their development with 13 items, while Harenberg et al. (2021) initially developed 127 items and concluded with 25 items. Guidelines have been to initially develop over double the desired number of items (Kline, 1993; Schinka et al., 2012), largely because doing so allows for identifying problematic items and refining unclear or ambiguous items (e.g., Benson & Eys, 2017; Eys et al., 2009). Typically, among SEP researchers, initial item refining is completed in

the first phase among the research team to begin the process of establishing content validity before progressing to the item review phase.

The item review phase, or establishing content validity, is critical to ensuring that the items are measuring what they are intended to be measuring (DeVellis, 2012). One strategy among SEP researchers that have developed questionnaires is participant reviews. Often, these participant reviews are meant to provide insight into how the target demographic perceives the initial items by highlighting items of concern (e.g., confusing, ambiguous) and how the participant may choose to respond to the items. For example, in their participant review, McEwan et al. (2018) completed retrospective think-aloud focus groups with athletes who were asked to read their proposed questionnaire. Such protocols allow participants to describe a level of substantive validity (i.e., how the participant understands, makes sense of, and responds to the item), so have been adopted by several researchers in SEP using focus group (Eys et al., 2020) or one-on-one interview (Benson & Eys, 2017) approaches. Based on participant responses, items are refined or removed and then used for the next development phase.

After completing the participant review, different approaches in SEP have been adopted. For example, researchers have tested the proposed items using large-scale factor analysis (i.e., Eys et al., 2020) or have engaged topic experts for additional review. For example, McEwan et al. (2018) recruited eight experts in SEP to review their remaining items to maximize content and substantive validity. Similarly, Harenberg et al. (2021) recruited seven SEP experts to test the content relevance of their items. Generally, SEP scholars who employ an expert review are interested in the items' impression and whether the items' fit within the proposed dimensions. To do so, researchers share the list of items with the experts along with directions to review each and their fit to the proposed domain (see Harenberg et al., 2018; McEwan et al., 2018). This expert review can be a one-time review as demonstrated by Harenberg et al. (2018) or can be structured

similarly to that of a Delphi Method, a strategy for coming to a group consensus which involves multiple rounds of reviews (Boateng et al., 2018), as demonstrated by McEwan et al. (2018).

Although the Delphi Method is typically meant to gather more information from the experts, the process is time intensive, and requires experts to meet in the same physical or virtual location (Boateng et al., 2018). As the recruitment of experts is guided by exploring more content and substantive validity, scholars should consider recruiting experts for more meaningful and purposeful engagement for their reviews. For instance, a method to leverage the knowledge of the experts in a more time sensitive way while also benefiting from in-depth conversation could be the expert interviews. This purposeful engagement may ensure that the research team clearly understands expert comments and suggestions and that further discourse surrounding expert decisions is explored.

2.4 Methods of Measuring Subgroups in Related Fields

As noted previously, the exploration of subgroups is a complex endeavour for many reasons, ranging from understanding the term itself (e.g., subgroups vs. cliques vs. peer groups) to recognizing and distinguishing between informal and formal peer groupings (Kindermann, 2007). SEP is not alone in this line of thought, as related fields have recognized this complexity. Specifically, in child and adolescent psychology, Brown and Dietz (2009) recognized an inability to reach consensus on how to measure peer groups best while further considering the difficulty of identifying naturally occurring cliques has led to a paucity of work. In organizational psychology, research surrounding subgroups has been stimulated since the advancement of Faultline Theory (Lau & Murnighan, 1998); however, no measures currently exist to measure subgroups directly (Carton, 2011).

Nonetheless, given the complex nature of subgroups, and the unique variations among research fields, multiple methods have been employed for their investigation. A popular method of subgroup exploration is having members identify their closest friends to create a social

network, or sociometry, analyses (e.g., Bagwell et al., 2000). Additionally, researchers have used social-cognitive mapping, where a small selection of members from the superordinate group are asked to describe various subgroups among the larger group (Cairns et al., 1985; Robertson et al., 2023). Also of interest, researchers have attempted to explore the formation and associated implications of subgroups through systematic observation; however, this method is considered limited as to its appropriateness (e.g., cannot observe subgroup position, cannot capture team members perceptions; Brown & Dietz, 2009; Eder, 1985; Robertson et al., 2023).

Finally, there have been minimal attempts to explore subgroup perceptions through self-report questionnaires. Among the child development literature, Kiesner et al. (2002) asked children seven unique items (i.e., it is important for you to belong to this group?) to understand their level of identification with a subgroup they previously identified. Here, the authors combined these self-report responses with other measures, including peer status (i.e., self-report hierarchy) and problem behaviours (i.e., Youth-Report Questionnaire; Dishion et al., 1984) to conclude that peer status, not group identification, covaried with individual-group similarity on problem behaviours. Notably, the authors cautioned that the seven items intended to measure children's subgroup identification did not specify the type of relationship the child might be experiencing (e.g., high identification but little to no in-group support), nor did the items explain the out-group children's perceptions of the identified group (Kiesner et al., 2002).

Similarly, within the organizational psychology literature, Earley and Mosakowski (2000) asked employees two items related to how they perceived the formation of various subgroups in their workplaces. These items were analyzed, along with various other measures, as part of a three-study design to explore how workplace composition impacted performance and to identify any mediating variables that could explain the impact. Given the discussion surrounding subgroup complexity, it is perhaps not surprising that Earley and Mosakowski (2000) concluded that the process underlying teams and the workplace are more complex than initially anticipated.

The authors concluded that their items did not accurately represent their chosen theoretical framework dimensions, including factors such as cultural background and nationality, among others, and future research should consider more refined items (Earley & Mosakowski, 2000).

Considering sport research, despite a lack of scales that assess the perceptions of subgroups, there are noted measures that explore various behaviours highlighted in the subgroup in sport framework. For example, Kavussanu & Boardley's (2009) scale assesses different prosocial and antisocial behaviours concerning other teammates and opponents. When comparing to the conceptual framework for subgroups in sport, these behaviours appear to align with the components of citizenship behaviour, where items such as "congratulate teammates for a good play" relate to the ideas of being a good teammate and going above and beyond a defined role (Kavussanu & Boardley, 2009). Similarly, the Organizational Citizenship Behaviour Checklist (OCB-C; Fox et al., 2012) directly assesses citizenship behaviours in a business or organizational environment. Although not directly generalizable to the sport context, these items highlight behaviours aimed towards the superordinate workplace (i.e., team) or the individuals within the workplace (i.e., teammates). Therefore, although these scales do not explore subgroup perceptions, nor are encompassing of subgroups in general, they do appear to assess components outlined in the conceptual framework for the perceptions of subgroups in sport (McGuire et al., 2022), and as a result, are of particular interest.

Overall, subgroups have been explored through many methods; but have yet to be explored through a complete, validated questionnaire. Further, studies outside of SEP have attempted to measure elements related to subgroups (i.e., group identification and formation) through self-report items, with a mixture of success. As Robertson et al. (2023) note, given subgroup complexity, there is unlikely to be a best approach to subgroup exploration; however, developing a questionnaire targeted at the perceptions of subgroups is a novel approach that can aid future researchers in further subgroup exploration.

2.5 Summary of the Literature and Purpose of the Study

To date, researchers interested in sport-based subgroups have explored their formations and impact through qualitative methods (Martin et al., 2015; Saizew et al., 2021; Wagstaff et al., 2017). Although these studies have garnered a wealth of information that has culminated into a conceptual framework (McGuire et al., 2022), researchers have suggested that psychometrically sound questionnaires are critical for the understanding and advancement of constructs (e.g., Carron et al., 1985; McEwan et al., 2018). Scholars have even argued that validated measurement tools are ‘essential to science’ (Tenenbaum et al., 2012) and fundamental to the advancement of knowledge (Carron et al., 2012). In relation to subgroups, developing a questionnaire could aid in the necessary transition from theory to practice while also furthering research with the proposed framework (i.e., McGuire et al., 2022). As a result, a questionnaire could allow researchers to explore when and why athletes see subgroups as beneficial or detrimental and understand their relation to important team processes (e.g., communication, leadership) or emergent states (e.g., cohesion, collective efficacy).

In addition to advancing the current line of subgroup inquiry, this thesis will begin the process of establishing questionnaire validity (e.g., Messick, 1995). By appreciating various forms of validity (content validity, McEwan et al., 2018; substantive validity, Messick, 1995), we recognize that questionnaire development is a process, often extending beyond a single study. This research will begin a process consisting of various contexts and participants. Specifically, my research will explore the first phase of questionnaire structure and item development, concluding with their appraisal of content and substantive validity.

Chapter 3

Method

3.1 Qualitative Methodology

This research was led by a critical realist (CR) approach concerning the understanding of experts' and athletes' perceptions of subgroups. Broadly, a CR approach to research distinguishes between the 'real' world and the 'observable' world by emphasizing an objective reality (Fletcher, 2017; Maxwell, 2012). Additionally, an important principle of CR is that ontology is not reducible to epistemology, or in theory, that individuals cannot interpret the objective reality as an individual's 'truth' is created through their unique subjective experiences (Fletcher, 2017; Maxwell, 2012). Specifically, CR assumes three key levels of reality: the empirical, actual, and real levels. Generally, the empirical level of reality involves events as we experience them, the actual level is concerned with the level of reality with no filter of human experience, while the real level of reality recognizes that structures, or causal mechanisms exist (Fletcher, 2017). Importantly, the structures or causal mechanisms of the real level often lead to the observed events of the empirical level (Fletcher, 2017).

Concerning this research, I, along with previous research, assumed subgroups to be an inevitable feature of sport teams that result from a myriad of factors and that athlete experiences with those groups can vary widely (Martin et al., 2015; McGuire et al., 2022). Notably, Fletcher (2017) described CR as theory-laden, rather than theory-dependent, which allows one to identify the motivations for observed phenomena or events. As such, I operated under the assumption that athletes would interact with other athletes in unique ways, with their interactions and grouping tendencies forming because of their individual, subjective experiences, while generally being explained by previous theories (e.g., Faultline theory, ODT). Similarly, when interviewing experts and athletes, I assumed that each participant would share their subjective experiences with either the research process or sport experiences, specifically pertaining to subgroups.

3.2 Positionality

As I assume a CR approach, it is important to reflect on my positionality as a researcher and former ice hockey athlete, and how these experiences may impact the research process. As researchers who consider a CR approach assume that unobservable structures cause observable events, my experiences with youth sport can influence my interpretations and representations of the data and findings. For example, I competed at an elite level of ice hockey as a goaltender. Early in my career, I was determined to be perceived as a good and reliable teammate, and later in my career, I was called upon to serve in a formal leadership role. As a result, I deliberately and inadvertently became a member of various subgroups with differing goals and intentions. For example, as a new member of a team, I was eager to earn the trust of my teammates and coaches, so I acted in ways that I perceived as positive and actively surrounded myself with like-minded people. Later in my career, I was perceived by the new players, established teammates, and coaches as a member of the veteran core. Therefore, in completing this research surrounding subgroups, I have a unique perspective on subgroup formation and their impact on athlete experiences. Mainly, the experiences I have carry the potential to influence this research positively and negatively, so it was important to be aware of these previous experiences and to discuss them with co-authors throughout the process.

3.3 Design

The research design was developed in line with previous questionnaire development approaches, with a focus on including purposeful strategies for establishing content validity. For example, approaches to establishing content validity have often entailed the distribution of review packages to content experts for their review without follow-up (see Benson & Eys, 2017; McEwan et al., 2018). Expanding this phase of questionnaire development could enhance the quality of feedback received and further add confidence to the overall questionnaire.

Therefore, we employed a three-phase qualitative design. Phase 1 involved investigating the available subgroup literature among sport and related domains (e.g., organizational psychology, social psychology) and assessing potential items from established questionnaires from distinct yet related constructs. From this exploration, working group meetings among the research team were held, and an initial questionnaire structure and proposed items were developed to establish content validity in the remaining phases. In Phase 2, topic experts were recruited for a two-step review. This phase included the review of the proposed questionnaire structure and preliminary items for their fit against the suggested subgroup domains and a follow-up semi-structured interview to allow the experts to discuss their comments and suggestions. Once the interviews were completed, the questionnaire structure and items were reviewed and revised by the research team. In Phase 3, the revised questionnaire was discussed with U Sport athletes using one-on-one semi-structured think-aloud interviews. Through the think-aloud approach, athletes were prompted to share their responses to questions and to describe what they were thinking and why they answered in particular ways. This approach is ideally suited for exploring how participants interact with the questionnaire structure and items (Ericsson & Simon, 1980; Wolcott & Lobczowski, 2021). Upon completion of these interviews, the questionnaire was revised, and a proposed version was finalized (see Appendix K).

3.4 Participants

Given the nature of the project and its aims to establish content validity and topic representativeness, five group dynamics experts (3 male; 2 female) were purposefully recruited. These experts held academic positions at universities in Canada ($n = 3$), Ireland ($n = 1$), and the United States ($n = 1$) and two also identified as active mental performance consultants. These individuals were intentionally recruited because they had been previously involved as experts during the conceptualization of subgroups (i.e., McGuire et al., 2022) and had experience with

questionnaire development. Experts held an average of 9.6 years ($SD = 5.72$ years) experience in a professor position at varying levels (assistant, associate, or professor).

To ensure that multiple university sport perspectives were being represented, seven athletes (4 male; 3 female) between the ages of 22 and 28 ($M_{age} = 24.85$ years, $SD = 2.19$ years) were recruited to participate in one-on-one semi-structured think-aloud interviews. On average, athletes had competed on their team for 4.28 years ($SD = 2.138$), mentioning that they had competed in their sport for most of their lives. In Canada, athletes who compete in the U Sports system have up to five years of eligibility; however, due to the COVID-19 pandemic, an extra year was granted to all sports (except Football, which carries an age cap; COVID 19 FAQ, 2021).

The athletes represented a mixture of interdependent (e.g., ice hockey) and independent (e.g., squash) sport types. Despite belonging to an interdependent or independent sport, athletes inevitably interact with other members of the team to achieve a common goal (e.g., performance, increase ranking; Evans et al., 2012; Podlog, 2002). The athletes self-identified their leadership status (formal = 4; informal = 3) and noted their highest levels of competition beyond sports, which included national and professional levels. The sports involved included American football, artistic swimming, ice hockey, rugby, soccer, and squash.

3.5 Expert and Athlete Interview Guides

Each expert interview started by asking the expert for their general perceptions of the distributed review document. This prompt allowed for experts to share their initial thoughts regarding the document, and allowed us to work progressively through the document, asking questions about the different sections. Although the order in which questions were approached varied between experts due to their initial perceptions, experts were asked questions including: ‘what are the importance of specific task and social behavioural items?’ and ‘does item outcome matter, for example, items ending in teammates versus my team?’, among others. These interviews followed an iterative process, meaning that topics of interest noted in the early

interviews were flagged for experts in the later interviews. In each interview, experts were consistently probed into their responses to understanding the experts' rationale and reasoning. Interviews concluded with an opportunity for the experts to share any final comments about the document, discussion, and to offer any final suggestions.

At the beginning of the think-aloud interviews, athletes were asked demographic questions (see Appendix C). From there, I used a general semi-structured interview guide. The guide structure was developed in collaboration with the research team, which was guided by previous interviews with the experts, in addition to the available literature (e.g., McGuire et al., 2022) and sport questionnaires (e.g., Eys et al., 2020a). The first portion of the interview guide was developed to build rapport and give the athlete more contextual information about what was expected during a think-aloud interview. As the athlete interviews were rooted in a think-aloud procedure, the guide was developed to reflect this approach, including open-ended questions that prompted the athlete to provide a detailed response (e.g., "Can you tell me in your own words what we are saying in the preamble?"). The first interview was scheduled as a pilot; however, the athlete matched the recruitment criteria, and the interview was completed successfully, therefore the data were used for analysis. After the first interview, only minor changes were implemented to the interview guide, such as condensing the welcome paragraph, adding another demographic question ('what is your current position on the team?'), and refining the flow of the interview by sharing screen.

The remainder of the interviews were completed iteratively; therefore, there were slight deviations from the guide as they progressed. For example, when reviewing specific items within the questionnaire, athlete who were interviewed early highlighted specific issues. In the later interviews, the guide was adapted to include specific questions regarding these identified issues (e.g., Can you describe, in your own words, what "work" means to you?). When athletes asked for clarification with wording or context, I attempted to remain neutral and provide only relevant

information so as not to influence their response. The final portion of the interview guide provided an opportunity for athletes to describe anything they felt relevant but that was not covered in the discussion (e.g., was there anything left out that you feel is important?).

3.6 Procedure

This research was completed in three phases involving literature and questionnaire reviews and research team collaborative meetings (Phase 1), topic expert document review and follow-up interviews (Phase 2), and athlete think-aloud interviews (Phase 3).

3.6.1 Phase 1: Questionnaire Development

Phase 1 began in collaboration with my supervisor, Dr. Luc Martin, where we began to conceptualize the necessary components of a subgroup questionnaire. From these conversations, I began engaging with the available literature on subgroups in sport and other related contexts (i.e., organizational psychology, social psychology, education), intending to develop an overarching questionnaire structure and preliminary items that explored how athletes perceive subgroups within their teams. I began cataloging and sorting the available literature from search engines such as Google Scholar and PsycINFO. Relevant articles were saved and labelled in relation to their relevance to subgroups. Guided by the available literature and meetings with the research team, general trends and ideas were noted regarding the potential questionnaire structure and as a potential basis for items.

