Exploring the Determinants of Coach Identity throughout Coaches' Careers and the Development of a Coach Identity Scale

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Abstract

Objectives: There has only been a limited amount of research exploring coach identity; thus, the understanding of determinants of coach identity remains limited. Scales to measure coach identity to date have been narrowly focused on the prominence and emotions that coaches attribute to their role. Therefore, the first aim of this thesis was to explore the factors that contribute to the strength and development of coach identity with consideration of all aspects of a coach's career. Furthermore, the thesis aimed to develop a coach identity scale that can measure the multidimensional aspects of coaching and examine the psychometric properties of the scale.

Procedures: In-depth, semi-structured interviews were conducted with seven expert coaches, exploring the factors that helped them develop their identity and sense of being a coach. In the next phase, to develop a survey, the determinants of coach identity obtained from the first study were used to generate a pool of items for a coach identity scale. The items were then reviewed by six academic experts to assess the content validity of the items. Five expert coaches then evaluated the technical quality of the scale. The items that were identified to have an issue by two or more coaches were modified. In the last phase, the psychometric properties of the scale were assessed using a sample of 216 coaches. The Coach Identity Prominence Scale (Pope & Hall, 2014a) was completed to assess convergent validity, and the Patient Health Questionnaire (PHQ-9) (Kroenke et al., 2001) was completed to explore discriminant validity. Two weeks after the completion of the first survey, the coaches were contacted via Qualtrics with a request to complete the Coach Identity Development Scale (CIDS) a second time to assess test-retest reliability.

Data Analysis: The interview data were analysed using an inductive thematic analysis to identify the themes and patterns related to the development of coach identity. The content validity of the items was analysed by an examination of frequencies of reviewers that

agreed on each item being quite relevant (3) or highly relevant (4). In addition, the technical quality of the scale was measured by considering the frequencies of an issue being identified for each item. In the third study, the discriminant and convergent validity test, the test-retest reliability of the scale was analysed using Pearson' correlations. The factor structure of the scale was analysed using exploratory factor analysis.

Results: Personal, social, environmental and career factors play a role in the development of coach identity. Based on this, an item pool of 28 items was generated for the scale. The critical analysis of the items by the academic researchers and expert coaches led some items to be modified, some added, and some removed, with a final item pool of 28 items with content validity. The final study showed support for the convergent and discriminant validity, overall internal consistency and test-retest reliability of the scale. The results on exploratory factor yielded a six-factor solution, indicating that coach identity contains six factors, including socio-personal development, social recognition, life coaching, coach success, coach learning and coach motivation.

Conclusions: Coach identity is multidimensional, and various factors play a role in the maintenance and development of coaches' identity. This finding is consistent with the complex and multidimensional nature of a coaching career. The CIDS shows adequate psychometric properties and may enable further research into coach identity and its correlates.

Keywords: Coach identity development, scale development, psychometric properties

Declaration

I, Helen Rout, declare that the PhD thesis entitled 'Exploring the determinants of coach identity throughout coaches' careers and the development of a coach identity development scale' is no more than 80,000 words in length, including quotations and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures. All Research procedures reported in the thesis were approved by the Victoria University Ethics Committee [HRE17-203].

Signature Date

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List of Abbreviations

AIMS	Athletic Identity Measurement Scale
CAP	Career assistance programs
CFA	Confirmatory factor analysis
CIDS	Coach Identity Development Scale
CIMS	Coach Identity Measurement Scale
CIPS	Coach Identity Prominence Scale
CVI	Content validity index
CVR	Content validity ratio
EFA	Exploratory factor analysis
SDT	Self-Determination Theory
SIT	Social Identity Theory

Chapter 1: Introduction

In recent decades, sport has emerged as a major social, cultural and economic phenomenon and aligned with that growth is the emergence of a key actor, the coach. Throughout the storied history of sport, the coach has played a pivotal role in the development of athletes, teams and sport organisations. As such, the coach has become the focus of research, especially in disciplines such as education, management and psychology, where numerous studies have sought to understand how coaches think, behave, learn and practice at all levels of sport participation (Dawson & Phillips, 2013).

Recently, researchers have focused on several psychological aspects of coaching, such as coaches' motivation and wellbeing. One psychological aspect of coaching that has received limited research attention is coach identity. Coach identity can be understood as 'the degree to which an individual identifies with the coach role' (Francis, 2012. p.7). Exploring coach identity can explain why coaches engage and persist in coaching (Pope et al., 2014). It can also provide insights into coaches' careers, experiences and working lives (Purdy & Potrac, 2016). Francis (2012) proposed that the advantages and disadvantages of high athlete identity could also be true for coach identity. Some of the benefits and drawbacks of high athletic identity are more positive social interactions, increased self-confidence, focus and commitment (Horton & Mack, 2000), positive effects on performance (Daniels et al., 2005; Danish, 1983; Horton & Mack, 2000; Werthner & Orlick, 1986), limited exploration of external interests, a risk of a limited development of identity and self-concept beyond the sporting context (Cummins & O'Boyle, 2015; Danish et al., 1993; Wylleman & Reints, 2010), and difficulties with retirement from sport and career transition resulting in identity foreclosure and identity crisis (Brewer & Petitpas, 2017). Thus, given that there have been many studies related to athletic identity yet a lot is unknown about coach identity, and

presumably, coach identity may predict important outcomes, exploring this phenomenon seems to be an important scientific endeavour.

A limitation of the current body of coach identity research is that identity has been conceptualised with a narrow view of coaches and has not necessarily considered the broader context and scope of coaches' work or the broader context. To the best of our knowledge, the research exploring the determinants of coach identity is limited to two studies. Pope et al. (2014) explored the determinants of coach identity and narrowed their view of identity to an understanding of the prominence and emotions that coaches attribute to their coaching role from a role identity theory perspective. Purdy and Potrac (2016) used existing literature on coaches' career trajectories (Cregan et al., 2007; Nash & Sproule, 2009) to investigate the creation and development of a high-performance coach identity. Although Purdy and Potrac (2016) proposed several factors that could play a role in the development of coach identity, they conducted a limited narrative study, interviewing only one expert coach. Thus, it appears that literature examining coach identity remains sparse.

Stephan and Brewer (2007) explored the determinants of athletic identity and proposed that personal and social factors influence athletes' identity development. Thus, it was hypothesised that given that a coach is a person who engages in various coaching roles and responsibilities within the complex context of a coaching career (Cushion & Lyle, 2016), the determinants of coach identity may be broader and different from the determinants of identification with athlete role.

A literature search on coach identity revealed only two scales that measure coach identity. By substituting 'athletes' for 'coaches' and further modifying three items, Francis (2012) adapted the Athletic Identity Measurement Scale (AIMS) (Brewer et al., 1993) and applied it to coaches. While a three-factor structure of the Coach Identity Measurement Scale (CIMS) has been shown in confirmatory factor analysis (CFA) on coaching populations

(Francis, 2012), this scale has not specifically been validated, and the author only relied on the psychometric properties of the AIMS. As such, the validity and reliability of the CIMS are unclear. The second scale that measures coach identity is the Coach Identity Prominence Scale (CIPS) (Pope & Hall, 2014a). This scale appears to be the only valid scale that measures coach identity; however, it only measures the cognitive meanings that coaches attribute to their roles. Given the complex nature of coaching, a scale that can measure the identity of the coaches from a broader context is needed to further knowledge about coach identity and coach career development. A more comprehensive measure can provide a tool for examining coach identity and help researchers explore how it relates to other outcomes. Accordingly, the focus of this thesis is, first, to explore determinants of coach identity from a broader context within the scope of coaching and, second, to develop a coach identity development scale and examine its psychometric proprieties.

Research Aims

This thesis explores the factors that play a role in the formation and development of coaches' identity throughout their careers. It seeks to establish what factors lead to coaches identifying themselves with their coaching role. Thus, the first study of this thesis explores the factors that contribute to the maintenance and development of coach identity. Using the data from Study 1, the second study aims to develop a coach identity scale to measure coaches' identity development. The purpose of the third study is to examine the psychometric properties of the scale. The goal is to add to the limited knowledge related to the development of coach identity, put forward a suitable scale for researchers to examine coach identity and suggest implications for practice in sports settings.

This research will employ a mixed-method research design. In the first study, to explore determinants of coach identity, a qualitative research method will be used. In the second study, a coach identity development scale will be created directly from the core

qualitative results, with the items reflecting the categories and the language of the participants (Morse & Niehaus, 2009). The third study will use a quantitative research method to determine the validity, reliability and factor structure of the Coach Identity Development Scale (CIDS).

Significance of the Research

Research exploring determinants of coach identity is very limited. Furthermore, to the best of our knowledge, there is no scale to measure the development of identity based on determinants of coach identity. Thus, this research can provide new insight into factors that play a role in the maintenance and enhancement of coach identity throughout a coaching career. Additionally, the development of a scale to measure coach identity development can provide many research opportunities for scholars in this field to conduct more research on coach identity and also investigate the identity of coaches in relation to other aspects of coaching (e.g., coach performance, coach behaviour and transition outcomes) or in different circumstances such as during the off-season or the competition phase of the annual training cycle. By identifying how identity may change over time and under different circumstances, researchers can be aware of the factors that may influence coaches' self-beliefs and thoughts and establish appropriate strategies for coach career development and coach retention.

As identity can help individuals feel connected to their roles and guide their behaviours (McCall & Simmons, 1978; Stryker, 1980), understanding the factors that develop and strengthen coach identity can explain why coaches behave the way they do (Pope et al., 2014). The implementation of findings from this thesis in coach education and development may potentially assist coaches to deepen their connection with their role. Furthermore, according to the Australian Sports Commission (n.d.), many clubs struggle to recruit and retain coaches due to a range of factors, such as their coaching work conflicting with other career and personal commitments in their lives. The findings from this thesis may potentially

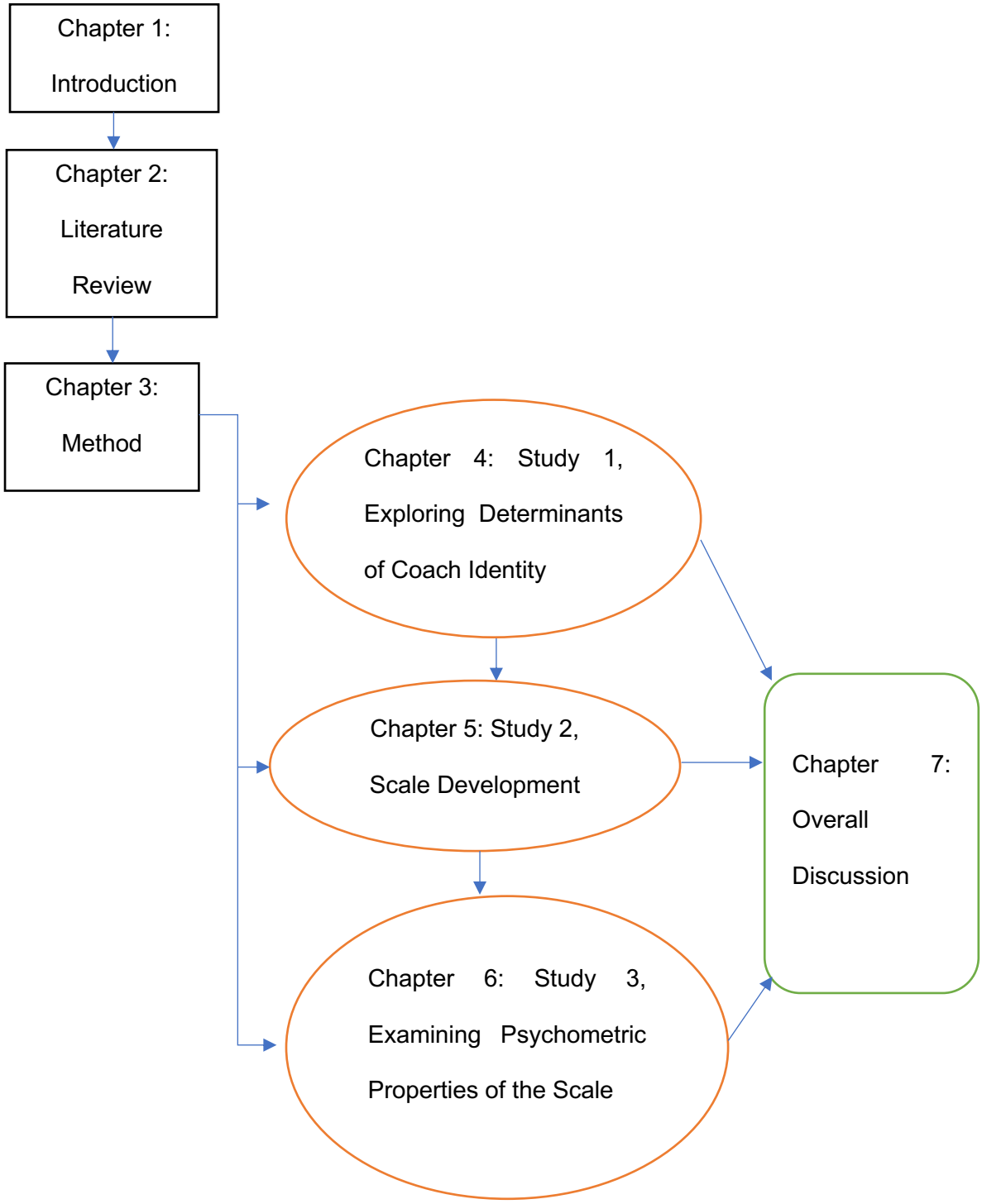
assist sport organisations with coach retention and career development by establishing strategies that contribute to the development of identification with a coaching role.

Thesis Structure

This thesis contains seven chapters that address the objectives of the research outlined above. Figure 1 below depicts the structure of this thesis. Chapter 1 summarises and contextualises this research project, frames the research questions and justifies the significance of this research program. Chapter 2 provides an in-depth critical review of the literature that examines the research and theory underpinning coach identity. Chapter 3 provides an overall methodology and justification for investigating coach identity describing the participants, research methods, data collection and analysis used in each study. Chapters 4, 5 and 6 describe the methods and results for each study. Chapter 7 presents an in-depth discussion of and conclusion for the three studies, examines how they compare with and add to the current theory of coach identity and coach career development and explains the implications for coach educators, sport organisations and coaches themselves.

Figure 1.1

Thesis Structure



Chapter 2: A Critical Review of the Literature

Introduction

Coaches play an integral role in developing athletes. A coach is a person involved in the leadership, instruction and training of individual athletes or teams. The work of sport coaches is complex. Sport coaches provide strategies to enhance the performance of athletes (Dawson et al., 2013). They may work with individuals of different ages (from young children to older adults) and at varying performance levels (from the community to professional sport participation). Further, they can work in various settings such as schools, community venues, clubs or professional sporting organisations (Dawson et al., 2013). As a result, coaches have become the focus of research, especially in disciplines such as education, management and psychology. Numerous studies have sought to understand how coaches think, behave, learn, and practice at all levels of sport participation (Dawson & Phillips, 2013). Of the studies that have focused on coaches, the majority have focused on coaching styles and associated behaviours such as the autonomy-supportive coaching style (Adie et al., 2012; Reynders et al., 2019), controlling coaching style (Conroy & Coatsworth, 2007; O'Neil & Hodge, 2019) and anti-social and prosocial behaviour (Pelletier et al., 2001). Recently, researchers have focused on several psychological aspects of coaching such as motivation (Bentzen et al., 2016; Mclean et al., 2012) as well as psychological needs and wellbeing (Stebbings et al., 2011; Zakrajsek et al., 2019). The knowledge created from examining coaches' psychological wellbeing and behaviour have provided a deeper understanding of the complexity of the coaches' role in sport. However, one psychological aspect of coaching that has received limited research attention is coach identity. Coach identity can explain why coaches engage and persist in coaching (Pope et al., 2014). It can also provide insight into coaches' careers, lived experiences and working lives (Purdy & Potrac, 2016). Only limited research has explored the factors that play a role in coach identity (Pope et al., 2014; Purdy &

Potrac, 2016). Research is also limited due to the existence of only a few measures with which to assess and therefore explore coach identity.