After a first draft of the questionnaire structure and basic items were developed, I met with my supervisor and other research team members over three months to reconsider the items, their orientations, and the base structure and layout of the questionnaire. These discussions resulted in a preliminary 21-page package for the purpose of the Expert Reviews (See Appendix F). The package, alongside the proposed questionnaire structure, contained the subgroup framework and dimension descriptions (e.g., McGuire et al., 2022), the proposed questionnaire preamble, and 71 preliminary items for review. The preliminary items were grouped into two

main sections (subgroup observability and behaviours), each containing two sub-sections reflecting the domains of the subgroup framework (McGuire et al., 2022). Within the observability section, the sub-section ‘surface-level’ contained 10 items while ‘deep-level’ contained 5 items. Among the behaviours section, ‘citizenship behaviour’ contained 35 items while ‘alignment’ contained 21 items.

3.6.2 Phase 2: Expert Input

After gaining ethical approval from the institutional research ethics board (See Appendix D), I invited experts to participate in the study. Within the initial invitational email (See Appendix G), experts were informed of the current research project and provided with a letter of information (See Appendix H). All experts who were contacted agreed to participate. Once a time was set for the interview, the review package was sent via email with instructions to complete their review before the interview. On average, the experts had two weeks to review the attached package before the interviews.

The interviews were co-led by Dr. Luc Martin and me, each beginning with a brief recap of the package by the researchers and the expert’s initial reaction to the content. The experts were prompted to give their overarching thoughts on the package, which provided directions for the remaining conversation in every interview. These interviews lasted, on average, 56 minutes ($SD = 9:32$), all of which were audio and video recorded using Zoom (version: 5.14.11) and transcribed verbatim

3.6.3 Phase 3: Athlete Review

I recruited university-level athletes through word of mouth and existing relationships. Athletes were sent a recruitment email and a combined letter of consent and information (See Appendix E). I conducted all the athlete interviews, which provided insight into the question content and presentation of items, including the scaling and order of the options through participation in think-aloud interviews (Eys et al., 2020a). Think-aloud interviews and their

umbrella term ‘cognitive interviewing’ have been used successfully for questionnaire development and improvement in the sport domain (e.g., Benson & Eys, 2017; Eys et al., 2020a; McEwan et al., 2018). Think-aloud interviews aim to understand athletes’ in-the-moment thought processes rather than those that develop after reading the items and are dependent on memory (Ericsson & Simon, 1980; Wolcott & Lobczowski, 2021). This approach allowed me to evaluate whether athletes comprehended the proposed items as intended (Dietrich & Ehrlenspiel, 2010). Given that a think-aloud protocol can be helpful in pre-testing items against sources of error in responses (Willis, 2004), the overarching aim of this phase was to improve item wording and order by revising or removing any items of concern. It is also worth noting that involving athletes in the development process is beneficial for ensuring that items are relevant to those eventually completing the questionnaire (Martin et al., 2012).

Each interview took place over Zoom (version: 5.14.11) and began with rapport building conversation. Once the interview began, participants were asked to follow along with a version of the questionnaire, displayed through my shared screen. This required the participant to say what their response would be verbally and to explain why. These conversations lasted, on average, 58 minutes ($SD = 11$ minutes), all of which were audio and video recorded and transcribed verbatim.

3.7 Analysis

I identified themes across expert and athlete responses, intending to highlight items of concern while discovering broader issues and complications with the proposed questionnaire structure. In doing so, most of the engagement with theoretical principles and data analysis occurred in Phases 2 and 3. In exploring the data, I employed a CR approach to data analysis (Fletcher, 2017), meaning I recognized an external reality independently of personal beliefs (Ritchie et al., 2013). Using the approach advanced by Fletcher (2017), data analysis occurred in three stages: 1) identifying demi-regularities (i.e., creating themes), 2) abduction (i.e., redescribing themes informed by theory), and 3) retroduction (i.e., comparing findings to existing

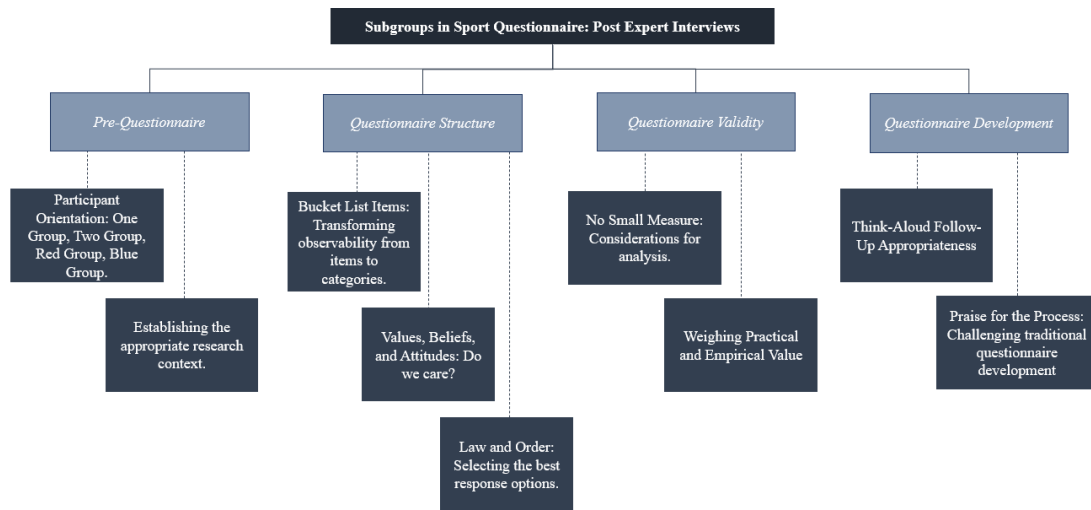
theories). Additionally, the research team used a retroductive epistemological approach to analysis that helped explore which models, or subdomains of models, might have produced the observed results in the athlete interviews (i.e., why did the athletes respond the way they did?; Ritchie et al., 2013). In doing so, the research team compared each of the athletes' responses to the items against the four proposed subdomains and other relevant theories to strengthen the conceptualization of athletes' perceptions of subgroups and their experiences, in conjunction with their perceptions of the item order and clarity.

3.7.1 Expert and Athlete Interviews

During the expert input phase, data analysis was largely abductive, meaning that I synthesized and collated the experts' suggestions. I familiarized myself with the data by watching the recorded interviews and transcribing each audio file. From each transcribed interview, I began identifying any demi-regularities from participant responses. Then, I began extracting the relevant codes (i.e., segments of text) that best represented previous theory or understanding (i.e., alignment with McGuire et al., 2022 or agreement with previous works). All coding was completed using Microsoft Excel Version 2305 (build 16501.20228) and was cross coded by colour to identify trends across participants, similar to a visual 'heat map.' From here, the research team discussed the codes and provisional themes were developed (See Figure 2). These themes were used to inform the research teams' decisions to revise the questionnaire structure, orientation, and item content, order, and scaling.

Figure 2

Expert Interview Provisional Themes



At the empirical level, I engaged with the audio records and transcripts from the athlete interviews alongside McGuire et al.'s (2022) conceptual framework to map the athlete's perceptions and understanding of the questionnaire to the underlying structure of item clarity and appropriateness. While coding, I noted emerging trends and discussions of interest by re-engaging with multiple interviews, a process known as a directed coding approach, which is the process of scanning for trends in the data (i.e., unclear items, inappropriate rating scales) while actively engaging with theory to identify explanations for participants' experiences (Fletcher, 2017; McGuire et al., 2022). Notes and emerging trends were then compiled, which led to changes within the questionnaire (e.g., shortening response scale).

3.8 Methodological Rigour

Throughout the research process, many steps were taken to improve rigour while maintaining alignment with the stated philosophical approach. For example, I took steps to ensure that I focused on the credibility, transferability, dependability, and confirmability of the data and the research process (Lincoln & Guba, 1985). Credibility was emphasized by engaging in methodological triangulation and prolonged engagement. Methodological triangulation, or

‘Method’ triangulation for short, uses multiple methods to collect data (Carter et al., 2014). This process was applied where information was gathered through literature reviews and research team brainstorming meetings (Phase 1), interviews with experts providing commentary and feedback (Phase 2) and think-aloud athlete interviews (Phase 3). Further, method triangulation can be distilled into the process of theory triangulation. As Carter et al. (2014) noted, theory triangulation is the process of employing multiple philosophical theories to support data. In this research, I applied subgroup-specific theories during Phases 1, including The Optimal Distinctiveness Theory (ODT; Brewer, 2012) and Faultline Theory (Thatcher & Patel, 2012) to understand subgroup formation.

For credibility, I engaged in the technique of prolonged engagement. Broadly, prolonged engagement is the qualitative technique of spending extended periods with participants, data, or theory to allow the researcher to build trust and remove instances of misinformation (Lincoln & Guba, 1985). In Phase 1, I spent over five months engaging with the available subgroup literature, relevant established questionnaires, and members of the research team to develop a preliminary questionnaire structure and item list.

Although qualitative research does not aim for direct replicability (Stahl & King, 2020), I employed a purposeful sampling technique to establish transferability to other contexts. Purposeful sampling allows researchers to select invested, knowledgeable, and experienced participants in topics of interest (Cresswell & Plano Clark, 2011). Such approaches allow for the most effective use of limited resources while gaining a breadth of understanding (Patton, 2002). I purposefully recruited participants in Phase 2 who were experts in group dynamics, had experience in developing measurement instruments, and had a strong working understanding of the subgroup conceptual framework. In Phase 3, I purposefully recruited athletes of differing ages, genders, and sport types to ensure a wide breadth of sport types and athletes were represented.

Dependability is the idea that trust is built between researchers and the individuals using the research. Lincoln and Guba (1985) argue that this trust, or dependability, can be constructed through solid communication channels, such as peer debriefing. Peer debriefing involves recruiting another invested researcher to read the available notes, data, and interpretations to create an outside conclusion on its meaning (Stahl & King, 2020). To establish dependability, I engaged academic peers to review the preliminary structure of the questionnaire, review the list of items, and offer opinions on my interpretation of previous theory (Phases 1 and 2), and athletic peers to offer suggestions regarding the wording of the think-aloud interview guide (Phase 3).

Confirmability is concerned with ensuring that the results presented are representations of the participants' ideas and experiences rather than the researcher's preferences (Kennedy-Clark, 2012). Here, researchers can note their predispositions and recognize their potential effects on the research (Miles & Huberman, 1994; Shenton, 2004). I employed reflexive auditing or the process of describing my involvement (the researcher) in the decisions that impacted the research process. This reflexive audit occurred in the form of an ongoing journal log that was updated after each research group meeting and each major phase (e.g., thesis proposal, phase completion).

Chapter 4

Results

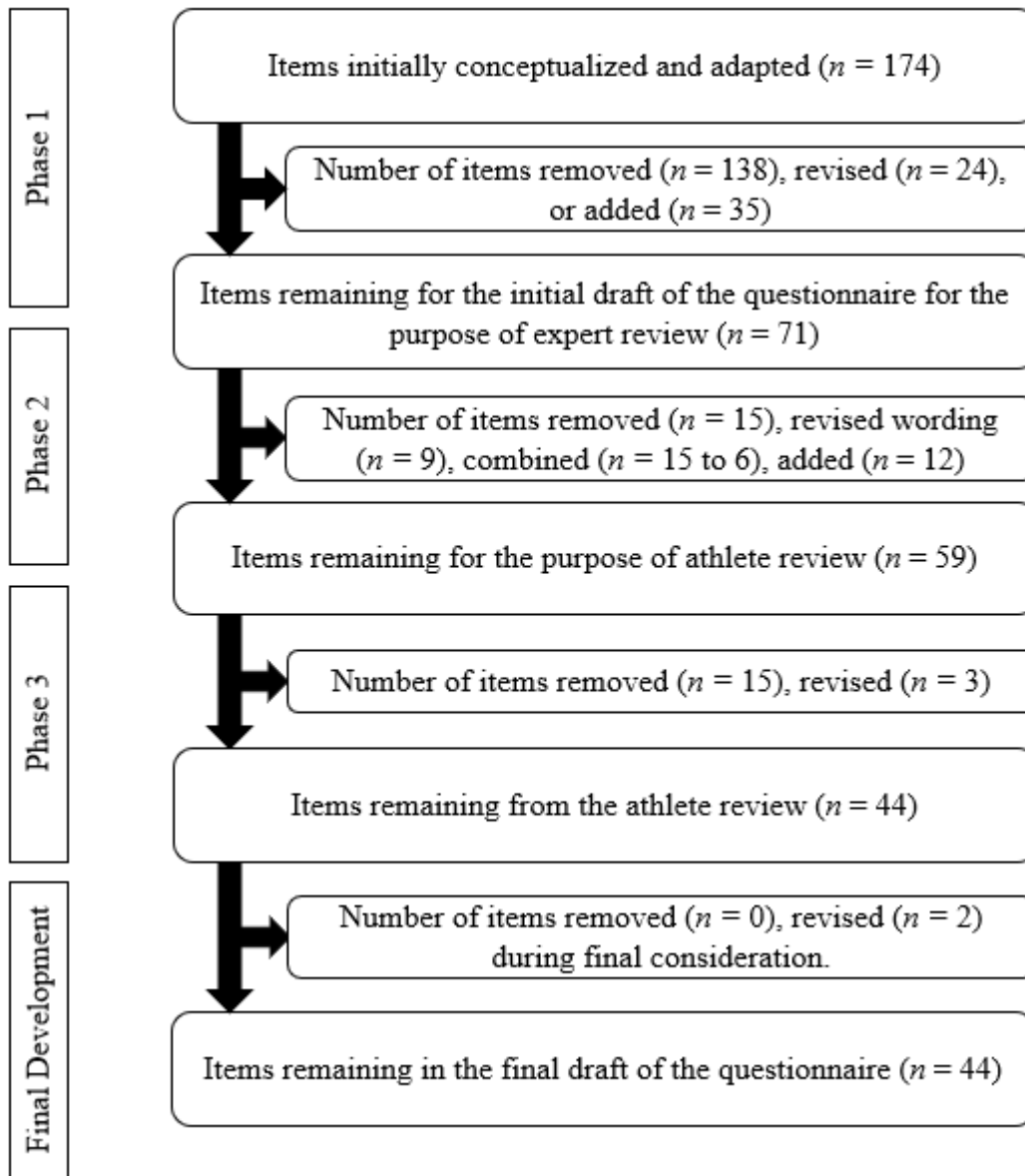
4.1 The Questionnaire Development Process

Developing the questionnaire was an iterative process involving three phases. The initial structure and proposed questionnaire items for expert review resulted from direct engagement with the available literature and research group meetings. The expert review phase offered a variety of perspectives concerning the proposed structure and orientation of the questionnaire, in addition to item content and format. The third and final phase involved athletes and presented valuable insight regarding the readability and understanding of the questionnaire. Overall, specifics related to item refinement and deletion are represented in Figure 3 and are discussed throughout this section.

Given the complex nature of questionnaire development and the iterative nature of the process, the results section will present the current proposed questionnaire, with each section including a description of how the process resulted in its current form. As such, sections will involve the opening questionnaire preamble, the introductory items, and the subgroup observability and behavioural items. In addition, because experts and athletes were included to a greater extent than what is typically done with questionnaire development, brief notes about the benefits of this approach will be advanced. Throughout, quotes are included with non-identifiable participant codes (e.g., expert reviewer 1 = ER1).

Figure 3

Item Refinement and Deletion Throughout Questionnaire Development



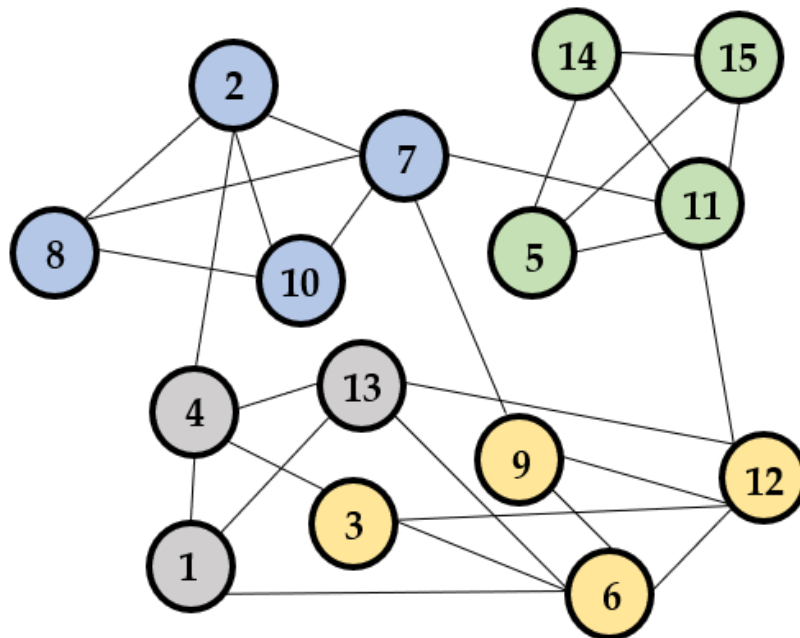
4.2 Questionnaire Preamble

The questionnaire preamble was developed in Phase 1 to establish background information surrounding the topic of subgroups for participants. Initially, the preamble included in-depth information, including what constitutes a subgroup, how subgroups might behave in

different situations, the potential outcomes of these behaviours, and an initial figure for visualizing subgroup member connection (see Figure 3). The final preamble from Phase 1 included this information along with an updated visual representation of subgroups within a team. From this visual representation, the preamble text was shortened to only include messaging surrounding topics such as task and social aspects of subgroup formation, and an addition was made to include what would be expected of questionnaire respondents (see Figure 4).