This chapter is structured in three main sections that will review the extant research related to coach identity and the scope of coaching. The first section examines the broad context and scope of coaches' careers. The second section provides an outlook on identity theories. The third section examines the current knowledge about coach identity.

Coaching in Sport

Coaches are perceived as vital to the sport experience and 'the most tangible manifestation of organisational quality and effectiveness' (Cuskelly et al., 2006, p. 121). Both normative coaching manuals (Banks, 2006; Martens, 2004; Pyke, 2001) and the popular literature (Parkin & Bourke, 2009; Watson, 2006) have described the significance of the coach in developing the individual. The Australian Sports Commission's coaching manual *Beginning Coaching* delineated the role of the coach as having the 'potential to influence not only the development of sport-specific skills and sport performance but also the participant's development as a person and their approach to other aspects of their life' (Banks, 2006, p. 1). The prominence of the coaches' influence expands beyond the sports field:

> Coaching is as much about people as it is about technique and tactics. Coaches directly influence people by guiding and teaching—the heart of the coaching process—and ensuring a safe learning environment. Coaches also have to attend to many behind the scenes activities, such as planning seasons, working with committees, raising funds, recruiting and training coaches and communicating with parents. They must also reflect on their own performances as coaches, obtain feedback from others and further develop their own coaching skills. (Schembri, 2001, p. 285)

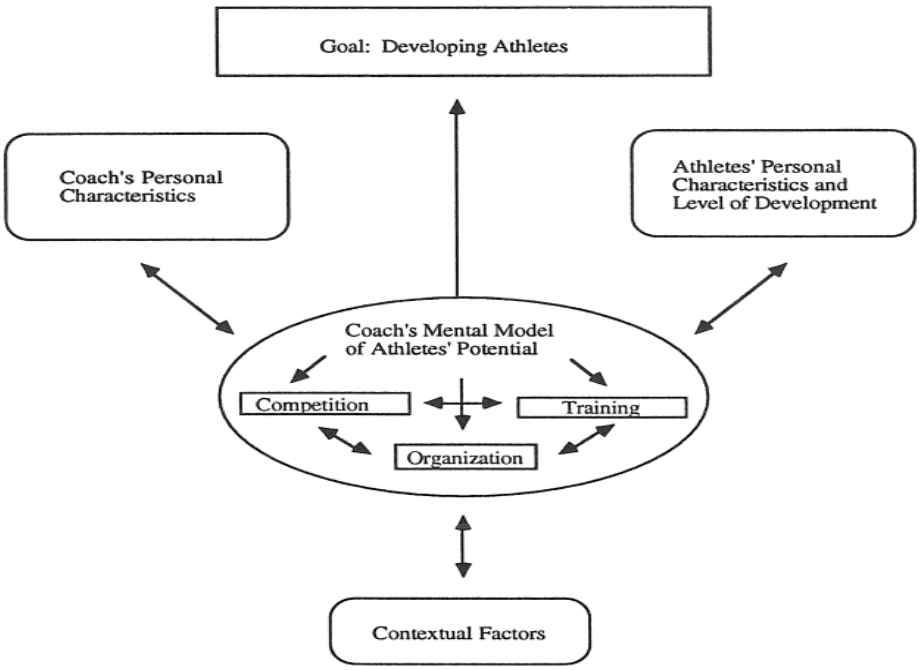
Furthermore, the empirical literature has recognised coaches as leaders (Burton & Raedeke, 2008; Côté et al., 2007; Cummins et al., 2017) and developers of athletic talent (Cassidy et al., 2009; Chase & DiSanti, 2016; Côté et al., 2007; Wixey et al., 2020); developers of social character in athletes (Potrac et al., 2013; Burton & Raedeke, 2008; Côté et al., 2007); role models for athletes, parents and other coaches (Burton & Raedeke, 2008; Potrac et al., 2013); and mentors to athletes and other coaches (Burton & Raedeke, 2008; Côté et al., 2007; International Council of Coaching Excellence, 2014). Thus, it is obvious that coaches have various roles and responsibilities beyond being the technical guide of athletes to improve performance (Dawson & Phillips, 2013).

Coaching Models

It is difficult to conceptualise coaching without considering the various coaching domains in which they practice. Recognising these specific contexts of coaching helps to understand the complexity of this role. Côté and his colleagues (Côté et al., 1995; Côté, 2006; Côté & Gilbert, 2009) developed a comprehensive model of how coaches work that attempts to include all the activities that relate to the various coaching domains (see Figure 2.1). The final iteration by Côté and Gilbert (2007) provided a thorough definition of the six main areas of their coaching model (training, competition, organisation, coaches' personal characteristics, athletes' characteristics and contextual factors) to outline a systematic definition of components of the coaching model. Depicted in Figure 2.1 below, these components and their associations with each other were arranged systematically to describe how coaches work towards the aim of 'developing athletes'.

Figure 2.1

The Coaching Model



Source: Reproduced from Côté et al. (1995).

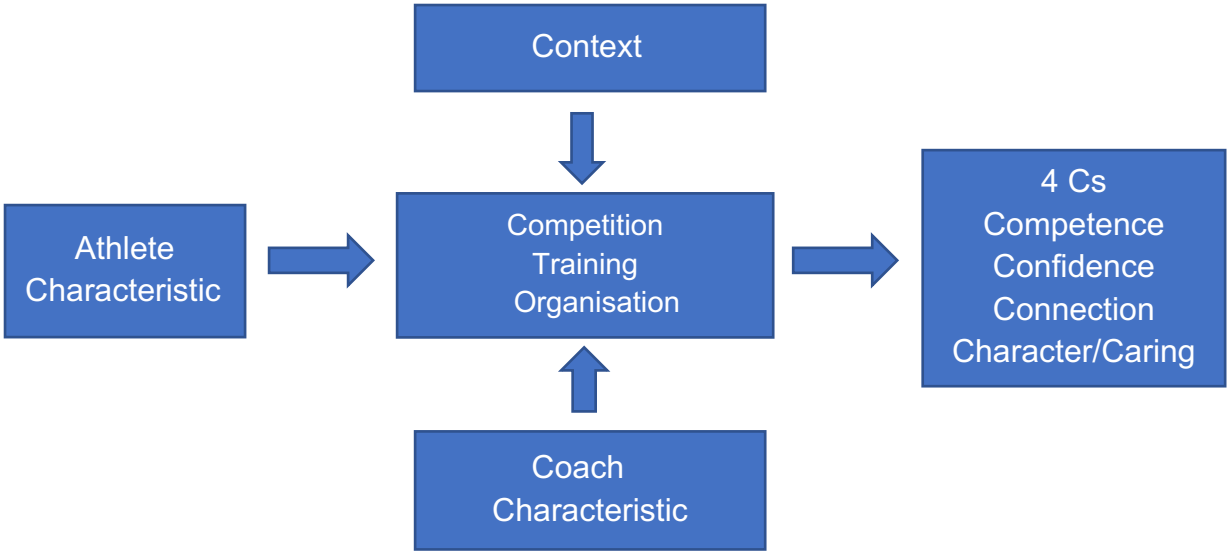
The central components of Côté and Gilbert's (2009) coaching model are training, competition and organisation. The organisation component involves employing one's knowledge towards setting up ideal circumstances for training and competition by constructing and coordinating the tasks involved in achieving the goal. The training component consists of using one's knowledge to assist athletes with gaining and performing various skills in training. Finally, the competition component involves applying coaching knowledge to help athletes perform to their best potential in competitions. Categories such as coaches' roles at the competition sites were included as part of this component. In Côté and Gilbert's coaching model, three peripheral variables influence the coaching process: the coach's personal characteristics; athlete's personal characteristics and level of development; and contextual factors such as working conditions that need to be considered when becoming involved in the organisation, training and competition.

The final two components of Côté and Gilbert's (2009) coaching model are the goal of coaching and the coach's mental model of athletes' potential. The goal of coaching has been described as to develop athletes' skills and abilities and has been identified as the most prominent task of the coach. Also, the coach's mental model of an athlete's potential represents what is required to be done to achieve the goal. Côté and Gilbert's coaching model encompasses the actions of the coach utilising their knowledge that is delivered in the training, competition and organisation contexts. Indeed, the actions and behaviour of the coach within training, competition and organisation have a strong influence on achieving the goal.

Scholars exploring positive youth development propose that the most important task in coaching is developing athletes (Coakley, 2011; Côté & Gilbert, 2009; Vella & Gilbert, 2014; Vella et al., 2011; Vierimaa et al., 2018). In youth development, various frameworks have been used to conceptualise the development of athletes from a coaching perspective. In particular, the 5Cs—competence, connection, confidence, character and caring/compassion (Lerner et al., 2005)—have been hypothesised as specific developmental outcomes emerging from coach–athlete interactions. This model was revised to 4Cs by Côté et al. (2010) in response to the incorporation of 'caring and compassion' within the 'character' development literature (Hellison, 1995; Shields & Bredemeier, 1995) and the basic connection and relevance of these three constructs (i.e., caring, compassion and character).

Figure 2.2

An Adaptation of Côté and Gilbert's (2007) Coaching Model



Source: Reproduced from Côté et al. (2010).

Integrating the 4Cs into Côté and Gilbert's (2009) coaching model enhances the understanding of what coaches by offering concrete outcomes that coaches should aim to develop in their athletes (Vella & Gilbert, 2014; Vierimaa et al., 2018). This integration of the 4Cs into coaching reconfirms the three central elements that should be considered in any coaching environment and practice: the athlete's personal characteristics, the coach's personal characteristics and other contextual factors. Figure 2 depicts an adaptation of the original coaching model highlighting the athletes' personal characteristics as the underlying basis of coaching effectiveness and stressing the specific developmental outcomes.

Coach Learning

Throughout their career, coaches encounter personal and professional development, challenges and opportunities. Anyone involved in the world of sport and coaching is aware that coaching is complex, and coaches play an essential role in the lives of athletes (Dawson & Phillips, 2013). Coach education and development are deemed vital to improving the quality of sport coaching (Kjær, 2019; Gilbert & Trudel, 2004a, 2004b; Côté & Gilbert, 2009;

Nelson et al., 2013; Stodter & Cushion, 2017; Townsend et al., 2016). Thus, coaches need to develop their knowledge to keep up with the demands of their sport.

Research in this field indicates that coaches learn through different avenues such as reading books (Abraham et al., 2006; Callary et al., 2018; Irwin et al., 2004; Wright et al., 2007), coaching manuals (Callary et al., 2018; Irwin et al., 2004), journal articles and professional magazines (Schempp et al., 1999), and exploring the internet (Callary et al., 2018; Wright et al., 2007). These types of learning are known as informal or self-directed learning activities, where coaches choose to develop their knowledge through directing their education to what they believe needs to improve in their coaching practice (Stoszkowski & Collins, 2016).

Apart from informal learning opportunities, experience as an athlete has been deemed a significant source of coaching knowledge and practice (Chroni et al., 2019; Cushion et al., 2003; Denison, 2010; Gilbert et al., 2006; Greenberg & Culver, 2019; Irwin et al., 2004; Rynne & Mallett, 2014). Some researchers have proposed that coaches gain and develop an early understanding of what and how to coach from when they were athletes. This previous knowledge and experience as an athlete can be a primary source of knowledge they can rely on in subsequent years as a coach (Chroni et al., 2019; Cushion et al., 2003; Greenberg & Culver, 2019; Gilbert et al., 2006; Rynne & Mallett, 2014). Indeed, in the early stages of the coaches' career, their experience as an athlete helps them seek employment opportunities. After some time, the performance and record of the coach become more relevant to future employment opportunities (Chroni et al., 2019; Mallett et al., 2007).

Additionally, interaction with other coaches and sports experts is another source of informal learning. Coaches usually benefit significantly from discussing coaching practice with other sportspeople (Douglas et al., 2018; Greenberg & Culver, 2019), including other coaches within and outside of their sports and professional sports scientists such as

biomechanists, skill acquisition experts, dietitians, medical and rehabilitation experts, sport psychologists, sport physiologists and strength and conditioning coaches. This method of learning challenges coaches' thinking skills (Rynne & Mallett, 2014).

Another learning pathway is through internal learning. Internal learning situations are where the coach reconsiders their ideas by reflecting on training and competition, the current athletes' performance and what needs to change in their next training program. This process is considered an important learning tool for coaches (Greenberg & Culver, 2019; Werthner & Trudel, 2006, 2009), an essential part of coach learning (Callary et al., 2018; Cassidy et al., 2009; Cushion et al., 2003; Gallimore et al., 2014; Gilbert & Trudel, 2001, 2006), and an important process in improving coaching effectiveness (Côté & Gilbert, 2009; Gilbert & Côté, 2013) and coach expertise (Cassidy et al., 2009; Nash & Sproule, 2011). Gilbert and Trudel (2001) argued that coaches learn through reflecting on their knowledge and practical coaching experience.

Expert Coaches

Coaching is seen as a critical area for national sport organisation development and performance to enhance athlete development and retention (Potrac et al., 2013). To provide athletes with the best training possible, it is crucial to have a good understanding of how expert coaches develop their expertise. Green and Houlihan (2007) highlighted the quality of coaching in developing athletes as an emerging area of research development.

Until recently, a coach's expertise was considered a product of their years of coaching experience and the performance of their athletes (Nash et al., 2012). Researchers have put forward the following criteria to define expert coaches. The coach must have at least a minimum of 10 years of coaching experience (Côté et al., 1995; Côté & Sedgwick, 2003), have been recognised by the national organisational bodies and have developed at least one athlete to an international standard or two athletes to a national level (Côté et al., 1995).

Alternatively, Hardin (2000) defined expert coaches as having at least five years of coaching experience, recognition from peers and others, and strong leadership roles in their coaching practice. The research suggests that coaches gain experience, knowledge and competency over a long time and that the specific contexts in which a coach improves determine their domain of expertise.

Furthermore, expert coaches are aware of the needs of their athletes and know how to align their own competencies with those needs and the context in which they work (Gilbert et al., 2006). They constantly apply their knowledge to plan for the development of their athletes through managing the central duties of coaching such as organisation, training and competition. Indeed, they proactively plan for training and competition, facilitate athletes' goal setting, build athletes' confidence by providing a positive training environment, recognise individual differences and establish good coach–athlete relationships, and teach technical and tactical skills effectively (Côté & Sedgwick, 2003; Mallett & Coulter, 2016).