Figure 4

Initial Visual Representation of Subgroups Among a Single Team



In Phase 2, experts agreed with our wording that subgroups may form surrounding task-related objectives (i.e., a leadership group) or social similarity (i.e., a friend group). However, several experts noted that future researchers may want to explore questions related to the specifics of task or social-based subgroups. Specifically, experts noted that the distinction might only need to be made depending on the desired research question from the researchers:

I wonder if it might be research question specific. So, depending on what your aims are, for example, you want to find out the impact of a certain type of subgroup on performance

or whatever. I wonder if that might be how you set the context, so you might directly ask for task-specific groups or social-specific groups, depending on what research question you're looking at. I think you could get an athlete to look at [the preamble], and they may be getting a little bit of direction to say, okay, what? What are they interested in, and what can I zero in on, and maybe not conflate different subgroups that might have different purposes? (ER3)

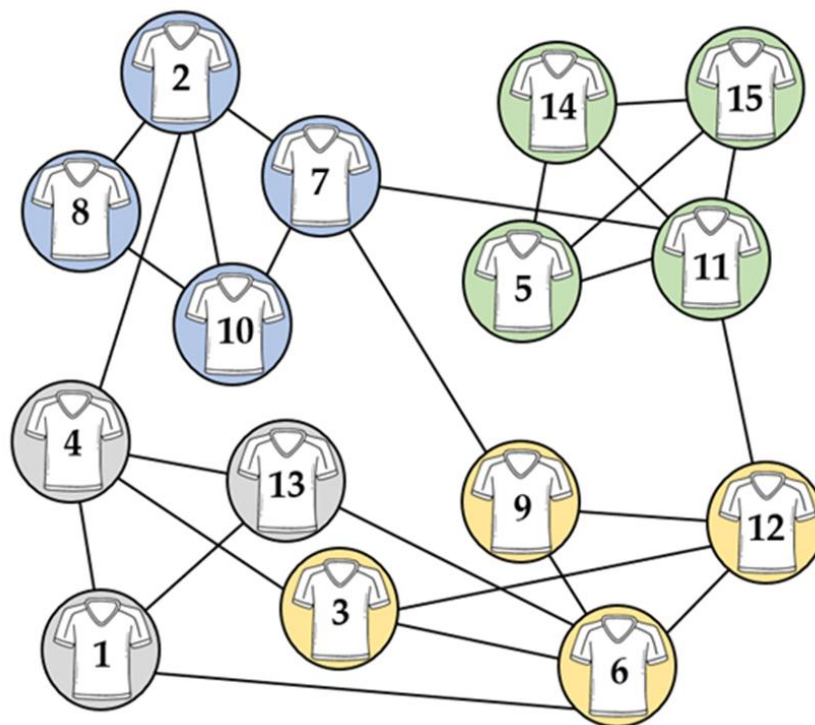
Figure 5

Final Preamble Wording and Visual Representation of Subgroups Among a Single Team

Preamble

Within the following questionnaire, we are asking questions about the 'subgroups' within your team. Specifically, we do not believe that all members of a sport team can interact the same amount, so it is natural for a team to be composed of smaller groupings of members, or in other words, subgroups. For example, the image below portrays a hypothetical interaction pattern among members of a team. As you can see, the 15 group members could interact with others based on several reasons spanning **task** or **social**-related factors. For instance, **task-related factors** could stem from players of similar positions, starters and non-starters, leadership groups, etc. They could also be based on **social-related factors**, such as social activity preferences and friendships.

*In the following questionnaire, we will ask you a series of questions about the **characteristics of the subgroups** in your team and how **their members generally behave**. Additionally, we will ask you about **your involvement** with subgroups in your team and how your subgroup behaves. Please know there are no right or wrong answers, and we are simply interested in your personal perceptions and experiences.*



Continuing with the idea that the preamble might be best suited and tailored to the research question, experts discussed what to include within the preamble based on a particular research question and concluded that a researcher manual could be useful:

I guess if you're [going to] do a manual sort of thing for such a sort of measure. Yeah. ... It gives it one of those things you can give the researcher the option like, "hey, if you're interested in these things, here's a piece you can do." If it's not really their [research] interest, they collapse them. You can ask them on the side, but you know you may say again it's just sort of guidelines. (ER3)

Experts recommended that including a description of task and social-based subgroups was warranted for the participants to engage with; however, if the research question was explicitly meant to explore one type of group over the other, the researchers should have the flexibility to choose what to include and tailor the preamble accordingly (i.e., emphasize task/social groups).

Although the preamble wording remained unchanged, the visual representation was modified based on recommendations to be more representative of a sport team. This change included modifying each coloured circle to a sport jersey to represent the superordinate team and include the colour shading behind each jersey to denote subgroups.

During Phase 3, I probed athletes about the preamble. Mainly, I was interested in whether they could distinguish between task- and social-based subgroup formation. Athletes generally had a firm grasp of what the preamble was attempting to convey: "You're trying to understand different groups in teams and maybe why people connect together, and why there are those different types of groups within a team" (A7). Further, when probed on the connection between preamble paragraphs and the preamble image, athletes tended to agree that it was an accurate portrayal of what was being said:

I feel like it's very clear. I like how you've shown it in different ways. So, for example, the colours which I think might represent subgroups. Some of the groups are physically closer or farther than each other, and then the lines, and show kind of relationships. Using a jersey, you still get the idea that these are all members of one team. (A6)

When developing the questionnaire preamble, the main objective was to convey what subgroups are, the various general reasons they form, and to represent these ideas in writing and visually. Through these changes, it is believed that the preamble accomplishes this objective and provides respondents with appropriate information to proceed with the questionnaire.

4.3 Introductory Questions

To assess perceptions of subgroups, an important first question for the research team was whether we wanted to obtain general perceptions or if we needed to determine the 'type' or 'characteristics' of the subgroups that respondents were considering. It was deemed that understanding the participant's orientation would be critical. Immediately following the development of the preamble, I, along with the research team, sought to create introductory questions that allowed researchers to gain insight into the subgroups that respondents were thinking about. We created four introductory questions during meetings in Phase 1. The items were preceded by the statement "Before you begin answering questions on this questionnaire, we would like to understand how you see your team." The items were: "When you think about subgroups on your team, how many subgroups are you thinking about?" and "How many people are in the subgroups that you are thinking about, on average?" The remaining two items were centred around the respondents' perceptions of these subgroups: "Generally, do you think these smaller groups are good or bad?" and "Place a circle on the arrow that best describes how you generally see the majority of the subgroups on your team."

Experts reviewed the four items and noted the lack of opportunity for the participant to describe what subgroups they were thinking about, including any follow-up considerations and what the subgroup influences on the superordinate team could be:

I was kind of confused when I went through everything because I didn't know if I was supposed to focus on one group throughout all of this. Am I supposed to focus on subgroups in general? So, I feel maybe there could be some clarity on that because, you know, if you're asking me about subgroups, I'm probably [going to] be reporting on the mean of all subgroups on my team. (ER5)

All experts reiterated confusion around the introductory questions, and one also noted the complexity of the respondent's potential involvement in some of the identified subgroups:

So, when they [are] asked, would they answer these questions for every subgroup they identified? ... It might be helpful to put [an orientation] somewhere as a probe or as a primer. Say, 'you can think of a subgroup in which you are in.' Because my initial reaction was thinking of other people. But then it struck me, I'm like, well, what about [me]? Am I in a subgroup? (ER4)

In exploring how many groups the participant should be discussing, several experts emphasized the perceived importance and influence of the subgroup rather than the total number: "Do you refer to the most influential group, the most observable group, and refer now to those behavioural questions relative to that subgroup that you feel is most influential?" (ER1). Due to the iterative nature of the expert review, this idea was probed in later interviews and received support:

I think it is totally whatever subgroup comes to mind first. Because it comes to mind first, it's the most salient, and if it's the most salient, it's [going to] drive your behaviour the most like social identity. So, I think that's okay, that's fine. (ER5)

However, caution was raised in relation to participant burden when having the respondent orient themselves among the team—against having the participants select the most salient subgroup

within their team. This caution sparked discussions regarding the motivations for having the participant orientate themselves at the beginning of the questionnaire and the importance of balancing specificity and length:

How many [subgroups]? What are their characteristics? But maybe I think that's where and how prominent are they? You think they're good or bad. How many people are in them? Or maybe they describe them a bit, and then you ask questions about what characteristics they have. How observable are they, and to what degree do they impact the group, you know, in a good or a bad way? Then, with that, if you identified, let's say, these three groups, and now, talk about their behaviours. Group one. Okay. Here's a whole set [of questions]. Group two. It'd be a long questionnaire, but it would be specific. (ER1)

Overall, experts agreed that more participant orientation was needed to improve clarification for the remainder of the questionnaire. One recommendation that seemed to ease concerns was to have participants select their teams' most influential subgroup, listing the members' playing numbers and giving that subgroup a name, as demonstrated by ER5: "I think it would be super helpful to have them [the participant] write their jersey numbers down and tie themselves back to this [these numbers] ... 'If you think about the groups in your team, what's the first one that comes to mind?' Give it a label."

In summarizing, the experts recognized that the questionnaire must consider the orientation of the participants, including asking them about the most influential subgroup on their team and their associated jersey numbers (or names if the sport does not contain jersey numbers) and having them 'name' the subgroup. From these suggestions, changes were made to the introductory questions to better represent the respondent orientation, which included items such as: "Think about the most influential subgroup on your team. Please provide the jersey numbers of the individuals that make up this subgroup (you can include yourself if you are a member of this group)" and "In as short of a description as possible, how would you describe this subgroup

(e.g., give it a name).” In addition to ensuring that respondents were thinking about a consistent group throughout the questionnaire, this activity of ‘naming’ would provide useful descriptive information with regards to how athletes label the various groupings in sport.

When asked to read and respond to these items in Phase 3, athletes were tasked with thinking about their teams to consider the most influential group and who the members were. In doing so, I also probed athletes to gauge how they perceived the term ‘influential.’ Without a direct conceptualization, athletes tended to agree on what we meant:

I think there’s a responsibility aspect to it. Power, I think. It is a little hard to describe and [not use] influential, but without saying influential, having the ability to show the team the right course on how to behave, how to act right, just good qualities, with other [teammates] on the team and with coaches. (A3)

People on the team who are respected. The most people who are given the most gravity when they speak. The people who are listened to and are given the most credit ... the time and the amount of work that they put in ... they are key players. They're key roles on the team. (A2)

Interestingly, in a follow-up probe, all athletes agreed that the immediate consideration of “influential” was positive. Only when I presented the option of “influential” being positive or negative athletes tended to realize the potential for negative influence: “I do [think influential is positive]. Yeah, I think I’m thinking about a positive example here. Yeah, but it could go either way. You’re right.” (A6). As such, the inclusion of ‘positive’ or ‘negative’ inferences was made to ensure that not only adaptive subgroups were being identified and considered.

In addition to thinking about the most influential subgroup on their team, athletes were asked to list the jersey numbers of the teammates that made up that subgroup. Generally, athletes were able to provide responses with little trouble: “Testing my ability on everybody’s numbers. Hmm, okay” (A1), and “Okay, from my team. [jersey number listed]. Making me think here.”

(A3). For athletes who were members of teams who did not use traditional jersey numbers, their experience in listing the names of the teammates of the most influential subgroup was similar and was completed without an issue.

Once athletes had an idea of the most influential subgroup on their team and who belonged to this group, they were asked to describe the subgroup in as short of a description as possible (e.g., give it a name). Interestingly, despite confidence in Phase 2 that this would be a relatively simple task, athletes struggled to select a ‘name’ for the subgroup. One athlete noted:

I think it’s hard to give them, just like a name ... in terms of like a name you could say ‘leaders,’ I just, I mean, but we kind of use that. Yeah, I don’t know what I would really say in terms of another, like categorical, like general name. (A2)

Another athlete avoided giving the group a name, and rather, used descriptive terms for theirs:

Friends outside of the sport, and like very social and active during practice. And that’s to differentiate them from other returning players who are not as social during practice...So, they’re ‘experienced.’ Could I say? Cause it’s not just about being outgoing, but it is a little bit. It’s like outgoing experience, or like teaching. They’re like ‘teachers.’ (A6)

Clearly, changes were warranted to the wording of this item to ensure that athletes are better directed as to what to include in the response space. After Phase 3, the introductory questions were modified to better direct respondents, including: “Think about the most influential subgroup on your team (this group could be positive, negative, or both). Please provide the jersey numbers of the individuals that make up this subgroup (you can include yourself if you are a member of this group)” and “If you had to give the subgroup you identified a name, what would it be?”.

4.4 Subgroup Observability and Behaviour Questions

While a large portion of time was spent developing the preamble and introductory questions, the majority of the time was allocated to developing the items that would best reflect subgroup behaviours. Therefore, there are three main themes for this section: (a) item

development and rationale, (b) the transformation from items to categories, and (c) item specificity considerations.

4.4.1 Initial Item Development and Rationale

The initial pool of items was developed in Phase 1 through a process that involved (a) scanning the available subgroup literature and relevant questionnaires and (b) engaging the research team in brainstorming sessions for item development and refinement. Over six months, I developed seven unique versions of the preliminary questionnaire, each of which was adapted from the previous based on feedback obtained during research team meetings. A list of 71 items resulted from this process, representative of the conceptual framework for perceiving subgroups in sport, in addition to other relevant questionnaires. The items were distributed across Surface-Level (SL; 10 items) or Deep-Level (DL; 5 items) and Citizenship Behaviour (CB; 35 items) and Citizenship Alignment (CA; 21 items) domains.

The SL section was preceded by the stem: “The smaller groupings *within my team* seem to have formed based on observable characteristics such as:” and included 10 items including Age, Team Tenure, and Situations (e.g., injury status), among others. Similarly, the DL section included the stem: “When I think about the smaller groupings *within my team*, the members of those groups seem to have internalized similarities such as:” and included five items such as Personal Values, Beliefs, Attitudes, Long-term life goals, and None.

The Subgroup Behaviours section items were rooted in previous theory and literature. Specifically, the 35 CB items were based on the organizational citizenship behaviour (e.g., Fox et al., 2012), prosocial and antisocial behaviour (e.g., Kavussanu & Boardley, 2009), and subgroup in sport literature (e.g., Martin et al., 2015; McGuire et al., 2022). Items adapted from the organizational citizenship behaviour literature were adapted from the 20-Item Organizational Citizenship Behavior Checklist (OCB-C) and the 36-Item OCB-C. Items adapted from the OCB-C were denoted as OCB-P items (e.g., behaviours directed toward other people). Mainly, the

research team agreed that the items intended for the CB section of the questionnaire were aligned with the previous OCB-C items, with modifications that orientated them better towards sport (i.e., changing the term coworker to teammate).

Considering the 21 CA items, these were created based on the organizational citizenship behaviour (e.g., Fox et al., 2012), the norms in sport (e.g., Eys et al., 2020; Munroe et al., 1999), and the subgroup in sport literature (e.g., Martin et al., 2015; McGuire et al., 2022). Like the previously mentioned OC, items adapted from the organizational citizenship behaviour literature were adapted from the 20-Item OCB-C and the 36-Item OCB-C. However, items adapted from the OCB-C were denoted as OCB-O items (e.g., behaviours directed toward the organization that benefit the organization). Given that the goal was to develop items that represented alignment with the team's and organization's values, the adaptation was warranted, with modifications that orientated them better to sport (i.e., changing the term workplace to team environment).

4.4.2 Transforming Items to Categories for the Observability Section

Entering Phase 2, we were interested in how the experts would perceive the proposed questionnaire, and their perceptions of how well each item and its larger section fit within its proposed theory, literature, and overall subgroup conceptual framework. When first creating the SL and DL subsections, items were generated to represent these concepts as individual entities, recognizing their shared commonality of being part of the Subgroup Observability domain but the unique difference between them. Experts noted the difference between the two observability subsections as important to consider: "I like that distinction, like, I think I do think that the superficial and deep-level characteristics are important to think about." (ER1).

However, experts suggested that these items would be best suited under a single section as opposed to being listed under their separate subsections:

I really love the surface level and deep level, but to me, that's a continuum, you know, there are surface levels that are deeper... But I love that you have that distinction between

the deep level because I think attitudes, beliefs, and personal values and life goals, and so on are certainly represented. However, in my humblest opinion, I think they are, and they will align. (ER2)

Here, experts suggested a more meaningful way to measure subgroup observability would be to combine the SL and DL items, as they considered a sliding scale of observability rather than distinct concepts. One expert suggested that a better way to conceptualize and measure these observability concepts would be to collapse them into one larger section known as “Subgroup Observability.” As this suggestion gained traction during the subsequent interviews, experts began considering the new, singular, Subgroup Observability section:

Could you potentially collapse the subgroup observability [items] as well to say, like, hey? Are they based on demographic factors? Are they based on, you know, like creating categories of that, and treating it the same way? As for the deep level, I think if you’re saying attitudes or beliefs, attitudes might actually be a really good one, because when I think practically from my experience as a coach, there were subgroups that developed based on people who are not very happy with not getting playing time. They develop, based on the experience of sitting on the bench together. So, it’s observable, but at the same time they also share the same attitudinal kind of aspects, which is ‘I don’t like that I’m sitting on the bench, and that’s something that we share’ (ER2)

At this time, experts began perceiving subgroup observability differently from what we had initially proposed. Primarily, experts recommended the new ‘Subgroup Observability’ section to include both the SL and the DL items. Further, within this change, experts recognized that these items could be condensed further into distinct ‘buckets’ of observability that fell beyond what was previously in the conceptual framework:

I know the categories from a theoretical perspective in the [subgroup] model. ... I think with the surface levels, I guess I’m recommending that you can condense those further,

right ... But then the question is, can you? Can you do the surface level with three items and then only one item at the deep level? (ER2)

So, in the way that we've just described it, what we would end up having is three buckets of surface-level characteristics, that would be human demographics, sport based, and social? (Interviewer)

Yeah. (ER2)

This restructuring of the Subgroup Observability items from single items to categories consisting of demographic items (e.g., age, gender), social items (e.g., common interests, living arrangements), and sport-based items (e.g., position, leadership status) resonated with other experts. However, between interviews, the researchers had conversations about where to place the DL items, with the result being to include them as their own 'bucket' alongside the other three potential 'buckets' of items. Due to the iterative nature of the interviews, the idea of combining both the SL and DL items to create four 'buckets' was considered by the final expert:

What you were saying with the four categories, I like that a lot. That makes a lot of sense to me. I thought that was good. ... I was thinking, kind of like a nested approach where you first have the four buckets. You select your bucket, and then within the buckets, you select the specific criteria. ... here are the four buckets, pick one, and then you're automatically routed to [more items]. Here are all the things like demographics. Pick the one that you mainly have in common whatever, so they always get to pick one (ER5)

As a generally summary, experts agreed that the subsections of SL and DL were appropriate to use in conceptualizing the observability domain; however, they offered suggestions for combining them into a section, with four distinct categories representing: (a) human demographics (e.g., age, ethnicity), (b) social characteristics (e.g., living arrangements), (c) sport-based characteristics (e.g., team tenure, position), and (d) deep-level characteristics (e.g., values, beliefs, attitudes). Despite this clarity in presentation and structure, the representation of these

categories was still subjected to many considerations, including scaling and order of the specifics of each category, the weighting of each topic, and the analysis, among others.