Expert coaches also set the athlete's vision and have good social connections and high levels of motivation (Côté & Sedgwick, 2003; Mallett & Coulter, 2016). Expert coaches usually care for their athletes in a much broader setting than just the training and competition arenas. They motivate the athletes not only to get something out of sport but, more importantly, they learn and develop personal competency and life skills. As a result, athletes' resilience may be enhanced through coaches focusing more on the personal growth and development of athletes in their coaching practice (Rynne & Mallett, 2014). Interestingly, expert coaches take great pride in helping people excel and reach their full potential, possibly in some cases, due to failure in their own sporting careers (Mallett & Coulter, 2016). Mallett and Coulter noted that the best coaches are often not gifted athletes, as they had to train hard to achieve their ultimate goal and, in the end, may have failed to reach that goal. As such, when they embark on coaching, they propose that their motivation to achieve success

transfers to their work with athletes (Mallett & Coulter, 2016). Considering there is a great deal of research on expert coaches, it is interesting to note that little attention has been paid to the understanding of the identity of expert coaches and the factors that may influence the extent to which they identify themselves as a coach.

Coach Success

In elite and professional sports, coach success is usually determined by the outcome (winning) with less emphasis on the process and effectiveness of the coach (Mallett et al., 2008). In comparison, Horn (2008) proposed that successful performance outcomes at national and international levels incorrectly define coaching effectiveness. Research has shown that victory and success at tournaments can be a strong motivation for coaches to drive them throughout their coaching journey. In recent research on the personal attributes of a successful coach, Mallett and Coulter (2016) examined the personality of a successful Olympic coach. The findings from this coach's life story suggested that he had a strong desire to help others develop and achieve what he failed to achieve when he was an athlete. This seemed to be a force driving his passion for success in coaching. The success of his athletes at the national and international arena was a measure of success for him in his coaching career. Horn (2008) argued that positive psychological responses such as high self-confidence, self-esteem or enjoyment on the part of athletes should be considered the elements of coach success or effective coaching outcomes. The positive psychology literature suggests that desirable outcomes that should emerge from effective coaching in any sporting environment should be the improvement of competence, confidence, connection and character of athletes (the 4Cs) (Côté & Gilbert, 2007). In other words, effective coaches develop athletes' capacity in these areas. The ability of a coach to develop these skills consistently and effectively (the 4Cs) in athletes has been argued to be the ultimate goal of an expert coach (Côté & Gilbert, 2009).

Conversely, from the athletes' point of view, winning or losing is not the only measure of perceived effective or poor coaching. Gearity (2009) explored athletes' perceptions of poor coaching through in-depth interviews with 16 semi-professional athletes. The athletes described the poor coaches as unknowledgeable and poor at providing instruction, failing to provide emotional or relationship support, unfair and discriminatory in their treatment of athletes, and creating a negative environment that undermines athlete or team confidence. Indeed, athletes who reported that they experienced poor coaching perceived their coach to be ineffective in terms of social support, positive feedback, communication, relationships and instruction. Consistent with this, research has reported that what makes a coach successful is good personal attributes such as being sincere and realistic, having highly developed organisational, communication and decision-making skills, holding excellent aspirations, being able to form a good social connection, and being highly motivated (Côté & Sedgwick, 2003; Mallett & Coulter, 2016). While these studies outline the controversy about the measure of coach success within the context of coaching literature, the influence of coach success on coaches' perception and identity is poorly understood, and prior research on coach identity indicated that both athletes' development (Pope et al., 2014), and athletes' success (Purdy &Potrac, 2016) play a role in the development of coach identity.

Humanistic Coaching

Humanistic coaching aims to promote athletes' development and personal growth by empowering sports participation and developing coach–athlete relationships (Falcão et al., 2017; Falcão et al., 2019). Lyle (2002) stated that 'the humanistic approach to coaching is a person-centred ideology that emphasises the empowerment of the individual towards achieving personal goals within a facilitative interpersonal relationship' (p. 174). Compared to traditional coach-centred approaches whereby a coach is the central decision-maker and has a dominating 'do as I say' and 'must win' approach to athletes' learning, humanistic

coaching uses an athlete-centred approach to promote athletes' growth and achievement through a sport rather than emphasising winning over development (Lyle, 2002). In this coaching style, coaches go from making all decisions, being an information giver, setting rules and standards to sharing responsibility with athletes, facilitating learning and collaborating with athletes about rules and standards of behaviour at training and in competition. Indeed, humanistic coaches prioritise the relationship between themselves and their athletes and are aware of athletes' feelings and needs (Cassidy, 2010; Falcão et al., 2017).

In examining this humanistic coaching practice, Falcão et al. (2017) focused on coaches' approaches towards their athletes rather than athletes' skills and attributes. It was reported that coaches perceive a humanistic coaching style as guiding athletes through problem-solving, seeking athletes' input and allowing them to make decisions about the team and establish collaborative coach–athlete relationships. The humanistic coaching style encourages athletes to recognise problems and put forward solutions themselves. Furthermore, these coaches develop a stronger coach–athlete relationship from frequent conversations with athletes on matters outside of sports (e.g., school and family) and spending time with them outside of sport (Falcão et al., 2017, 2019). This coaching style promotes acquiring life skills through lessons learned in sport. Building positive relationships, fostering respect for others and improving athletes' communication skills, autonomy, motivations, willingness to help teammates, confidence, competence, connection and character are some positive athletes' outcomes from humanistic coaching (Falcão et al., 2020). Similarly, Vallee and Bloom (2005) noted that athletes achieve better long-term results and success when coaches invest in the personal development of the athletes rather than having a winning at any costs attitude. Lyle (2002) argued that sport has significant potential for development and personal growth if it is centred on humanistic coaching.

However, the humanistic coaching style does not always have the highest priority in the sport since winning is usually used to measure player and coach success at the professional level (Lyle, 2002). More research is required to determine whether humanistic coaching has any benefits to athletes and coaches in professional sport.

Given that coaches play a significant role in athlete development, to date, research on humanistic coaching has mainly focused on athletes' outcomes. Even though Falcão et al. (2017) considered the coaches' perspective, it was related to athletes' outcomes rather than coaches' self-concept. How the humanistic coaching style influences coaches' self-concept is not clear. However, it is beyond the scope of this thesis to examine humanistic coaching in depth.

Coaches' Working Relationship

Coaches have a tremendous influence on the physical and psychological development of their athletes. Central to an athletes' development is their relationship with their coach (Jowett, 2017). The coach–athlete relationship is a two-way interaction that requires coaches and athletes to lock into a relationship. The quality of this relationship can influence the coaching and its effectiveness (Jowett, 2017; Santos et al., 2018). This relationship then forms an athlete's sporting experience, thus having a significant influence on the development and success of the athlete (Bennie & O'Connor, 2012; Davis et al., 2018; Jowett, 2017; McGee & DeFreese, 2019; Poczwardowski et al., 2002). Indeed, the relationship is a means by which a coach can activate important coaching processes such as influencing, guiding, supporting and helping both the coach and athlete develop, grow and succeed (Jowett, 2017; McGee &DeFreese, 2019).

Research has indicated that for a healthy coach–athlete relationship, the coach must be viewed as approachable (Camiré et al., 2019), and mutual respect between coach and athlete must exist (Bennie & O'Connor, 2012). Coaches who use an autonomy-supportive

behavioural style take their athletes' perspective into account, provide their athletes with a rationale for requested tasks and limits and encourage athletes to take the initiative and be creative. Consequently, athletes feel respected, understood by and connected to their coach (Álvarez et al., 2009; Lafrenière et al., 2011).

Research has pointed out that it is the quality of that relationship that drives athletes' motivation. York and Dawson (2015) noted that the relationship between an athlete and a coach is far more important than the training itself since that relationship is one of the most important influences on athletes' motivation and performance. Indeed, the quality of this relationship is a vital component of athletes' motivation, satisfaction, continued participation and overall success (Jowett, 2000; Jowett & Poczwardowski, 2007; Stewart, 2016). In contrast, even though the highly committed coach–athlete relationship may be associated with some positive interaction and closeness between the coach and athlete, it may cause athletes to encounter a high level of threat because they might be concerned about disappointing their coach by not performing well. Given that this relationship requires the involvement of two people—coach and athlete—it is unknown whether this relationship forms and develops coaches' self-perception or if it can be an influential component in driving coaches throughout their coaching career. Indeed, the research on the coach–athlete relationship has extensively focused on the motivation and satisfaction of athletes, with minimal attention given to how the coach–athlete relationship may affect coaches' self-perception and identity development.

The interactions and relationships of the coach are not limited to athletes. Research has shown that coaches interact with various people in the course of their work, including administrators (Dawson & Phillips, 2013; Potrac & Jones, 2009), assistant coaches (Jones et al., 2009) and sport science and allied health professionals (Côté & Gilbert, 2009; Waters et al., 2019). Additionally, the coach's interactions with assistant coaches, sport scientists,

medical staff, managers and parents is essential for the coach to perform their role effectively (Smoll et al., 2011; Waters et al., 2019). Indeed, coaches should establish an alliance with relevant stakeholders to support their career goals (Potrac & Jones, 2009).

Apart from the coach's interactions and relationships with coach assistants and sport scientists, coaches of junior and youth athletes usually interact with parents, especially if the athletes are still dependent on parents to participate in sport (Smoll et al., 2011). The interaction and relationship of the coach with parents are critically important for the participation of young athletes because parents provide various supports for them to participate in sport (Smoll et al., 2011). The coach–athlete–parent relationship has been identified as the 'athletic triangle', as parents are a crucial part of a coach–athlete relationship too (Smoll et al., 2011). Each party in this system interacts with one another in complex ways, and the nature of those interactions can result in a range of influences on the psychological development of the child. Indeed, parents' good intentions and concerns can help the coach and influence an athlete's development. An optimal coaching relationship can help the athlete grow while the parents' hopes and concerns are met (Smoll et al., 2011).

Another social relationship that coaches can have is the mentor relationship. Coach mentoring is defined as the process of learning in which younger coaches learn from more experienced coaches as coaches usually would like to learn about their roles by actively seeking the advice of more experienced coaches (Jones et al., 2004; McCullick et al., 2016). Recently, the value of a mentor relationship has been identified as integral for coach development. The importance of the coach–mentor relationship for coaches' careers has been found to improve the performance of mentees, facilitate promotions and increase coach salaries (Koh et al., 2014; Tonidandel et al., 2007). Mentoring can help coaches develop their technical skills and coaching knowledge, especially in the early years of their coaching career, so they can progress to more senior levels (Banwell et al., 2019, 2020; Dawson &

Phillips, 2013; Koh et al., 2014). It is argued that mentoring offers a platform for coaches to talk about coaching issues, establish a professional network and connect with other coaches. Mentoring can also assist young coaches in developing their identity and confidence and becoming more competent in their coaching behaviour, coaching style and knowledge (Banwell et al., 2019, 2020; Curran et al., 2014; Douglas & Douglas, 2020; Koh et al., 2014). Moreover, scholars (Jones et al., 2009; Leeder & Sawiuk, 2020) believe that mentoring is a significant resource for coaches in their development.

While mentors seem to be just experienced coaches who provide technical, psychological and career support (Banwell et al., 2019, 2020; Schempp et al., 2016; White et al., 2017), mentees perceive them beyond these supporting functions, with mentors identified by mentees as friends, role models, acceptors and challengers (White et al., 2017; Weaver & Chelladurai, 2002). This relationship has been recognised as a determining factor of remaining in the profession for some beginning teachers in the field of education (Kent et al., 2012).

Overall, a significant amount of research outlines that coaches have interactions and relationships with various people that can influence their coaching practice, career development, retention and athletes' development. It is noteworthy that while social relationships have been identified as one of the factors that play a role in identifying athlete role and identity (Stephan & Brewer, 2007), the influence of coaches' social relationships on their self-perception and identity is unclear. While one prior study (Purdy & Potrac, 2016) has noted that interaction with other coaches positively influenced an elite coach's perception of herself as a coach, more research is required to establish this link.

Coaching Lifestyle

Like many professionals, coaches' lives are complex, and they are heavily involved with coaching both on and off the field (Dawson & Phillips, 2013). Research has shown that

coaches are engaged in the tasks of coaching in their everyday life even if they have a non-sport career (Hassmén et al., 2019). Coaches are constantly thinking about athletes' training programs, preparing athletes for the competitions, finding time to train athletes, travelling with athletes and managing the administrative tasks of coaching. Additionally, they engage in communication tasks such as making phone calls and responding to emails. Furthermore, they invest personal emotions into their work with athletes and make sacrifices in their personal life (Dawson et al., 2013). Pope et al. (2014) indicated that coach identity develops through the centrality of coaching and sacrificing other aspects of life. By contrast, some researchers have noted that when a coach fully immerses into the coaching role and leaves other responsibilities behind, this can lead to a narrow identity that can be a source of burnout (Lundkvist et al., 2012). Some of the drawbacks of narrative identity in sport have been noted as the limited exploration of external interests, the risk of the limited development of identity and self-concept beyond the sporting context (Cummins & O'Boyle, 2015; Danish et al., 1993; Wylleman & Reints, 2010), difficulties with retiring from sport and career transitions, and identity crises (Brewer & Petitpas, 2017). While there has been much research on coaches' lifestyles, only one study (Pope et al., 2014) has indicated the effects of the centring of one's life on coaching on coaches' perception and identity.

High-Performance Coaching

Coaching in a high-performance sport environment is complex and challenging. High-performance coaches work in a dynamic environment where they constantly assess, problem-solve and create change (Lara-Bercial & Mallett, 2016; Thelwell et al., 2008). In this unique workplace, coaches experience high levels of challenge, and stress and unpredictability are inevitable (Lara-Bercial & Mallett, 2016; Mallett & Côté, 2006), meaning coaches are required to have good time management if they are to function effectively under these pressures (Olusoga et al., 2009).

The role of the high-performance coach is to regularly push athletes beyond their comfort zone for them to achieve peak performance (Mallett, 2010; Rynne et al., 2017). It is widely known that in high-performance coaching, the primary determinant of success is winning performances, such as winning medals in Olympic Games or championships in professional leagues. In working to achieve this, coaches encounter various challenges such as the need for comprehensive planning, building and maintaining effective relationships with other personnel such as sports scientists and medical staff and complex decision-making, using extensive data collection, analysis and evaluation (Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006). As such, this complexity requires them to become deeply involved in intensive planning, training and competition (Côté et al., 1995, 2006, 2007; Rynne et al., 2017). While many researchers have addressed the challenging side of high-performance coaching (Mallett, 2010; Olusoga et al., 2010; Rynne et al., 2017; Trudel & Gilbert, 2006; Thelwell et al., 2008), little research has gone beyond this to examine the underlying factors that drive coaches in this complex and rapidly evolving work. Altfeld et al. (2015) noted that the majority of high-performance coaches choose their roles because they enjoy the energy that competitive sport brings.

Rynne and Mallett (2012) conducted semi-structured interviews with 24 high-performance coaches to better understand the work and learning of high-performance coaches. They found that high-performance coaches network with other professionals such as assistant coaches, specialist coaches, psychologists, sport scientists, nutritionists, conditioning coaches, masseurs and sport medicine practitioners. This cooperation with other professionals leads to the dissemination of information or knowledge to the coaches. This informal learning helps coaches with their education and career development (Greenberg & Culver, 2019; Rynne & Mallett, 2012, 2014; Waters et al., 2019). In addition to the relationship with athletes and paraprofessionals, high-performance coaches are often required

to lead and manage various teams of people. Throughout this dynamic process towards producing the high-performance of their athletes, leadership and decision-making become the coaches' primary tasks (Chan & Mallett, 2011; Rynne et al., 2017). Thus, it appears that while high-performance coaching comes with various challenges and stresses, the coaches enjoy leading their teams, the competitive atmosphere side of their work and the knowledge gained through networking with other coaches and associated professionals. While there has been significant research on high-performance coaches, only one study (Purdy & Potrac, 2016) has drawn attention to the career experiences of a high-performance coach and the factors that led to the development of coach identity throughout a high-performance career pathway.