Following Phase 2, I worked to revise the questionnaire to include the proposed four categories. One issue was the appropriate location for these new categories within the questionnaire structure. Through research team meetings, we decided to combine the previously mentioned introductory questions section with the subgroup observability section, as all items are rooted in how the respondents perceive subgroups among their team (e.g., subgroup size, the members, how the subgroup formed, and how the subgroup is connected). Further, I designed a two-step approach to responding when incorporating the new categories into the questionnaire. First, respondents rank each category after reading the stem: “Generally, how do you see the members of the subgroup you named being connected to one another? We would like you to choose the main describing feature that you feel influences the connection of the subgroup. Please rank each option in order of most defining (1) to least defining (5).” Once the respondent has provided their rankings, they are prompted to answer items related to the category they chose as number 1. For example, if the respondent ranked the ‘demographical’ category as the most defining, they would be instructed to answer items under the stem: “If you ranked ‘Demographical’ as number 1, please rank the specific factors for how strongly you agree or disagree they contribute to the connection of the subgroup members.” For each category, specific items correspond to Table 2.

In Phase 3, athletes were able to actively rank response options (with the aid of the researcher) to best reflect their true responses. For early observability items, athletes were confident in how to respond:

Yeah, I would say, the examples help a ton like had you just said internal I would have been very confused, whereas, like social and demographical, I think I could make sense of.

But having all the examples that you have really helps and makes it clear what you're asking. (A1)

Table 2

Follow-up Items in Relation to Ranking of Subgroup Connection.

Category	Items
Demographical	Age Gender Ethnicity Other
Social	Living Arrangements Common Interests (i.e., favourite TV show, social media, sports team) Hometown or Home Province Other
Sport Based	Physical Fitness Skill Level Team Tenure Position Leadership Status Situations (i.e., injury status) Other
Internal	Values, Beliefs, and Attitudes towards sports Values, Beliefs, and Attitudes towards life Other

As demonstrated by A1, one of the outstanding considerations from the expert interviews was the label of 'internal' and whether that label was too vague for the athletes to grasp. When probed if the athletes would be able to understand it, independent of the examples, one athlete described their initial interpretation: "That's a good question. I may attribute it to like sort of a sub part of sport-based sort of you know your internal ability or your internal skill level like your mental toughness and effort level things like that." (A4). Another athlete chose to think pragmatically about the term: "I think you just got to think about internal when comparing them to the other options. How they see themselves, how they carry themselves on a day-to-day basis." (A3).

When considering the newly created subgroup observability section, overall, athletes tended to respond positively to the structure of answering the introductory questions and questions about observability together.

4.5 Item Specificity Considerations

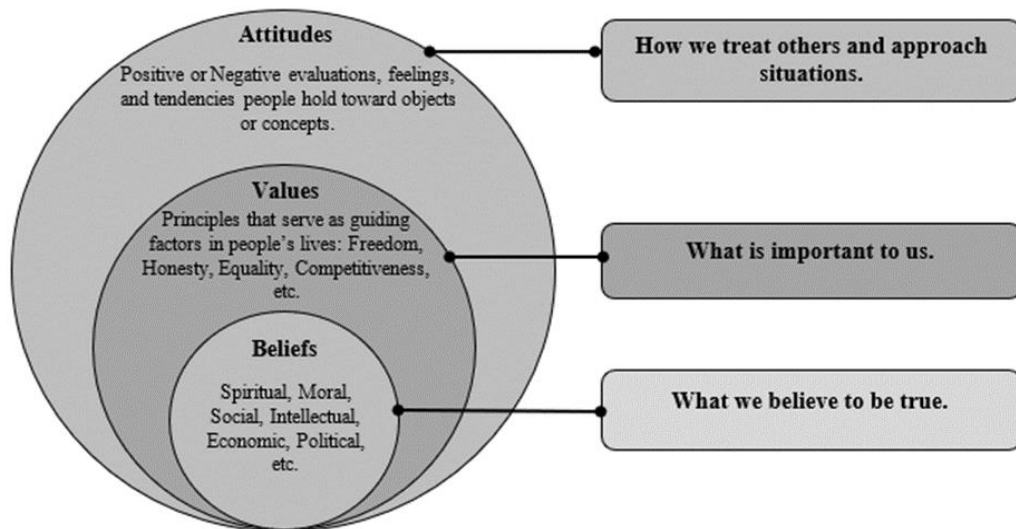
4.5.1 Values, Beliefs, and Attitudes

During the initial conceptualization of the Internal items (i.e., Values, Beliefs, and Attitudes), an extensive discussion occurred concerning the level of specificity needed to capture the internal motivations for subgroup formation. The research team was concerned that, individually, respondents would not be able to differentiate between values, beliefs, and attitudes enough to warrant each term having their own item. To help ground the research team, I developed a schematic showcasing how we conceptualized each of the three terms (see Figure 5). From these conversations, I felt there was enough conceptual difference between the terms to allow for each to serve as their own item, in addition to the inclusion of a fourth item, ‘long-term life goals.’

Entering Phase 2, the four items of the ‘Internal’ category were proposed as items intended to capture participation perceptions on the subgroups’ values, beliefs, attitudes, and long-term life goals. With respect to conceptual clarity and overall specificity, experts noted their hesitations surrounding the items: “So, in the definition to [the respondents], well, what these attitudes are, that’s just one piece. But yeah, I don’t know if we can look at that conceptually and go, yeah, beliefs are that these and values are those.” (ER1).

Figure 6

Schematic Showcasing the Conceptualization of Values, Beliefs, and Attitudes.



Note. Image Adapted from Figure 3. Social Fabric Diagram in Hayden (1998).

Specifically, experts noted an issue with conceptual clarity in relation to the context in which the participant is being asked:

I think it depends again on the research question. Right? If this is actually meaningful in any way, or is it just sort of general demographics? ... I think if you're thinking about [it] as a participant and answering these, right, I think, maybe providing more context. Is it personal values? Is this all in a sport context? What are my long-term life goals? You know, this is hard to answer. Is it in sport? Is it in life in general? These are these attitudes and beliefs and values again, around the sport, and belonging to that sport team, I think aligning with the social identity aspect. Or is this sort of just general attitudes and beliefs, I guess, in relation to what? (ER3)

Recognizing the conceptual uncertainty towards values, beliefs, and attitudes, experts offered potential solutions, as represented by ER5: "I think examples would help a ton ... I think I would find it very helpful for all these categories to have examples, and then they pick what they think stuff is based on." However, while working through potential solutions to clear up any

conceptual confusion, a reoccurring theme among experts began to emerge, that of, is this level of specificity even needed. From these discussions, experts suggested that it would be more important to distinguish between surface-level and deep-level rather than the differences within the deep level. Overall, experts highlighted the appropriateness of including values, beliefs, and attitudes as constructs to measure subgroups; however, as one item rather than individual items as the high level of specificity between the terms is not needed.

After Phase 2, I refined the items to the single item: “Values, Beliefs, and Attitudes.” During a follow-up research meeting, we found that the other item, that of ‘Long-term Life Goals’ could be purposefully incorporated into the other items. As such, two items were created: “Values, Beliefs, and Attitudes towards sport” and “Values, Beliefs, and Attitudes towards life” for the purpose of Phase 3.

During Phase 3, athletes struggled to come up with a clear definition of each of values, beliefs, and attitudes, as demonstrated by A2: “I don’t think I’d be able to be like strictly distinguish them.” They relied more on the three terms in combination with each other, rather than considering each term individually: “I think they’re all related ... you can’t have one without the other. I feel the line between those are kind of hard to distinguish ... If I had to be honest, they’re all very connected to one another.” (A2).

Additionally, athletes recognized that there is a contextual difference between their values, beliefs, and attitudes toward sport and towards life:

I can have different beliefs about different aspects of my life, like my belief that my teammates not showing up to practice is bad, or my belief that I should try and show up to every practice and that the value of that is that respect, right? So, I have a belief around attendance, and it feeds into my belief of respect because I see that as a respect thing, and then an attitude, is kind of the lowest level of all. (A6)

Therefore, a high level of specificity does not seem to be needed when considering values, beliefs, and attitudes, and rather, the terms can be grouped into two items, separated by the contextual differences of sport and life. This aligns with both the recommendations of the experts and the athlete perceptions.

4.5.2 Teammates vs. Team

Similar to the considerations given to values, beliefs, and attitudes, I was also interested in assessing the conceptual clarity of the item wording and structure in relation to their proposed domains. With any measurement instrument, validity is a main concern in that the user must feel comfortable that the tool will provide data that can be trusted. In Phase 1, items were developed with content and construct validity considerations while attempting to balance the appropriate level of specificity needed. For example, OC items were developed with the person, or teammates in mind, while the idea of the direct impact on the organization or team guided OA items. Entering Phase 2, without surprise, experts quickly considered the specificity of the proposed questionnaire structure and items from a generally high level to offering suggestions to aid in the balance. For example, one expert noted that when considering the distinction between OC and OA items, more specificity is needed in the items:

I would reflect that [specificity] in the items. I would make sure that the items that you're choosing for the citizenship behaviour refer to teammates, and then, for the items that you have for alignment, they reflect the norms of the team. So, from a semantic perspective if you wish. (ER2)

Clearly, a clarification of OC items, such as those that consider teammates, and OA items, such as those that deal with the superordinate team, could increase construct specificity. This idea was reiterated on a higher level by another expert who offered suggestions on construct operationalization:

Just be really mindful that you are really operationalizing what you're asking for. As I said, [other sport measures], those are all great from our perspective, like we had smart university-educated adult athletes who didn't understand what we were asking for. (ER5)

Interestingly, despite understanding and discussing the importance of establishing practicality and specificity, experts also recognized that rigour should not be the sole focus of the measure. Instead, experts noted that there must be a delicate balance between the practicality and the rigour of the measure: "I think it is worthwhile to be less precise, but more understandable. We know what they're asking, but just use layperson language, and maybe have fewer items that are not asking the same thing." (ER5). Similarly, ER4 noted: "unless you're going in and doing ethnography, you're not going to get all the information ... So yeah, it is [going to] be a balance between practicality and rigour."

In summary, experts highlighted that the practicality of the measure was a top consideration, while not sacrificing empirical value. As such, between Phases 2 and 3, I worked to revise the OC and OA to better reflect the construct of interest (i.e., changing wording to 'teammates' or 'team').

Entering Phase 3, athletes were of similar mind to the experts, recognizing that there are conceptual differences between the two OC and OA items. Specifically, when probed on what the OC items are attempting to measure, athletes were able to clearly define what actions are being described:

Well, it's not how you interact together within your subgroup. It's how you interact with other members of the team coming outward. So, you might do certain things within your subgroup, but that's not what the question is about. The question is about how the subgroups then interact when you're all together with the whole team, kind of publicly, towards teammates. (A6)

Likewise, when probed on the OA items, athletes were able to accurately define what actions were being described: “You can have more, organization wise, subgroups that generally represent your organization, your coaches, the school. So, [for these subgroups], the values of the team are very important.” (A3). As a general summary, it was believed that after Phase 3, we had attained an appropriate level of specificity for the intended demographic for OC and OA items.

4.6 Questionnaire Structure Considerations

A major consideration in questionnaire development is how the participants engage with and respond to the questionnaire. As such, we wanted to explore the most appropriate response options for the participants. In Phase 1, a 7-point Likert scale was proposed as an intended response option for each item. Within these options are further considerations for the researcher and the participants, including if the chosen response option allows the participant to answer what is being asked accurately and whether the response scale gives the most appropriate data for the research question. In Phase 2, when considering the observability section, experts raised concerns over how these items might be scored using the proposed Likert scale, as ER1 noted: “I was trying to think how would I do this? A Likert scale [for] age, or Likert on ethnicity, like the relative? I would want to identify the top two or three groups and say, who are these people? How observable and influential are they? I would put those on a Likert scale, right, are they observable?”. Although Likert scales are immediately considered when discussing how observable a subgroup is to a respondent, this immediate consideration was doubted by other experts who felt certain domains are better suited for a sliding scale of importance. For example, ER2 noted: “the smaller groupings within the team seem to have formed, based on observable characteristics, such as age, gender, ethnicity, and so on. To me, that almost reads not like a typical Likert scale type of question, but rather almost an importance.” Specifically, experts considered the different sections of observability and behavioural and how selecting a response scale is not a one-sized-fit-all approach, as ER2 mentioned: “if you’re saying subgroups are

forming based on demographics and then provide examples right in the age, gender, other factors, living arrangements that whatever it might be, assigned roles, I think that I would test with a Likert scale.”

Based on our discussion with the experts, I expanded the proposed 7-point Likert scales to a 9-point Likert Scale, with greater options including ‘slightly disagree’ and ‘slightly agree’. However, between Phases 2 and 3, in a follow-up research meeting, caution was discussed surrounding the observability domain in that there is some flexibility to use alternative response options. As such, I developed a rank order question (as previously discussed) which included ranking the appropriate responses from (1), the most defining to (5), the least defining. Additionally, the two introductory questions (as previously discussed) were modified to include open-ended responses.

In Phase 3, after completing the questionnaire, athletes were probed as to their preferences of the proposed scaling options. Generally, athletes responded positively towards the proposed scaling, as mentioned by A6: “I didn't think that it was too much. I wasn't overwhelmed by it, and, as you can see, I did utilize, like all the different options.”

Although athletes agreed the type of scaling options were appropriate, all athletes noted that a 9-point Likert scale offered a large amount of choice, and perhaps, is not needed, as A2 noted: “there were so many options. Throughout I was slightly overwhelmed. It's like, Oh, my God! There's a lot of options here. I don't want to choose the wrong one.” Importantly, many athletes were vocal about the way they were interacting with the scale options, such as simply considering the options’ position on the scale (e.g., more leftwards, towards disagree, or more right wards, towards agree) rather than the actual meaning of the option:

I would say ‘slightly’ and ‘somewhat’ standing alone, I could go either way. But when you have it in juxtaposition with everything else, it is like ‘somewhat’, this could be closer to strongly, and ‘slightly’ would be closer to, the mode, the centre. (A4)

Likewise, other athletes found differentiating between ‘somewhat’ and ‘slightly’ to be a difficult task:

The ‘somewhat disagree’, ‘slightly disagree’ can be up for debate. Sometimes I just tried to imagine a little scale in my mind, but the less options, the more specific I would have been able [to answer] ... I would have felt maybe more comfortable with less options. (A5)

Upon completion of Phase 3, the scaling options were reverted back to the originally proposed 7-Point Likert scale, with the removal of ‘slightly disagree’ and ‘slightly agree’.

4.7 Questionnaire Readability

In determining the appropriate level of questionnaire wording, readability scores were calculated on the final draft of the questionnaire (see Table 3). Specifically, two Flesch-Kincaid readability scores were calculated using Microsoft Word. The Flesch Reading Ease (FRE) score is measured on a scale of 1-100, where a higher FRE score indicates that the document is easier to read (Flesch, 1981). Similarly, the Flesch-Kincaid Grade Level (FKG) test determines the approximate U.S. grade level equivalent (Abdullah et al., 2022).

Table 3

Questionnaire Readability Scores

Source	Flesch Reading Ease (FRE)	Flesch-Kincaid Grade Level (FKG)
Preamble	44.9	12.0
Introductory Questions	61.0	7.5
Citizenship Behaviour Questions	55.1	7.8
Alignment Behaviour Questions	35.1	10.7
Average	49.0	9.5

According to the average FKG score, the questionnaire requires a 10th-grade reading level or higher (score: 9.5). The preamble was observed as requiring the highest grade level or 12 (score: 12.0), while the introductory and citizenship orientated questions were the least demanding, requiring a grade level of 8 (scores: 7.5, 7.8). Compared to other published literary works, this questionnaire is slightly difficult to read and is best understood by people who have completed high school (Flesch, 1981). Similarly, the noted average FRE of 49.0 is comparable to that of a newspaper or monthly magazine (Flesch, 1981). Notably, this questionnaire's FRE and FKG scores suggest that university-level athletes should be able to read and confidently navigate the items and their intentions (Flesch, 1981).

4.8 Questionnaire Development Process

Traditionally, researchers would work with current frameworks and theory to develop a questionnaire structure and items, at which time they would recruit experts to review a package and provide annotated feedback. Although appropriate for capturing experts' opinions and preferences for items, and occasional structure, this review process omits important contextual information. For example, if an expert was to provide feedback that an item should be removed, there is a possibility that the reasons for removal are not communicated effectively. Similarly, there is the potential for strong theoretical issues with the conceptualizations of terms or the questionnaire structure that are not being discussed. As such, we aimed to circulate a review package to experts and engage with them to more accurately understand their perceptions of the questionnaire. Similarly, these semi-structured interviews allowed the experts to expand on any theoretical issues or concerns and engage with our research team to troubleshoot together. In this regard, several experts voiced their pleasure in engaging in the interactive review process:

I think this is a unique kind of way to go about this, if you want to call the content validity stage or this stage of the questionnaire development. Well done on being innovative and

trying this. It's [kind of] nice actually having a conversation as opposed to just filling out, filling up the survey package. (ER3)

Other experts reiterated this idea, commenting on how much more enjoyable the interview process was compared to filling out a review package:

This has been super enjoyable, and I much rather this than, like, spend more time alone on my computer writing stuff in a document. No thank you ...we can talk about these types of things and discuss and not just everybody sits at their own universities and kind of try to figure it out by themselves. (ER5)

[This process] works for me because I love talking about and thinking about it. (ER1)

Chapter 5

Discussion

The purpose of this thesis was to complete the first phase of questionnaire development for a measure to better understand athletes' perceptions of subgroups in sport. By engaging with the available literature, topic experts, and athletes, a preliminary questionnaire was proposed. Within this chapter, I describe the importance of having a measure that can help to quantitatively assess subgroups in sport, summarize the process that contributed to the proposed questionnaire, and situate some activities that were undertaken among previous questionnaire development approaches. As such, the following discussion is comprised of three sections: (1) considering the questionnaire and its benefit to and alignment with the literature, (2) revisiting the questionnaire development process, and (3) identifying and acknowledging study strengths and limitations. In addition, throughout the three sections, I advance opportunities for future research.

5.1 The Relevance of the Questionnaire within the Literature

The current study extended the conceptual framework for perceiving subgroups in sport (McGuire et al., 2022) by using it as a guideline for early questionnaire structure and item development. The first phase of the research included conceptualizing each domain from the framework and proposing a preliminary structure and generating an item list. Then, through engagement with experts and athletes, the questionnaire structure and items were revised and/or removed. From the initial questionnaire draft to the final version, major structural changes occurred, resulting in a questionnaire consisting of a contextualizing preamble, introductory subgroup observability items, and subgroup behaviour items. The following subsections discuss the unique components of the questionnaire and note how they contribute to the available literature.

5.1.1 Preamble and Introductory Observability Items

The conceptual framework for perceiving subgroups in sport comprises two major domains, *observability* and *behavioural*. The observability domain is a critical component of an athlete's perception of subgroups and has been positioned as a key contributing factor to athlete experiences (affective, behavioural, cognitive; McGuire et al., 2022). When considering the observability domain, it is necessary to include options to both understand how (a) athletes ultimately *see* subgroups on their team and (b) athletes *think* the subgroups were formed. The questionnaire preamble and the introductory observability items were purposefully created to ensure that these considerations were included.

The decision to begin the questionnaire with a preamble was to ensure that athletes understood how we conceptualized subgroups, so respondents would be thinking about it in similar ways to other respondents. Similarly, having respondents actively explore the observable characteristics that best described what might link members of a subgroup together was meant to establish appropriate context to allow athletes to more accurately navigate the questionnaire. Indeed, athlete perceptions of subgroup formations are dynamic and are liable to change based on situational factors (e.g., injuries, player trades, playing time) and team processes (e.g., communication, leadership; Martin et al., 2015; Wagstaff et al., 2017). Further, for athletes to be able to perceive subgroups, they must be able to identify and subsequently describe them within their team. Indeed, Carton and Cummings (2012) emphasized the ability of superordinate members to notice and describe subgroups as being a necessary feature for subgroup categorization. By having athletes engage with the preamble and introductory items, researchers are given the opportunity to collect descriptive information not previously available in other research methods (Robertson et al., 2023). In this regard, the novelty of including such introductory observability items could enable researchers to explore subgroups further by combining the information with other methods such as sociograms and observational studies,

creating a more in-depth understanding of athlete perceptions and experiences with particular subgroups.

The process of having athletes identify teammates, ‘name their subgroup,’ and to select the most representative features offers rich insight into the athlete’s perceptions of the subgroup and how they consider the general motives of members for grouping together. These items were developed in alignment with previous literature that suggests people will instinctively seek membership with those who appear most like them (e.g., age, position; Lau & Murnighan, 1998). Similarly, researchers have also suggested that subgroups form purposefully when members seek to obtain resources or strengthen their identity (e.g., leadership, playing time; Carton & Cummings, 2012). These findings have been supported in the sport content, where contextual factors such as age, skill level, and sport type are found to play a vital role in subgroup formation (Martin et al., 2015; Saizew et al., 2020). This information will help researchers to understand why athletes perceive teammates as grouped together, which can be combined with the subsequent behaviour items to explore the more adaptive and maladaptive subgroups that exist in sport. Although previous literature in sport has explored subgroups through social network analysis or sociograms, we propose that through combining contextual information and behavioural actions, this questionnaire adopts the critical elements of previous subgroup examination approaches and fields (i.e., education, organizational psychology). This combination of methods has been recommended and presents an exciting opportunity to further our understanding of how athletes perceive and experience subgroups in sport (Robertson et al., 2023).

5.1.2 Subgroup Behaviour Items

The *behavioural* domain from the conceptual framework is the other important component of an athlete’s perception of subgroups (McGuire et al., 2022). In developing this questionnaire, early emphasis was placed on appropriately conceptualizing the different aspects

of the behavioural domain (*citizenship behaviour* and *alignment*). Through expert and athlete interviews, this questionnaire appears to capture considerations such as what the identified subgroup actually means for a team, what behaviours are being demonstrated by the subgroup, and whether teammates perceive these behaviours as generally adaptive or maladaptive. As such, this ability to measure perceptions of the subgroup behaviours is essential to the overall subgroup picture, as these responses can be used to explore why certain subgroups are perceived more favourably than others, and how these perceptions relate to important outcomes for athletes.

During item development, a main focus was ensuring that each item accurately represented the conceptual framework domains. The item development process for this research aligned with the BRUSO model, which recommends items that are brief, relevant, unambiguous, specific, and objective (Peterson, 2000). Our findings suggest that the proposed items are in alignment with the model. Specifically, items were purposefully developed to be *brief* and *objective*. For instance, athletes noted that all items were of an ideal length without any confusing terminology, as this became evident through the speed at which athletes engaged with the items. This finding supports the recommendation of Youngshin et al. (2015), who suggests questionnaire items should be clearly worded and brief to avoid participant burnout. Further, athletes also spoke about the feeling of free choice, noting that items were framed moderately. For instance, items were purposefully developed to avoid leading statements to allow the respondent to respond appropriately. This development fits the recommendations of Stehr-Green et al. (2003), who found that leading items can steer the respondents toward the researcher's preferred answers.

Similarly, many participants spoke about the *relevance* of behavioural items in relation to the conceptual framework of subgroups but also, and equally as important, for their own experiences. Experts discussed the appropriate use of categorization among the items' overarching themes (i.e., citizenship and alignment) as these items were relevant to the

conceptual model. Support for item relevance may be partially explained by our intentional use of in-depth literature reviews, including exploring relevant questionnaires. Krosnick and Presser (2009) note that researchers aiming to design a questionnaire should examine items from earlier and related measures before beginning to draft their own. This activity increases efficiency and avoids redundancy while exploring how different scholars have operationalized and attempted to capture similar constructs (Krosnick & Presser, 2009).

Our findings also revealed that the behavioural items were *unambiguous* to the target demographic. Items deemed ambiguous or that did not accurately and appropriately represent the intended construct were either modified or removed. The think-aloud protocol with the target demographic served as a particularly meaningful method for exploring item understanding in this research (Dietrich & Ehrlenspiel, 2010). Our decision to use and our procedure for the think-aloud interviews aligned with the Model of the Cognitive Processes Involved in Responding to a Survey Item (MCPIRSI; Sudman et al., 1996). The MCPIRSI consists of question interpretation, information retrieval, judgement formation, response formatting, and response editing (Sudman et al., 1996). As a think-aloud protocol requires participants to verbally describe their interpretation of a given item, researchers can gauge whether an item is properly understood. Concerning the information retrieval and judgement formation steps, our participants were asked to think of the most influential subgroup on their team. We were able to determine the effectiveness of the priming based on how the athletes verbally navigated the items. Also, athletes verbally formatted a response to the item, which offered insight into the appropriateness of the response options available. Many athletes also engaged with the final step and opted to edit their response after it was given verbally. For instance, some noted a response to an item initially accompanied by confusion, but then modified their verbal account to explain that the answer was no longer confusing. Thus, a think-aloud protocol was found to be a suitable method to gain

questionnaire and item appropriateness among the target demographic, which can further increase the content validity of the questionnaire.

Many participants spoke about the *specific* nature of the behavioral items. During early interviews, experts commented that certain items were too narrow or vague and that some items could be combined with others to ensure respondents would be confident in how to respond clearly. In contrast, a high level of specificity is not needed when considering the observability items of values, beliefs, and attitudes. This finding aligned with Beauchamp et al. (2011), who advocated measuring values, beliefs, and attitudes with a single measure. However, Dunlop and Beauchamp (2011) noted that although values, beliefs, and attitudes should be assessed as a single item, they should be contextually distinct (e.g., separated by task or social, sport or life). Therefore, the terms were further grouped into two items, separated by the contextual differences between sport and life. Echoing these previous studies, the participants in this study noted that such separation into three items is unnecessary while differentiating the items by context is warranted. Therefore, how we proposed considering values, beliefs, and attitudes as a single item is consistent with how previous literature has collected this information. Namely, by aligning the initial development of these items with the BRUSO model of item development (Peterson, 2000), we have established early content validity and can progress to testing using large-scale factor analysis.

5.1.3 Questionnaire Structure

A major consideration when developing a questionnaire is to select the most appropriate structure. Decisions will often include the layout and order of the items, the use of an introduction, and the way the participants will respond to the items (Taherdoost, 2022). In developing this questionnaire, a major emphasis was placed on the *orientation* of the respondent. As such, our goal was to ensure that the questionnaire respondent was aware of which subgroup they were thinking about and that that subgroup would be conveyed clearly to the researcher.

In addition to providing ‘better’ data, a well-organized questionnaire is also easier for the respondent to engage with and complete (Taherdoost, 2022). Our preamble allowed athletes to understand what we meant by the term subgroup and how different subgroups may form. As a result, when athletes were prompted to list the most influential subgroup on their team, many spoke about their confidence in providing a response that aligned with what was being asked. Similarly, experts discussed the importance of and appreciation for the preamble portion of the questionnaire and then athletes confirmed that the preamble was easy to understand, and the subgroup image was relevant and helped them to understand the written text. As such, our findings provide early support for how the preamble helps with participant direction and understanding.

In determining the most suitable response options, participants noted an initial appreciation for a 9-point Likert scale; however, when navigating through the items, they recognized that a 7-point Likert scale was more ideal. Despite early research arguing that the number of response options does not influence overall study reliability and validity (Matell & Jacoby, 1971), more recent literature notes that validity increases with six or more response options (Chang, 1994; Preston & Coleman, 2000). Although higher-point Likert scales (e.g., 9, 10) have been argued to provide greater rigour to the participant responses than lower-point scales (e.g., 5; Aguinis et al., 2009), a 7-point Likert scale is perceived as more manageable and is often the favoured option (Eys et al., 2020; McEwan et al., 2018). Also, the benefits of increased response options have been noted to plateau between the 7 and 9-point range (Preston & Colman, 2000). Researchers have also noted a respondent preference for descriptive labels of response options (i.e., *strongly disagree*, *disagree*, *somewhat disagree*, *neutral*, *somewhat agree*, *agree*, and *strongly agree*; Eys et al., 2020). Based on this information and responses from the experts in this study, we use a 7-point Likert scale with the option labels of *strongly disagree* to *strongly agree* to measure the observable and behavioural items.

5.2 Revisiting the Questionnaire Development Process

Given the calls to improve the purposeful development and conceptualization of questionnaire items and increase the content validity of psychometric instruments (Hinkin, 1995), our process could serve as a template for others seeking to establish content validity with new measures. Specifically, this thesis aimed to expand the traditional methods of establishing content and substantive validity by including expert review interviews followed by athlete think-aloud interviews. Although others have described the engagement of experts to assess newly developed items and questionnaires, the specifics of their involvement and contribution are often omitted or limited to one-time paper and pencil ratings (Schneider Dinnesen et al., 2020). As a result, early content and substantive validity are typically assumed, only to be corrected during further development stages (i.e., factor analysis).

Questionnaire development approaches have varied while commonly overlooking the importance of establishing early validity. As a result, researchers have emphasized a need for more content validity across questionnaire development, primarily in the item development phase (Hinkin, 1995; Messick, 1995). Weak initial content validity can be attributed to a missing link between the theoretical domain and the proposed item (Hinkin, 1995). For instance, Messick (1995) noted that the missing link may be a result of either construct underrepresentation, where the items are too narrow and do not account for all relevant dimensions of the intended construct, or construct-irrelevant variance, where the items are too vague, and capture the relevant dimensions in addition to other unrelated dimensions. As a result, researchers have recommended the use of expert panels for establishing content validity (Schneider Dinnesen et al., 2020). In doing so, the interviews serve to ensure expert feedback is properly understood and implemented accurately, which is not always possible through traditional methods (e.g., paper/pencil options). Similarly, purposefully recruiting experts from various backgrounds allows for richer perceptions of the intended measure. For our study, some experts were more inclined to discuss theoretical

considerations, while others gravitated towards more practical discussions. Some experts who also held applied roles (i.e., Mental Performance Consultants) spoke about the balance between the practicality and rigour of the questionnaire. In contrast, other experts spoke about the connection to theory. Schneider Dinnesen et al. (2020) recommended including practitioners and researchers as the expert group as the spectrum of experience allows for varying discussions of both practicability and research validity related to the questionnaire's development.

The item review phase, or establishing early content validity, is also critical to ensuring that the items are measuring what they are intended to be measuring (DeVellis, 2012). Previous literature from SEP considers participant reviews appropriate for providing insight into how respondents perceive the items by highlighting instances of concern (e.g., confusing, ambiguous items) and how they may choose to respond. Within the current study, we demonstrated that in-depth conversations with experts and think-aloud interviews with athletes could contribute to item quality but more importantly can be instrumental in determining questionnaire format. In addition, experts noted their enjoyment with the opportunity to discuss the research process and contribute meaningfully to the project.

5.3 Study Strengths and Limitations

There are several strengths from this research that should be reiterated. The multi-phase approach to this thesis allowed for various perspectives (e.g., experts, athletes, research team) to be incorporated into the development of the questionnaire. During early development, different perspectives from the research team allowed for in-depth discussions about topic conceptualization, structure, and item considerations. Through interviewing experts, we were able to consider our initial biases, both in terms of our theoretical preconceptions and personal experiences (Labrie et al., 2023). Further, in recruiting athletes from a breadth of sport types (individual and team), ages, and positions, and by using think-aloud interviews, we were able to maximize the perspectives of the target audience.

Given the collaborative nature of this thesis project, the use of virtual meetings and interviews was critical. Specifically, virtual interviews allowed for connection with experts and athletes across North America and Europe, which otherwise would not have been possible. Also, virtual meeting software such as Zoom allowed athletes to easily view and engage with the proposed questionnaire at a time and location that was most convenient to them. Lastly, given the iterative nature of this thesis, each phase of questionnaire development was built from the previous phase. Specifically, by completing iterative interviews, topics that were not immediately of consideration to the research team were acknowledged and addressed in later-stage interviews. This allowed for greater insight and depth into topics and offered an opportunity to explore ideas with other participants.

This thesis also had limitations that should be acknowledged. In phase 1, the conceptualization and development of the questionnaire were rooted in previous literature and related scales found through a literature review approach. Although unlikely, publications exist outside of the search strategy that may be relevant and could have directly impacted this research. For example, Grant and Booth (2009) note that a literature review is open to bias as the author may only select works that support their world view, while inadvertently avoiding sections of the overall literature. Similarly, I initiated, refined, and completed the initial search strategy, which may have contributed to a narrower scope of exploration.

Concerning the expert interviews, though highly informative, ultimately, final decisions had to be made by the research team. While Labrie et al. (2023) consider executive decision-making by the research team not necessarily problematic, it should be noted that not all expert suggestions could be directly incorporated into the questionnaire. Further, final decisions were agreed upon through discussions with the research team, in contrast to established strategies for achieving group consensus (e.g., voting, nominal group technique). This may have allowed for certain biases (e.g., cultural, personal) to affect the final decisions.

Lastly, given that the athletes were subjected to a think-aloud protocol, they could have been displaying a level of social desirability as they may have been motivated to appear that they understood most items. Although cognitive interviewing has been shown to have a low risk for social desirability given that the participant is prompted to immediately explain *how* they are perceiving the question (Güss, 2018), there may have been an increase in cognitive load on the participant, which may have impacted the quality of the athletes' understanding of the questionnaire.

Chapter 6

Conclusion

Emerging literature has noted the salience of subgroups in sport, emphasizing important implications for athletes and teams (Martin et al., 2020). With the advancement of a conceptual framework for athlete perceptions of subgroups (McGuire et al., 2022), a warranted next step is to advance a psychometrically sound questionnaire. Importantly, recent calls have been put forth emphasizing the need to carefully consider questionnaire development procedures and systematically ensure early content validity practices (e.g., Hinkin, 1995). As such, this thesis aimed to engage in a thorough development process to advance a preliminary questionnaire to assess perceptions of subgroups in sport. To do this, I employed a three-phase approach, including engaging with the available literature to draft an initial questionnaire structure with items, inviting and interviewing experts to establish early forms of validity, and lastly, interviewing athletes to understand the questionnaire's appropriateness.