The Professionalisation of Sport Coaching

The interest in seeing sport coaching transform into a professional occupation has become prominent in much of the developed and developing countries in the past two decades (Taylor & Garratt, 2010). Coaching is recognised as integral to enhancing the level of engagement and participation in sport within society and improving the quality of performance in the international competition arena (Houlihan & Green, 2009; Kjær, 2019).

There has been a recent increase in the critical analysis of coaching practice and the quality of coaches across different sports at the micro-level among individual coaches (Côté & Gilbert, 2009) and the macro-level in sport organisations (Taylor & Garratt, 2010). In the UK and Australia, sports coaching thrives on the 'good will' of volunteers working in a wide range of organisations (Green & Houlihan, 2007). Typically, volunteer coaches fit coaching around other commitments such as their job, family and individual sporting interests. In the UK, a sport coaching workforce study reported that 70% of respondents receive no financial benefits for their coaching work. In Australia, 59% of coaches work purely as volunteers, and only 6% earn a full-time income (Dawson et al., 2013).

The prevailing perception of coaching is that it is a leisure activity occupied by passionate volunteers (Lyle & Cushion, 2010, 2017). The development of a professional workforce is vital to the emergence of coaching as a profession where even volunteers are well trained by national sport organisations such as Swimming Australia, Athletics Australia, Football Federation Australia, and the Australian Karate Federation (Dawson & Phillips, 2013). Thus, the recent move towards coaching professionalism focuses on increasing the skills of coaches. Professional coaches should be competent in enhancing performance at elite levels, resulting in athletes competing at the world level with confidence (Lyle & Cushion, 2010, 2017).

Researchers (Kjær, 2019; Woodman; 1993) have suggested that professionalism in coaching should coincide with the development of sport science. This claim has been supported by the growth of sport science careers such as sports psychology, exercise physiology, skill acquisition, nutrition, strength and conditioning and biomechanics—all aimed at supporting athlete and coach performance. Furthermore, an important emerging point of discussion in the coaching profession has been educating coaches in sociology and social psychology, as evidenced by the rapid growth of coaching empirical articles and texts that examine the role of the coach as leader, manager and developer of people and organisations (Cushion & Lyle, 2016).

A vital component of the professionalisation of coaching is career development, where professional identity plays an essential role in coaches' career-focused planning and decision-making (North et al., 2019). Recent studies have revealed that career development is seldom included in formal education programs such as undergraduate and postgraduate courses and is largely ignored in industry-based technical training and accredited coaching courses run by national and state sport organisations (Dawson & Phillips, 2013). Furthermore, several studies have found that the knowledge and skills required for coach

career development do not match the information offered and taught in coaching courses (Dawson & Phillips, 2013; Dickson, 2001; Trudel & Gilbert, 2006; Vargus-Tonsing, 2007). In comparison, in modern practice, professionals have easy access to training resources and often train and become qualified for multiple roles (Friedman et al., 2019). Although continuing professional development is common practice in many occupations such as teaching, psychology and business management (Dawson & Phillips, 2013; Fessler & Christenson, 1992), it is not the case for sport coaching. As a result, it is argued that the coaching practice is a long way from being considered truly professional in any sense, whether volunteer or professional (Lyle, 2002).

Other scholars (Dawson & Phillips, 2013; Nicholas et al., 2005) have proposed that national governing bodies can play a significant role in coaching professionalisation by developing new structures to advocate for coaching education and the promotion of coaching. It is argued that the quality of sport depends on professionalism (Kapustin, 2016), and professionalism in sport coaching would raise the status of coaching, provide a structure for career development, attract more people to coaching as a career option and increase available full-time paid coaching jobs. More importantly, athletes and sport participants would benefit from highly educated and trained coaches (Kerr & Stirling, 2015).

Given all the literature outlined within the context of sports coaching in this chapter, it is evident that coaching is a complex career with many factors related to coaches' careers, and identity determinants research has not thoroughly explored all of it. While it is beyond the scope of this literature review to address all aspects of coaching, previous literature in identity development in sport (Purdy & Potrac, 2016; Stephan & Brewer, 2007) was used as a guide for the literature review in this thesis. Thus, the components and contexts identified by the previous research (Purdy & Potrac, 2016; Stephan & Brewer, 2007) related to identity development within the sport, were chosen for discussion in this chapter.

Identity Theories

For more than 80 years, the concept of identity has been a topic of interest in sociology and psychology research (Burke & Stets, 2009; McCall & Simmons, 1978). The interest in the concept of identity is based on the importance of understanding individuals engaged in the social interactions embedded within society. Identity theories define the person in particular roles in society, as members of specific groups and as people having specific characteristics. There are different identity theories such as role identity, social identity, organisational identity, gender identity, Erikson's theory of identity, ego identity and ethnic identity. Given that previous research in sports (Campo et al., 2019), specifically in the field of identity (Fardilha & Allen, 2020; Pope et al., 2014; Stephan & Brewer, 2007) has mainly used role identity and social identity theories out of all existing theories, these two theories are outlined below. Considering that role identity and social identity theories are related to measuring identity and are linked to behaviour and social contexts, it seems that these two theories are more relevant to the social context of sport and coaching careers.

Role Identity Theory

According to role theory, throughout their lifespan, people occupy multiple roles such as child, sibling, parent, friend, employee, employer, athlete and coach. People are argued to identify with these roles and are also identified by others with these roles (Burke & Stets, 2009). Indeed, according to role theory, individuals' identity is understood as the extent to which people identify with a given role(s). Mead (1934), in his theory of social self, noted that the self is the combination of the social and personal structure of identities. Such role identities are partially made by the social structure and partly by the individual, and when taken together, they present the person (McCall & Simmons, 1978; Stryker, 1980). That is, an individual's own identification with a role, in combination with how others view their roles, together shape identity. It is assumed that highly demanding roles require motivation, drive

and energy levels that can lead a person to increase internalisation and ultimately, to become the role (Burke & Stets, 2009). It seems that some role identities take up a more significant part of the self than others and as a result, have a variable impact on self-concept (Burke & Stets, 2009). For many people, their career role may be the dominant aspect of their identity, taking priority over other roles. According to role theory, identification with a given role then influences self-definition, social reactions to others and their actions and behaviours (Burke & Stets, 2009). One way that a person takes a given role seriously and commits to it is through the hierarchical structuring of role identities. According to role theory, salience and commitment are two primary components that influence the hierarchical structure of identity (Stryker, 1980). Thus, those roles that have more salience and to which the person is more committed are positioned at the top of the hierarchy, whereas those roles with fewer representations of the self are closer to the bottom of the hierarchy. Coach identity research (Fardilha & Allen, 2020; Pope et al., 2014) has used role identity theory and viewed this construct as the prominence and emotions coaches attributed to their coaching roles. Similarly, research in athlete identity used role identity theory and suggested that identity develops as a result of a process of self-related information and a social role where identification with the role is derived from the feedback of others in the society (Brewer et al., 1993).

Social Identity Theory (SIT)

Social identity theory (SIT) rests on the idea that we are members of social groups, and this membership shapes our senses of self and identity. Tajfel (1982) stated that 'social identity is that part of the individual's self-concept which derives from his [sic] knowledge of his [sic] membership of a social group(s) together with the value and emotional significance attached to that membership' (p. 25). Thus, it is being a group member, being identified as a group member and being bound to that group's fate that gives that identity to the self. Thus,

in many social circumstances, people would not think of themselves and others as unique individuals but rather as group members (Ellemers & Haslam, 2012). The salience of social identity can be more potent in specific contexts and can affect behaviour (Tajfel & Turner, 1979). People within a group make social comparisons to evaluate their salient in-groups relative to relevant other groups (Festinger, 1954). The social comparisons, in turn, cause perceptions favouring the in-group over the out-group. According to this theory, individuals greatly desire a positive evaluation of the in-group, which can be affected by media offerings as an important source of information.