As an overarching summary of the results, the proposed questionnaire comprises a preamble, introductory questions, and subgroup behaviour items. This research reiterated the importance of athletes' ability to perceive subgroups. Further, our findings demonstrated the benefit of including more consideration to early content validity while developing questionnaires. For example, this research suggested one-on-one interviews with experts to be a suitable method for establishing greater content validity for the questionnaire structure and initial items. As a result, I hope this questionnaire can serve as a future tool for researchers to further explore subgroups perceptions among team members, and as a novel approach to establishing early forms of validity for the questionnaire development literature.

6.1 Personal Reflection

Throughout this thesis, it became evident that methods within SEP, and subgroups specifically, are eager for a shift from previous strategies to novel approaches. In reflecting on

this process, I have two thoughts that have shaped my aspirations as a researcher. Both the concept of subgroups and the process of questionnaire development are complex. Whereas I have experience belonging to various sport-based subgroups, engaging with the literature showed me just how nuanced these social structures are concerning their in-group and out-group members. This notion was reiterated repeatedly through conversations with my supervisor, the research team, our interviews with experts, and conversations with athletes. I can now appreciate the calls from previous researchers to avoid an automatic ‘disband at all costs’ type of approach to subgroups, as there are known social, emotional, and cognitive benefits for subgroup members.

Secondly, in addition to providing the literature with a prospective questionnaire to assess the perceptions of subgroups in sport, I hope this thesis serves as an example of the complexity of questionnaire development. I understand the time, effort, and consideration needed to weigh and blend different developmental approaches that carefully consider the constructs of interest. As much of the research occurring within SEP relies on the use of questionnaires, I am also incredibly grateful to my supervisor and research team for the opportunity to engage in such a challenging yet rewarding aspect of the research world. I hope this thesis serves as a conversational point for future development and validation research in our field.

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Appendix A

Statement of Change

Changes were made from the approved thesis proposal that occurred in November 2022. Mainly, the expert review phase was altered from an online, self-report engagement to a one-on-one semi-structured interview.

Appendix B

Athlete Demographic Questions

- What is your age:
- What is your gender (or N/A if prefer not to answer):
- What is your sport:
- Highest level of competition:
- Are you a formal or informal leader (or N/A if neither):
- How many years have you played on your current team:
- What is your current position:

Appendix C

Athlete Think-Aloud Interview Guide

Athlete Think-Aloud Interview Guide

Hello, and thank you for agreeing to participate in this interview. For my records, do you consent to be audio and video recorded?

-

Great, thank you. So as was indicated in our initial email, my name is Mitch, and I am a second-year master's student at Queen's University. My research is in the field of Sport Psychology, and more specifically, the group dynamics in sports. My research is interested in understanding athletes' experiences with subgroups and or cliques among their teams. To help us all understand subgroups and cliques better, we have been working on developing a questionnaire aimed at these ideas. Today, I am interested in walking through the questionnaire with you and asking you how you perceive the questionnaire. Please know that there are no right or wrong answers, and we are mainly interested in your initial reactions and understanding of the questions asked of you. Does this make sense, or do you have any questions?

-

Great, so before we jump into the questionnaire, we would like to collect some information from you.

- What is your age:
- What is your gender (or N/A if prefer not to answer):
- What is your sport:
- Highest level of competition:
- Are you a formal or informal leader (or N/A if neither):
- How many years have you played on your current team:
- What is your current position:

Great, thank you. Now, we will jump into the questionnaire. So, to start, we would like you to read the preamble on the screen. Please take a moment to read through, and when you are done, I will ask you some questions.

Preamble

- *Read the Preamble.*
- What are your initial impressions of the preamble?
- Can you tell me, in your own words, what we are saying in the preamble?
- Is there any part of the preamble that you find confusing?
- If you had to improve the preamble to be clearer, what would you add or remove?

Wonderful; now we will move into the introductory questions of the questionnaire.

Introductory Questions

- What are your initial impressions of these questions?
- How easy or difficult was it for you to answer these questions?

- Why?
- *Read Question 01:*
 - What do you think is being asked of this question?
 - Did you understand how to answer this question?
 - To you, what does the term “*influential*” mean?
 - Is there a different term that best describes your thoughts?
 - Would you be able to list all the jersey numbers of the subgroup members?
- *Read Question 02:*
 - What do you think is being asked of this question?
 - Do you understand how to answer this question?
 - How easy or difficult is it to think of a name to describe the subgroup?
 - Is there a better way to describe the subgroup other than a name?
- *Read Question 03:*
 - What do you immediately think is being asked of this question?
 - Do you understand how to answer this question?
 - Did you find a response option that best described your true response?
 - If not, what are we missing?
 - What does the term *internal* mean to you in this context?
 - How would modify this question?
 - What do you think we are asking when we say noticeable?

Subgroup Citizenship Behaviour Items

- *Read the Stem.*
 - Can you describe to me what we are asking here?
 - If it is unclear, how would you modify this?
- *Read each item:*
 - *Follow up on each item with the following:*
 - What do you think is being asked of this question?
 - Do you understand how to answer this question?
 - Did the answer choices include your response?
 - How would you modify this item?
- Is there anything we might have missed to ask?

Subgroup Alignment Behaviours Items

- Can you describe to me what we are asking here?
 - If it is unclear, how would you modify this?
- *Read each item:*
 - *Follow up on each item with the following:*
 - What do you think is being asked of this question?
 - Do you understand how to answer this question?
 - Did the answer choices include your response?

- How would you modify this item?
- Is there anything we might have missed to ask?

Response Scale?

- *Were nine options appropriate?*
 - *What would be better?*

Conclusion

- Was there anything that we left out that you feel is important?

Appendix D

General Research Ethics Board Approval



January 31, 2023

Dr. Luc Martin
Faculty of Arts and Science\School of Kinesiology and Health Studies
Queen's University

Dear Dr. Martin:

RE: Amendment for your study entitled: "GSKHS-359-20 "The company they keep": A nuanced investigation of peer groups in youth sport;" TRAQ # 6030215

Thank you for submitting your amendment requesting the following changes:

1) The change relates to Phase 1A of the research. CHANGE 1: Initially, we aimed to recruit topic experts ($n = 8$) for the purpose of reviewing our proposed questionnaire items through online methods, including emailing a word document, to establish item content validity through assessment of item relevance and comprehensibility. In addition to the emailed documents, we will now meet with these experts in an online one-on-one interview to discuss the proposed items in greater detail. In these interviews, we will also gain further context into the structure of the overall questionnaire, and the preceding item stems. One-on-one interviews will allow us to discuss with the experts what we feel that participants are probably thinking and what our items are intended to capture. These interviews will be semi-structured and will be approximately 45 minutes in length. For their time, experts will be provided with a \$100.00 honorarium (this has been increased from the original \$75.00 because of the additional request). Experts will be asked to read an information letter that will be distributed with their initial recruitment email.

By this letter, you have ethics approval for these changes.

Good luck with your research.

Sincerely,

A handwritten signature in black ink that reads "Jacob Brower".

Jacob Brower, PhD
Chair, General Research Ethics Board (GREB)
Associate Professor and Distinguished Faculty Fellow of Marketing,
Academic Co-Director (Business), Master of Digital Product Management
Smith School of Business
Queen's University

Appendix E

Combined Letter of Information and Consent Form

Combined Letter of Information and Consent Form

Study Title: “The Development of Questionnaire Items to Assess the Perceptions of Subgroups in Sport”

Name of Principal Investigator: Mitchell Profeit, School of Kinesiology and Health Studies, Queen’s University

Name of supervisor: Dr. Luc Martin

I am inviting current university athletes to take part in a research study. This study is being conducted by Mitchell Profeit, a Master of Science Candidate, under the supervision of Dr. Luc Martin within the School of Kinesiology and Health Studies at Queen’s University. This research project is being funded by the Social Sciences and Humanities Research Council.

What is this study about? The purpose of this study is to review questionnaire items that measure athlete perceptions and experiences pertaining to subgroups in sports. If you agree to participate, you will partake in a one-on-one interview that will take approximately 30-60 minutes over an online platform (i.e., Zoom, Microsoft Teams). These interview sessions will be audio-recorded and later transcribed. There are no risks from taking part in these interviews. Study results will help inform researchers on how student-athletes perceive subgroups in sport. There are, however, no direct benefits to you as a participant.

Is my participation voluntary? Participation in this study is voluntary. You do not have to answer any questions you do not want to. You can stop participating in this study at any time without penalty/impact on your academic standing. You may withdraw from the study up until the day before your interview by contacting Mitchell Profeit (mcp3@queensu.ca). You may request to have your data withdrawn from the study until the research paper has been submitted for publication by contacting Mitchell Profeit (mcp3@queensu.ca). Due to the nature of the one-on-one interview, it is difficult to near impossible to identify and remove individual information; however, if you wish to discontinue the study, the principal investigator will remove your information from the analysis of the study.

What will happen to my responses? Your confidentiality will be protected to the extent permitted by applicable laws. The only people who will have access to the identities of the participants will be Mitchell Profeit and Dr. Luc Martin. Other members of the research team will only have access to de-identified information and will have signed a Confidentiality Agreement. Any identifying information will be stored separately from your data on an encrypted USB key that will be stored in the locked Sport Psychology Lab. Data will be stored on a password-protected laptop in a controlled location in the School of Kinesiology and Health Studies for at least five years after the study has been completed, as per Queen’s University Policy. After this period, the de-identified information will be deposited into Queen’s University’s Institutional Repository. Any identifying information will be destroyed five years after the study’s closure. In addition to the principal investigator and study team, a transcriber who has signed a

Confidentiality Agreement will have access to the data. The Queen’s University General Research Ethics Board (GREB) may see your study data for quality insurance purposes.

I plan to publish and present the results of this study in academic journals and at conferences. I will include quotes from some of the interviews when presenting my findings; however, the quotes will be unanimous (i.e., they will not have names), and all potential identification information will be removed. During the interview, you may also let me know if you say anything that you do not want me to quote.

Should you be interested in the results of this study, you can request a copy of the findings, which could come in the form of an actual refereed publication or a general summary.

What if I have concerns? Any questions about the research can be directed toward primary researcher Mitchell Profeit or supervising researcher Dr. Luc Martin. Any ethical concerns about this study can be directed towards the Research Ethics Board at chair.GREB@queensu.ca or at 1-844-535-2988 (Toll-free in North America). Call 1-613-533-2988 if outside North America. Please note that GREB communicates in English only.

Your participation in this study is greatly appreciated.

Mitchell Profeit, MSc Candidate
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This Letter of Information provides you with the details to help you make an informed choice. All your questions should be answered to your satisfaction before you decide whether or not to participate in this research study. Keep one copy of the Letter of Information for your records and return one copy to the researcher, Mitchell Profeit. You have not waived any legal rights by consenting to participate in this study.

By signing below, I am verifying that: I have read the Letter of Information and all of my questions have been answered.

You have my permission to use quotes/audio-recorded information:

Yes No

I wish to receive a copy of these results: Yes No

If yes, my email address is: _____

I have read the above statements and freely consent to participate in an interview:

Yes No

_____ Signature of Participant/Guardian/ Substitute Decision-Maker	_____ PRINTED NAME	_____ Date
--	-----------------------	---------------

_____ Signature of Person Conducting the Consent Discussion	_____ PRINTED NAME & ROLE	_____ Date
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Appendix F

Expert Review Package

Expert Review/Interview Preparation

Introductory message:

Dear Dr. _____,

Within the following document, we have provided information that represents where we are at with our thinking pertaining to a potential questionnaire to assess athlete perceptions of subgroups in sport. We are (slightly) straying away from the traditional expert item review process in the hopes that we can generate rich conversation to benefit from your experience with not only the group dynamics literature but also the questionnaire development process itself.

As such, we are generally asking you to review our proposed items pertaining to the perceptions of subgroups in sport; in addition, make quick notes of issues or themes that you think would benefit from a discussion in our interview. Lastly, there are broad questions listed at the end of this document that are meant to guide our in-person discussion. Please feel free to review these questions in preparation for the interview. Thank you for your participation.

Expert Review Document Contents

Expert Review – Subgroup Framework and Dimension Description	3
Proposed Subgroup Questionnaire Preamble	5
Proposed Subgroup Questionnaire Items	
<i>Subgroup Observability: Surface-Level Characteristics</i>	7
<i>Subgroup Observability: Deep-Level Characteristics</i>	9
<i>Subgroup Behaviours: Citizenship Behaviours</i>	11
<i>Subgroup Behaviours: Alignment Behaviours</i>	14
General Questions for Expert Interviews	16

Expert Review-Subgroup Framework and Dimension Descriptions

Note for Experts: Below is the subgroup conceptual framework and the dimension descriptions. Please familiarize yourself with the following dimensions, as you will be asked to provide feedback on the content of the proposed items as they relate to the dimensions. **You are encouraged to reference this PDF copy as you go through the survey.**

Conceptual Subgroup Framework

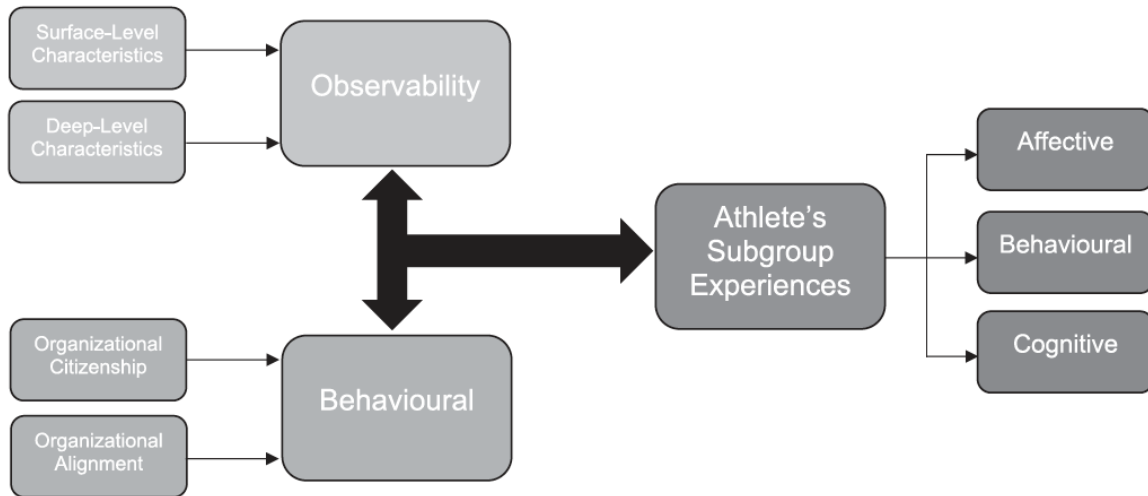


Figure 1. Conceptualisation of Athlete Subgroup Experiences. *Note.* Athlete subgroup experiences involve (1) the characteristics that make them observable and (2) their associated behaviours. The interplay between these dimensions influences individual athletes spanning affective, behavioural, and/or cognitive outcomes.

McGuire, M., Evans, B., & Martin, L. J. (2022). Perceiving and experiencing subgroups in sport: a proposed conceptual framework. *International Journal of Sport and Exercise Psychology*, 20(3), 915-935. <https://doi.org/10.1080/1612197X.2021.1891125>

Dimension Descriptions

Observability: The extent to which athletes recognize and consider subgroups within their team. Involves two key domains: Surface-level and Deep-level characteristics.

Surface-Level Characteristics

Surface-level characteristics represent those readily observable commonalities between teammates within a team, such as age, position, or team tenure. Previous research has shown that surface-level characteristics seem to promote early subgroup formation tendencies and are easily identified and described by the majority of team members.

Deep-Level Characteristics

Deep-level characteristics represent those commonalities among teammates that often require more time to uncover or understand, such as attitudes, beliefs, and

values. Subgroups formed based on deep-level characteristics typically originate from consistent interaction over time. The motives are not as clearly apparent to other teammates (i.e., religious or spiritual beliefs, political views), and are uncovered through conversations and overt actions.

Behavioural: A range of behaviours enacted by subgroup members. Involves two key domains: Organizational Citizenship and Organizational Alignment behaviours.

Organizational Citizenship

Organizational Citizenship behaviours encompass those behaviours that are not directly tied to an organization's 'rewarding system' (e.g., accomplishing expected tasks aligned with roles) but that generally favour the support of members and the functioning of a group. These behaviours tend to range from beneficial to neutral. For example, a leadership group may offer non-sport related advice to new teammates.

Organizational Alignment Behaviours

Organizational Alignment behaviours consider those behaviours that align with the established values and norms of the team. These behaviours tend to range from beneficial (i.e., strong alignment with superordinate team norms) to harmful (i.e., active avoidance of superordinate team norms). For example, a leadership group might ensure they are attending and making effort in mandatory workouts.

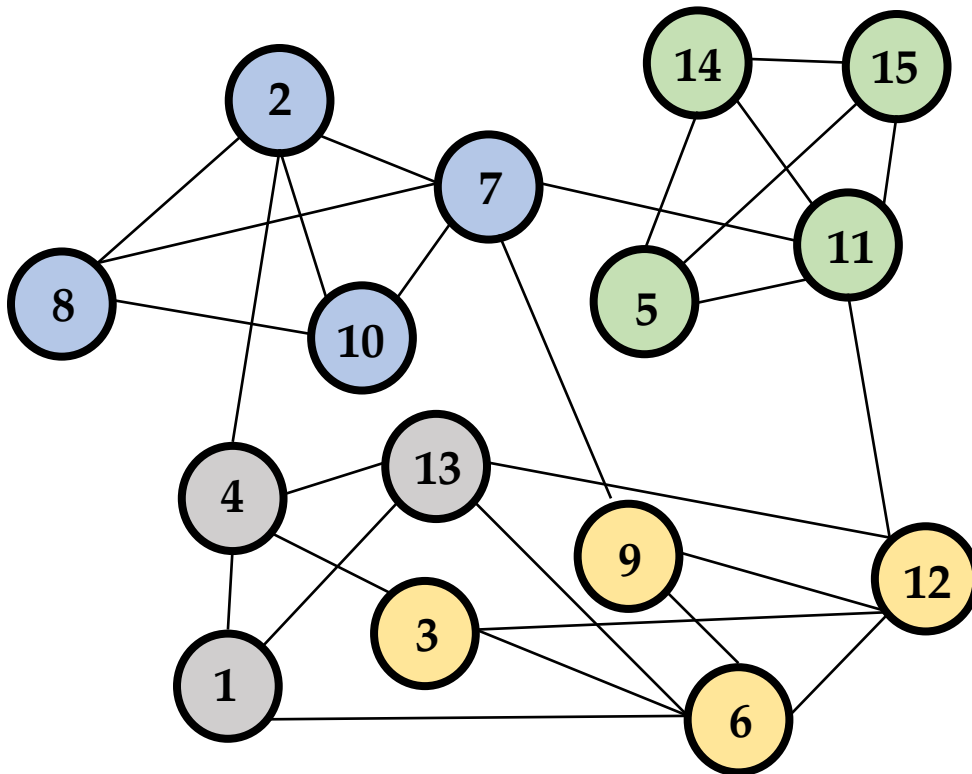
Proposed Subgroup Questionnaire Preamble

Note for Experts: Below is the proposed introductory script to orient participants to the questionnaire. Please read it so you have a sense of our thought process prior to reviewing the items.

The context:

Within the following questionnaire, we are asking questions about the ‘subgroups’ within your team. Specifically, we do not believe that all members of a sport team can interact the same amount, so it is natural for a team to be composed of smaller groupings of members, or in other words, subgroups. For example, the image below portrays a hypothetical interaction pattern among members of a team. As you can see, the 15 group members could interact with others based on several different reasons that could span **task** or **social** related aspects. For instance, **task-related aspects** could stem from players of similar positions, starters and non-starters, leadership groups, etc. They could also be based on **social-related aspects**, such as social activity preferences and friendships.

In the sections below, we will ask you a series of questions about the characteristics of the subgroups in your team and how their members generally behave. Additionally, we will ask you about **your involvement** with subgroups in your team and how your subgroup behaves. Please know that there are no right or wrong answers. We are simply interested in your personal perceptions and experiences.



Quick Notes:

Proposed Subgroup Questionnaire Items

Note for Experts: Within the following section, we have proposed a series of items representative of each dimension. These items have been created based on established literature with previously validated questionnaires, in addition to those created based on qualitative work specific to subgroups in sport. **Please review the items in relation to their representativeness of the dimension description provided above.** We have provided an opportunity for you to make notes if desired and look forward to discussing your perceptions in the interview.

Subgroup Observability

For the following questions, please indicate **the extent to which you agree** based on the subgroups that you are thinking about within your team.

Surface-Level

1. The smaller groupings *within my team* seem to have formed based on observable characteristics such as:
 - a. Age^{1,2,3}
 - b. Gender^{1,2,3,4}
 - c. Ethnicity^{1,5,6}
 - d. Physical Fitness^{4,7}
 - e. Team tenure²
 - f. Skill level⁸
 - g. Position^{2,8}
 - h. Leadership status⁸
 - i. Situations (e.g., injury status, living arrangements)^{2,8}
 - j. None

Quick Notes:

References

- ¹ Harrison, D., Price, K., & Bell, M. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *The Academy of Management Journal*, *41*(1), 96-107.
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- ⁵ Eitzen, D. (1973). The effect of group structure on the success of athletic teams. *International Review for the Sociology of Sport*, *8*(1), 3-17. <https://doi.org/10.1177/101269027300800102>
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- ⁸ Martin, L. J., Wilson, J., Evans, B., & Spink, K. (2015). Cliques in sport: Perceptions of intercollegiate athletes. *The Sport Psychologist*, *29*(1), 82-95. <https://dx.doi.org/10.1123/tsp.2014-0003>

Deep-Level

Note for Experts: The following items have been informed by social, sport, and exercise psychology literature pertaining to deep-level similarity. As you can see, they are broken down into Beliefs (what we believe to be true), Values (what is important to us), and Attitudes (how we treat others and approach situations) and Long-term Life Goals (aspirations for the future).

2. When I think about the smaller groupings *within my team*, the members of those groups seem to have internalized similarities such as:
 - a. Personal values^{1,2,3,4}
 - b. Beliefs^{1,3,4,5,6}
 - c. Attitudes^{1,3}
 - d. Long-term life goals⁴
 - e. None

Quick Notes:

References

- ¹ Beauchamp, M., Dunlop, W., Downey, S., & Estabrooks, P. (2011). First impressions count: Perceptions of surface-level and deep-level similarity within postnatal exercise classes and implications for program adherence. *Journal of Health Psychology, 17*(1), 68-76. <https://doi.org/10.1177/1359105311408156>
- ² Blinde, E. M., & Taub, D. E. (1992). Women athletes as falsely accused deviants: Managing the lesbian stigma. *The Sociological Quarterly, 33*(4), 521-533. <https://doi.org/10.1111/j.1533-8525.1992.tb00141.x>
- ³ Harrison, D., Price, K., & Bell, M. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *The Academy of Management Journal, 41*(1), 96-107.
- ⁴ McGuire, M., Evans, B., & Martin, L. J. (2022). Perceiving and experiencing subgroups in sport: a proposed conceptual framework. *International Journal of Sport and Exercise Psychology, 20*(3), 915-935. <https://doi.org/10.1080/1612197X.2021.1891125>
- ⁵ Eitzen, D. (1973). The effect of group structure on the success of athletic teams. *International Review for the Sociology of Sport, 8*(1), 3-17. <https://doi.org/10.1177/101269027300800102>
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Subgroup Behaviours

Citizenship Behaviour

Note to Experts: The following items were created based on the organizational citizenship behaviour (e.g., Fox et al., 2012), the prosocial and antisocial behaviour (e.g., Kavussanu & Boardley, 2009), and the subgroup in sport literature (e.g., Martin et al., 2015; McGuire et al., 2022). **Items coded in Blue are adapted from *The Prosocial and Antisocial Behavior in Sport Scale*. Items coded in Orange are adapted from the 20-Item Organizational Citizenship Behavior Checklist (OCB-C). Items coded in Green are adapted from the 36-Item OCB-C. Items coded in Grey are Original Items developed based on qualitative literature.**

Kavussanu & Boardley (2009) ¹	OCB-P (20 Item OCB-C) ²	OCB-P (36 Item OCB-C) ³	Original Item
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PT: Prosocial Teammate, **PO:** Prosocial Opponent, **AT:** Antisocial Teammate

For the following questions, please indicate **the extent to which you agree with** them based on the subgroups that you are thinking about within your team.

1. Members within the subgroup(s) that I am thinking about *on my team* seem to:

- a. Encourage teammates. (PT)
- b. Congratulate teammates for a good play. (PT)
- c. Give positive feedback to teammates. (PT)
- d. Give constructive feedback to teammates. (PT)
- e. Help an injured opponent, when needed. (PO)
- f. Ask to stop play when an opponent is injured, if needed. (PO)
- g. Help an opponent off the ground, if needed. (AT)
- h. Verbally abuse teammates. (AT)
- i. Swear at teammates. (AT)
- j. Argue with teammates. (AT)
- k. Criticize teammates. (AT)
- l. Show frustration at a teammate's poor play. (AT)
- m. Lend a compassionate ear when someone has a sport-related problem.
- n. Lend a compassionate ear when someone has a personal problem.
- o. Change personal schedules, training days, or plans to accommodate teammates' needs.
- p. Help an injured teammate lift equipment or other objects.
- q. Go out of the way to give teammates encouragement or express appreciation.
- r. Defend teammates being 'put-down' or spoken ill of by other teammates, coaches, or the opposition.
- s. Purchase snacks and drinks to have present before or after competition, or travel.

- t.** Give a written or verbal recommendation for a teammate to a scout or coach.
- u.** Help teammates learn new skills or shared skills knowledge.
- v.** Engage in behaviours that purposefully make other teammates look bad (i.e., turning away from a pass).⁴
- w.** Be aware of their influence on teammate behaviours.^{4,5}
- x.** Invite teammates to get together outside of the sports environment.⁵
- y.** Believe their smaller group is beneficial to the team’s performance.⁵
- z.** Believe their smaller group is beneficial to the team’s social environment.⁵
- aa.** Blame team breakdowns and failures on others.^{5,6}
- bb.** Take credit for team successes.^{5,6}
- cc.** Give tips to younger or newer members of the team.⁶
- dd.** Be easily influenced by the actions of higher-status teammates.⁶
- ee.** Organize social events such as team dinners, movie nights, etc.⁶
- ff.** Use their social status to avoid working hard during practice or workouts.⁶
- gg.** Motivate other teammates to complete academic work.⁶
- hh.** Make an effort to connect with new or young teammates.⁶
- ii.** Hold resentment towards teammates of higher status.⁶

Quick Notes:

References

- ¹ Kavussanu, M., & Boardley, I. (2009). The prosocial and antisocial behavior in sport scale. *Journal of Sport and Exercise Psychology, 31*(1), 97-117. <https://doi.org/10.1123/jsep.31.1.97>
- ² Fox, S., Spector, P. E., Goh, A., Bruursema, K., & Kessler, S. R. (2012a). The deviant citizen: Measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology, 85*, 199-220. <https://doi.org/10.1111/j.2044-8325.2011.02032.x>
- ³ Fox, S., Spector, P. E., Goh, A., Bruursema, K., & Kessler, S. R. (2012b). The deviant citizen: Measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology, 85*, 199-220. <https://doi.org/10.1111/j.2044-8325.2011.02032.x>
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- ⁵ Wagstaff, C. R. D., Martin, L. J., & Thelwell, R. (2017). Subgroups and cliques in sport: A longitudinal case study of a rugby union team. *Psychology of Sport and Exercise, 30*(1), 164-172. <https://doi.org/10.1016/j.psychsport.2017.03.006>
- ⁶ McGuire, M., Evans, B., & Martin, L. J. (2022). Perceiving and experiencing subgroups in sport: a proposed conceptual framework. *International Journal of Sport and Exercise Psychology, 20*(3), 915-935. <https://doi.org/10.1080/1612197X.2021.1891125>



References

- ¹ Fox, S., Spector, P. E., Goh, A., Bruursema, K., & Kessler, S. R. (2012a). The deviant citizen: Measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology*, *85*, 199-220. <https://doi.org/10.1111/j.2044-8325.2011.02032.x>
- ² Fox, S., Spector, P. E., Goh, A., Bruursema, K., & Kessler, S. R. (2012b). The deviant citizen: Measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology*, *85*, 199-220. <https://doi.org/10.1111/j.2044-8325.2011.02032.x>
- ³ Martin, L. J., Wilson, J., Evans, B., & Spink, K. (2015). Cliques in sport: Perceptions of intercollegiate athletes. *The Sport Psychologist*, *29*(1), 82-95. <https://dx.doi.org/10.1123/tsp.2014-0003>
- ⁴ Wagstaff, C. R. D., Martin, L. J., & Thelwell, R. (2017). Subgroups and cliques in sport: A longitudinal case study of a rugby union team. *Psychology of Sport and Exercise*, *30*(1), 164-172. <https://doi.org/10.1016/j.psychsport.2017.03.006>
- ⁵ McGuire, M., Evans, B., & Martin, L. J. (2022). Perceiving and experiencing subgroups in sport: a proposed conceptual framework. *International Journal of Sport and Exercise Psychology*, *20*(3), 915-935. <https://doi.org/10.1080/1612197X.2021.1891125>
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General Questions for Expert Interviews

A: Questionnaire Preamble

1. Importance of specific Task and Social behavioural items.
 - a. Should *all* listed T and S behaviours be represented?
2. Are *demographic* questions needed to understand how the respondent is seeing their team? See **Example 1: Proposed “Demographic” Items (pp. 16)**.

B: Questionnaire Items - All Domains

3. Item representativeness and conceptual appropriateness.
 - a. Do the items represent the proposed domains?
4. Does item outcome matter? (i.e., items ending in “... teammates” vs. “... my team”)
5. Proposing 7-Point Likert Type Scale (1SD – 7SA).
6. Do the Deep-Level Characteristic Items require synonyms?
 - a. See **Example 2: Deep-Level Item Synonyms (pp. 17)**.

C: Questionnaire and Stem Orientation

7. Stem orientations.
 - a. Single stem structure in observability vs. behavioural.
 - b. “My Team” & “My Group”
 - c. See **Example 3: Different Stem Orientations (pp. 18)**.
8. Should there be a difference in items for the difference in stems? (i.e., for stems regarding “my team” vs. “my involvement” – should items have different presentation/ wording?)

Example 1: Proposed “Demographic” Items.

Before you begin answering questions on this questionnaire, we would like to understand how you see your team.

1. When you think about subgroups on your team, how many subgroups are you thinking about?

0	1	2	3	4	5+
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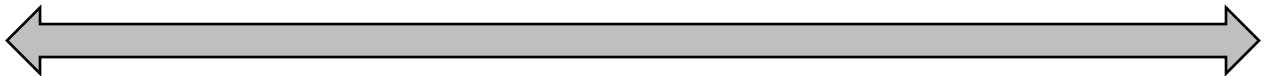
2. How many people are in the subgroups that you are thinking about, on average?

0	1	2	3	4	5+
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3. Generally, do you think these smaller groups are good or bad?

Good	Bad	Both at Times	Unsure
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4. Place a circle on the arrow that best describes how you generally see the majority of the subgroups on your team.



Harmful, Negative,
Detrimental, etc.

Neutral

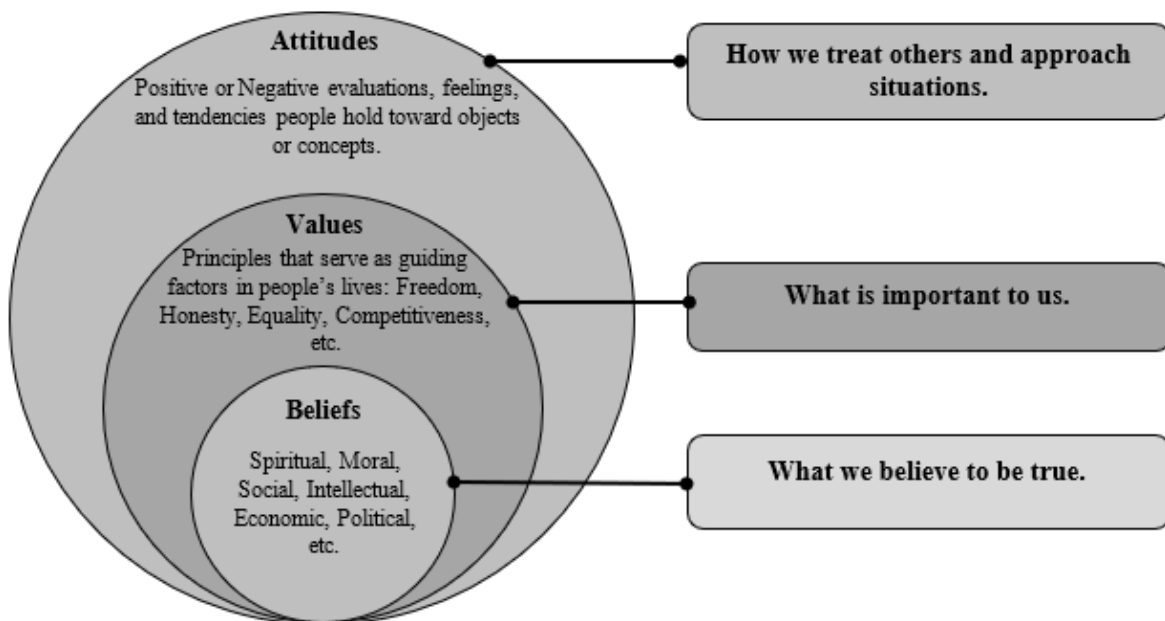
Helpful, Positive,
Beneficial, etc.

Example 2: Deep-Level Item Synonyms.

When I think about the smaller groupings *within my team*, the members of those groups seem to have internalized similarities such as:

1. Personal values.
 - a. Synonyms: Principles, virtues, tenets, moral principles, standards, etc.
2. Beliefs.
 - a. Synonyms: Ideology, faith, trust, assumption, understanding, acceptance, etc.
3. Attitudes
 - a. Synonyms: View, viewpoint, outlook, perspective, demeanour, position, mood, etc.
4. Long-term life goals.
5. None.

How we see Beliefs, Values, and Attitudes:



Example 3: Different Stem Orientations.

Surface-Level Characteristics Items – Different Stem Orientation:

3. The group of individuals that *I consider myself to be a subgroup member with* have formed based on observable characteristics, such as:
 - a. Age
 - b. Gender
 - c. Ethnicity
 - d. Physical Fitness
 - e. Team tenure
 - f. Skill level
 - g. Position
 - h. Leadership status
 - i. Situations (e.g., injury status, living arrangements)
 - j. None

Deep-Level Characteristics Items – Different Stem Orientation:

4. When I think about the group of individuals that *I consider myself to be a subgroup with*, they seem to have formed based on internalized similarities, such as:
 - a. Personal values
 - b. Beliefs
 - c. Attitudes
 - d. Long-term life goals
 - e. None

Citizenship Behaviours Items-Different Stem Orientation:

3. I personally feel that *I belong to a subgroup* where members seem to:

- a. Encourage teammates.
- b. Congratulate teammates for a good play.
- c. Give positive feedback to teammates.
- d. Give constructive feedback to teammates.
- e. Help an injured opponent, when needed.
- f. Ask to stop play when an opponent is injured, if needed.
- g. Help an opponent off the ground, if needed.
- h. Verbally abuse teammates.
- i. Swear at teammates.
- j. Argue with teammates.
- k. Criticize teammates.
- l. Show frustration at a teammate's poor play.
- m. Lend a compassionate ear when someone has a sport-related problem.
- n. Lend a compassionate ear when someone has a personal problem.
- o. Change personal schedules, training days, or plans to accommodate teammates' needs.
- p. Help an injured teammate lift equipment or other objects.
- q. Go out of the way to give teammates encouragement or express appreciation.
- r. Defend teammates being 'put-down' or spoken ill of by other teammates, coaches, or the opposition.
- s. Purchase snacks and drinks to have present before or after competition, or travel.
- t. Give a written or verbal recommendation for a teammate to a scout or coach.
- u. Help teammates learn new skills or shared skills knowledge.
- v. Engage in behaviours that purposefully make other teammates look bad (i.e., turning away from a pass)
- w. Be aware of their influence on teammate behaviours.
- x. Invite teammates to get together outside of the sports environment.
- y. Believe their smaller group is beneficial to the team's performance.
- z. Believe their smaller group is beneficial to the team's social environment.
- aa. Blame team breakdowns and failures on others.
- bb. Take credit for team successes.
- cc. Give tips to younger or newer members of the team.
- dd. Be easily influenced by the actions of higher-status teammates.
- ee. Organize social events such as team dinners, movie nights, etc.
- ff. Use their social status to avoid working hard during practice or workouts.
- gg. Motivate other teammates to complete academic work.
- hh. Make an effort to connect with new or young teammates.

- ii. Hold resentment towards teammates of higher status.

Alignment Behaviours – Different Stem Orientation:

4. I personally feel that *I belong to a subgroup* where members seem to:
 - a. Help new teammates get oriented to the team, city, school, etc.
 - b. Offer suggestions to improve how work is done.
 - c. Offer suggestions for improving the team environment.
 - d. Volunteer for extra work assignments.
 - e. Say good things about our coach, team, or organization in front of others.
 - f. Give up free time to train or practice.
 - g. Offer to drive, or entertain team guests, or out-of-town recruits.
 - h. Volunteer their own vehicle(s), supplies, or equipment for team purposes.
 - i. Arrive early or stay late to practices, training, or team events.
 - j. Recruit athletes to play for your team.
 - k. Work on days off to complete or organize team projects or social events.
 - l. Bring team plays, systems, or strategies home to prepare for next day.
 - m. Volunteer to attend meetings or community events on own time.
 - n. Volunteer to work at after-hours or out-of-town events.
 - o. Inspire other teammates to engage in training on their own time.
 - p. Promote a good work ethic.
 - q. Encourage inclusivity during practice, training, and social settings.
 - r. Believe their smaller group is beneficial towards the team.
 - s. Remind teammates of acceptable and unacceptable behaviours.
 - t. Carry a sense of entitlement over the rest of the team.
 - u. Set the team standards.

Alignment: Norms Coding Table

The Nature of the Group Norms that Develop in Sport Teams			
Competitions	Practice	Off-Season	Social Situations
Effort Support for Teammates Punctuality Respect	Punctuality Effort Attendance Respect	Training Contact Skill Development Healthy Lifestyle	Attendance Respect Others Positive Attitude Consumption of Alcohol
Adapted: Group Norms based on Task and Social			
Task Norms (T-)		Social Norms (S-)	
Effort Punctuality Attendance Support for Teammates (SfT)	Training Contact Healthy Lifestyle (HL) Skill Development (SD)	Respect Attendance Respect Others Positive Attitude (PA) Consumption of Alcohol (CoL)	

Taken from: Eys et al., 2020. Group Dynamics in Sport 5th Edition

Appendix G

Expert Recruitment Email

Dear [name of expert],
My name is Mitch Profeit, and I am a master's candidate at Queen's University working under the supervision of Dr. Luc Martin. I am recruiting experts in group dynamics for participation in a study that will focus on the measurement of perceptions of subgroups within sport.

I am writing to invite you to participate because of your original involvement as an expert reviewer during the conceptual stage of the subgroup framework development (which resulted in the attached publication). Your participation in this follow-up phase would involve a review of the preliminary proposed questionnaire items and a ~60-minute interview to gain further context into the item content and suggested structure.

To provide greater context, we have attached a Letter of Information (LOI). If you are willing to participate, please respond to this email so we can (1) share the preliminary review documents and (2) coordinate an interview time at your convenience.

So you are aware, although stating your interest in partaking in the one-on-one interview will serve as consent for your participation in this study, verbal consent will also be collected prior to completing the interviews. In appreciation of your time, you will receive a one-time \$200 honorarium.

I would like to take this opportunity to thank you for the consideration of your involvement. Please do not hesitate to contact me if you have any questions or concerns regarding the nature of the study. In addition, you can also contact the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or (613)-533-6081.

Thank you very much for your consideration and I look forward to hearing from you.

Sincerely,

Mitch Profeit

Appendix H

Expert Letter of Information

Letter of Information

Study Title: “The Development of Questionnaire Items to Assess the Perceptions of Subgroups in Sport”

Name of Principal Investigator: Mitchell Profeit, School of Kinesiology and Health Studies, Queen’s University

Name of supervisor: Dr. Luc Martin

I am inviting topic experts to take part in a research study. This study is being conducted by Mitchell Profeit, a Master of Science Candidate, under the supervision of Dr. Luc Martin within the School of Kinesiology and Health Studies at Queen’s University. This research project is being funded by the Social Sciences and Humanities Research Council.

What is this study about? The purpose of this study is to review questionnaire items that measure athlete perceptions and experiences pertaining to subgroups in sport. If you agree to participate, verbal consent will be collected prior to the start of the interview and you will be asked to review a preliminary set of items and partake in a one-on-one interview that will take approximately 60 minutes over an online platform (i.e., Zoom, Microsoft Teams). These interview sessions will be audio-recorded and later transcribed. There are no risks from taking part in these interviews. Study results will help to inform both the content and structure of the proposed questionnaire pertaining to subgroups in sport. There are however no direct benefits to you as a participant. If you agree to participate, you will be given a one-time honorarium of \$200.00.

Is my participation voluntary? Participation in this study is voluntary. You do not have to answer any questions you do not want to. You can stop participating in this study at any time without penalty/impact and may withdraw your responses from the study within 30 days of completing your interview by contacting Mitchell Profeit (mcp3@queensu.ca).

What will happen to my responses? Your confidentiality will be protected to the extent permitted by applicable laws. The only people who will have access to the identities of the participants will be Mitchell Profeit and Dr. Luc Martin. Other members of the research team will only have access to de-identified information and will have signed a Confidentiality Agreement. Any identifying information will be stored separately from your data on an encrypted USB key that will be stored in the locked Sport Psychology Lab. Data will be stored on a password-protected laptop in a controlled location in the School of Kinesiology and Health Studies for at least five years after the study has been completed, as per Queen’s University Policy. After this period, the de-identified information will be deposited into Queen’s University’s Institutional Repository. Any identifying information will be destroyed five years after the study’s closure. In addition to the principal investigator and study team, a transcriber who has signed a Confidentiality Agreement may have access to the data. The Queen’s University General Research Ethics Board (GREB) may see your study data for quality insurance purposes. The GREB may request access to study data and/or all other study materials used in this research to ensure that we (the research team) have or are meeting our ethical obligations in conducting this

research. GREB is bound by confidentiality agreements and will not release any personal information.

I plan to publish and present the results of this study in academic journals and at conferences. I will include quotes from some of the interviews when presenting my findings; however, the quotes will be de-identified (i.e., they will not have names), and all potential identification information will be removed. During the interview, you may also let me know if you say anything that you do not want me to quote.

Should you be interested in the results of this study, you can request a copy of the findings, which could come in the form of an actual refereed publication or a general summary.

What if I have concerns? Any questions about the research can be directed toward primary researcher Mitchell Profeit or supervising researcher Dr. Luc Martin. This study has been reviewed for ethical compliance by the Queen's University General Research Ethics Board (GREB). Any ethical concerns about this study can be directed towards the Research Ethics Board at chair.GREB@queensu.ca or at 1-844-535-2988 (Toll-free in North America). Call 1-613-533-2988 if outside North America. Please note that GREB communicates in English only.

This Letter of Information provides you with the details to help you make an informed choice. All your questions should be answered to your satisfaction before you decide whether or not to participate in this research study. You have not waived any legal rights by consenting to participate in this study.

We will consider your response to the email and organization of a time to meet as consent for your involvement in our study.

Your participation in this study is greatly appreciated.

Mitchell Profeit, MSc Candidate
School of Kinesiology and Health Studies
Queen's University
28 Division Street, Kingston, ON, K7L 3N6
Office: KHS 401
Phone: (613) 533-6000 ext. 78207
Email: mcp3@queensu.ca

Dr. Luc Martin, PhD, Associate Professor
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Phone: (613) 533-6000 x79140
Email: luc.martin@queensu.ca

Appendix I

Athlete Recruitment Email to Coaches

Coach Recruitment Email: One-on-one Interviews

“The Development of Questionnaire Items to Assess the Perceptions of Subgroups in Sport”

Dear [name of coach],

My name is Mitchell Profeit, and I am a master’s candidate at Queen’s University within the School of Kinesiology and Health Studies, working under the supervision of Dr. Luc Martin. I have obtained your contact information from the Queen’s University athletics website. My area of research is sport psychology, and I am recruiting athletes for participation in a study that will focus on measuring the perceptions of subgroups within a varsity sport setting. As such, I would greatly appreciate your willingness to introduce the study to your athletes. I have attached a recruitment poster regarding the study’s purpose that you can circulate to your athletes, and those interested will be asked to contact us directly.

Participation will involve athletes taking part in a one-on-one interview with the lead researcher to discuss the comprehensibility and readability of the proposed questionnaire items. Participation in this study is voluntary, and one may withdraw at any time without penalty. The interview should take approximately 30-60 minutes; however, we have allotted up to 90 minutes. Although we expect their participation to greatly aid our research pertaining to subgroups in sport, there is no direct benefit to participating in this study. In the case that questions asked in the one-on-one interview elicit a negative response from an athlete, the Queen’s Wellness Services contact information will be made available to participants.

Please find the recruitment poster attached to be distributed to your athletes pending your approval of their participation. I would like to take this opportunity to thank you for the consideration of your team’s involvement. Please do not hesitate to contact me if you have any questions or concerns regarding the nature of the study. In addition, you can also contact the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or at 1-844-535-2988 (Toll free in North America). Call 1-613-533-2988 if outside North America.

Thank you very much for your consideration, and I look forward to hearing from you.
Sincerely,

Mitchell Profeit, MSc Candidate
Email: mcp3@queensu.ca

Luc Martin, Associate Professor
Email: luc.martin@queensu.ca

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Appendix J
Athlete Recruitment Poster



School of Kinesiology and Health Studies, Mitchell Profeit and Dr. Luc Martin, PLAYS
Research Group, Queen's University

VOLUNTEERS NEEDED

for

Exploring Athlete Perceptions of Subgroups and Cliques

We are looking for current athletes to participate in one-on-one interviews to discuss a proposed questionnaire involving subgroups and cliques in sport. As a participant in this study, you will be asked to review proposed questions that measure athlete perceptions of subgroups and cliques in sport.

The study will take approximately 30-60 minutes for you to complete and will occur over Zoom.

If you are interested, please email, or call Mitchell Profeit (principal investigator).



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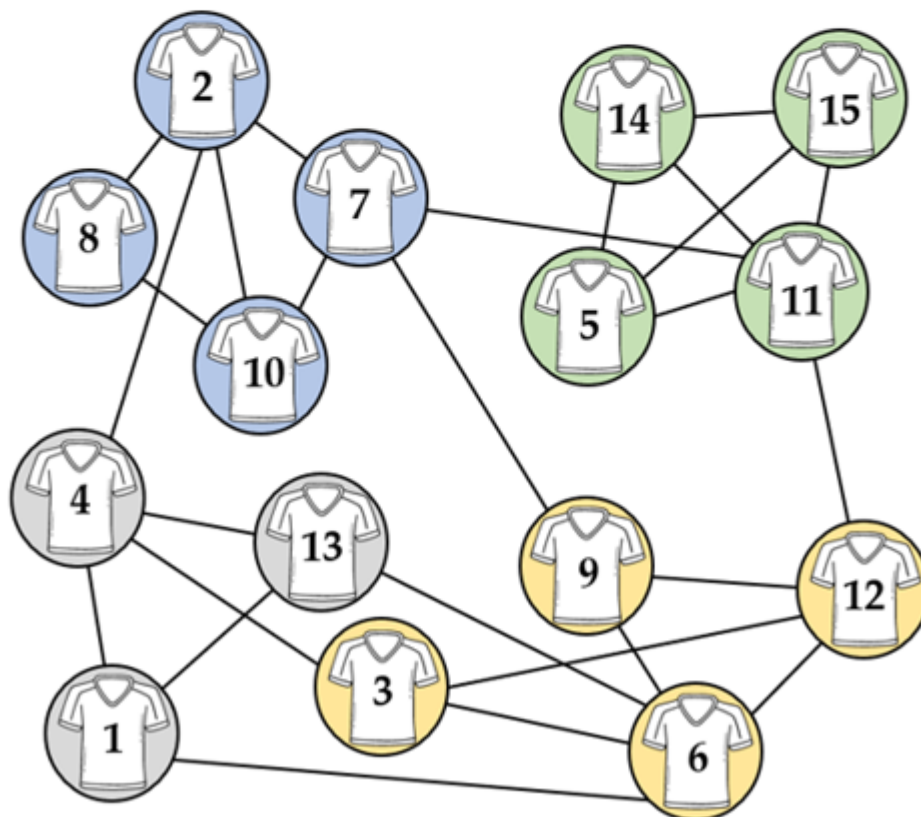
Appendix K

Proposed Questionnaire

Preamble

Within the following questionnaire, we are asking questions about the 'subgroups' within your team. Specifically, we do not believe that all members of a sport team can interact the same amount, so it is natural for a team to be composed of smaller groupings of members, or in other words, subgroups. For example, the image below portrays a hypothetical interaction pattern among members of a team. As you can see, the 15 group members could interact with others based on several reasons spanning **task** or **social**-related factors. For instance, **task-related factors** could stem from players of similar positions, starters and non-starters, leadership groups, etc. They could also be based on **social-related factors**, such as social activity preferences and friendships.

*In the following questionnaire, we will ask you a series of questions about the **characteristics of the subgroups** in your team and how **their members generally behave**. Additionally, we will ask you about **your involvement** with subgroups in your team and how your subgroup behaves. Please know there are no right or wrong answers, and we are simply interested in your personal perceptions and experiences.*



Introductory Questions

Q1. Think about the most influential subgroup on your team (this group could be positive, negative, or both). Please provide the jersey numbers of the individuals that make up this subgroup (you can include yourself if you are a member of this group).

Q2. If you had to give the subgroup you identified a name, what would it be?

Q3. Generally, how do you see the members of the subgroup you named being connected to one another? We would like you to choose the main describing feature that you feel influences the connection of the subgroup. Please rank each option in order of most defining (1) to least defining (5).

Rank	Description
	Demographical. (Including features such as age, gender, and ethnicity.)
	Social. (Including features such as living arrangements, hometown or home province, and common interests such as a favourite TV show.)
	Sport-Based. (Including features such as position, team tenure, skill level, physical fitness, leadership status, or situations such as injury status.)
	Internal. (Including features such as values, beliefs and attitudes towards sports and values, beliefs, and attitudes towards life.)
	Other factors.

Q4a. If you ranked “Demographical” as number 1, please rank the specific factors for how strongly you agree or disagree they contribute to the connection of the subgroup members.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethnicity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: <i>(Please List)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4b. If you ranked “**Social**” as number 1, please rank the specific factors for how strongly you agree or disagree they contribute to the connection of the subgroup members.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Living Arrangements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Common Interests (i.e., favourite TV show, social media, sports team)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hometown or Home Province	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: (Please List)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4c. If you ranked “**Sport Based**” as number 1, please rank the specific factors for how strongly you agree or disagree they contribute to the connection of the subgroup members.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Physical Fitness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skill Level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Tenure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Position	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership Status	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Situations (i.e., Injury status)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: (Please List)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4d. If you ranked “**Internal**” as number 1, please rank the specific factors for how strongly you agree or disagree they contribute to the connection of the subgroup members.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Values, Beliefs, and Attitudes towards sports.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Values, Beliefs, and Attitudes towards life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: (Please List)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Subgroup Behaviour Questions

Q5. We are interested in knowing how the subgroup you identified behaves towards teammates on your team. The subgroup generally does, or is likely to...

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Defend teammates in front of other teammates, coaches, or the opposition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speak positively about a teammate to someone else (e.g., coach, outsider).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help teammates improve or learn new skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organize social events such as team dinners, movie nights, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Show frustration at a teammate's poor play.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blame team breakdowns or failures on other teammates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take credit for team successes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exclude certain teammates from social activities or conversations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Believe their smaller group is beneficial to the team's performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: <i>(Please List)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6. We are interested in knowing how the subgroup you identified behaves more generally in relation to the values of your team. The subgroup generally does, or is likely to...

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Offer suggestions for improving the team environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteer at community events on their own time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speak positively about the organization in general.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrive early to practices, training, or team events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage inclusivity during practice, competition, and social settings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carry a sense of entitlement over the rest of the team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remind teammates of acceptable and unacceptable behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Set the team standards (i.e., training consistently, arriving on time).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: <i>(Please List)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>