It is argued that people who possess a higher level of identification with a group tend to respond more seriously to a threatened social identity than those with low identifications (Ellemers et al., 1997). The prototypical leaders are considered to play a prominent role within a group. According to the SIT of leadership (Hogg & Van Knippenberg, 2003; Hogg et al., 2012), leaders, especially those who are prototypical, are more influential and effective than other members of the group. Their effectiveness is amplified because they are perceived to be strongly recognised by the group and are thus trusted to be acting in the group's best interest.

The literature on social group identity espoused four principles (Hogg & Turner, 1987; Tajfel, 1978; Turner, 1981). First, to be identified as a group member, individuals do not need to make an effort to achieve the group's goals but are required to intertwine with the group's fate psychologically. Second, a group member must experience the failures and successes of the group. Third, acceptance of a group does not necessarily imply that the person has accepted the values and attitudes that are bound to the group. Finally, identification with a group is a desire for self-definition, and the individual tends to gain the qualities of the others in the group (Hogg & Turner, 1987; Tajfel, 1978; Turner, 1981).

Turner et al. (1987) extended SIT to self-categorisation theory, suggesting that individuals are members of multiple groups, and so identity can shift according to the group that is most salient at a given moment. The social identity likely to be salient in a given situation is the most pertinent in the interaction. For instance, someone might more strongly identify with being a woman in a given situation, but at another time, with being a student, athlete or employee depending on the context and what group membership is relevant at any given moment. Indeed, this self-categorisation enriches and amplifies social perception rather than lowering or simplifying it.

A narrative review by Campo et al. (2019) indicated that within the sports literature, SIT has been used to explore the relationship of athletes' group memberships with their emotional experiences in group sports. It is noteworthy that SIT in the field of sport has been used to explore a sense of beingness among athletes but has not been used within coach identity literature. Indeed, the limitation of the research in this field is that identity has been conceptualised with a fairly narrow view of coaches, and it has not necessarily been considered within the broader context and scope of coaches' careers. The proceeding section provides an in-depth review of the extant literature on coach identity and the limitations and gaps of the research within this field.

Erikson's Identity Theory

Erikson (1950, 1968) stated that human develops in a predetermined order through eight stages of psychological development. Throughout each stage, the person encounters a psychological crisis that could have positive or negative outcomes for the personality. In stage five, the adolescent stage, the individual learns the roles they will occupy in society. Erikson (1950) stated that the development of career identity occurs in this stage. During this stage, individuals explore possibilities and begin to shape their identity based on the outcomes of their exploration. Role confusion and identity crisis may occur during this stage.

Marcia (1966) elaborated on Erikson's (1950) work and stated that exploration and commitment should be considered in this identity formation.

Self- Determination Theory (SDT)

Self- Determination Theory (SDT; Deci & Ryan, 1985; Deci & Ryan, 2000; Ryan & Deci, 2017) is a macro theory of human motivation that combines several mini theories that address different aspects of human motivation used in a wide range of different contexts. At the core of this theory is basic psychological needs theory (BPNT) proposing that the three psychological needs of competence, autonomy and relatedness must be satisfied for humans to function and develop optimally. The need for competence is satisfied when a sense of effectiveness and mastery is perceived by humans through their social interaction with their environments (Harter, 1978). The need for autonomy refers to the feeling of choice and concurrence with one's actions (deCharms, 1968). Relatedness is the desire to connect to and feel significant to others (Baumeister & Leary, 1995). According to this theory, people do well and feel psychologically well when the social contexts of their lives (i.e. family relationships, friends, workplace) meet these three psychological needs.

Coach Identity

Coach identity has been defined as 'the degree to which an individual identifies with the coaching role' (Francis, 2012, p.7). An early study by Francis (2012) adapted the AIMS and applied it to coaches. Based on role identity theory, athletic identity is understood as 'the degree to which an individual identifies with the athlete role' (Brewer et al., 1993, p. 237). Athletic identity has a multidimensional structure encompassing self-identity, social identity, exclusivity and negative affectivity. Athletic identity has been conceptualised as one of the domains of the self-concept and is understood as the 'degree of importance, strength, and exclusivity attached to the athlete role that is maintained by the athletes and influenced by environment' (Cieslak, 2005, p. 39). The AIMS was developed by Brewer et al. (1993) as a

measurement tool to assess athletes' identity. Francis (2012) subsequently adapted the AIMS primarily by substituting 'athletes' for 'coaches' to develop the CIMS. This scale was used to evaluate the coach identity of 156 coaches who had different coaching experiences across various team and individual sports. It was suggested that coaches with stronger coach identity would present a stronger commitment to coaching, higher levels of emotional states and lower levels of career exploration (Francis, 2012). Furthermore, Francis (2012) proposed that the advantages and disadvantages of high athlete identity could also be true for coach identity. Some of the benefits and drawbacks of high athletic identity are increased focus and commitment (Horton & Mack, 2000), positive effects on performance (Daniels et al., 2005; Danish, 1983; Horton & Mack, 2000; Werthner & Orlick, 1986), limited exploration of external interests, a risk of a limited development of identity and self-concept beyond the sporting context (Cummins & O'Boyle, 2015; Danish et al., 1993; Wylleman & Reints, 2010), and difficulties with retirement from sport and career transition resulting in identity foreclosure and identity crisis (Brewer & Petitpas, 2017). It is noteworthy this scale was not developed on coaching populations, and its validity and reliability are unclear. Given that coaches' roles and responsibilities are very different and broader than those of athletes, it appears that a survey developed for and validated on an athlete population may not be suitable for coaches.

A further in-depth study of coach identity by Pope, Hall and Tobin (2014) was conducted in Canada, using role identity theory (McCall & Simmons, 1978; Stryker, 1980) to explore the development of coach identity through interviewing eight expert coaches. Using semi-structured interviews and thematic analysis of the results, they showed that 'coach meanings' and 'coach identity prominence' were the two key factors that contributed to the development of coach identity. Coach meanings was further categorised into 'coaching behavioural expectations', 'coaching characteristics' and 'ultimate coaching purpose'. Coach

identity prominence was divided into two categories: ‘coaching centrality/importance’ and ‘coaching emotion’. With regard to the behavioural expectations component of coach meanings, the most important coaching behavioural expectations were rated as establishing suitable technical and tactical training and physical conditioning programs; coaching athletes at competitions; attending meetings, workshops and seminars; recruiting athletes and staff members; and promoting the sports organisation. The coaches stated that these behavioural expectations were learned through interaction with fellow coaches in their organisations, coaches of opposing teams or coaches in the media. They also learned these behavioural expectations over time through experience and feedback from their athletes. Pope et al. (2014) noted that meaning is learned via others’ responses in the environment as well as through interaction. As with coaching behaviours, coaching characteristics may be gained through experience and interaction with athletes and other coaches. Concerning ultimate coaching purpose, the development of athletes in the sport, their personal growth, their life skills and core values were central concerns (Pope et al., 2014). In relation to coach importance and coaching emotion components of coach identity prominence, coaches defined their role as an essential and major part of their life—they felt it was their calling. Moreover, they mentioned that their emotions related to their coaching roles reflected how well they felt they performed in their coach practice. Some of the common emotions that coaches faced within their role were excitement, enjoyment, satisfaction, pride, disappointment and frustration (Pope et al., 2014).

In a subsequent study, Pope and Hall developed the CIPS from the qualitative results identified in their prior research (Pope et al., 2014). This scale aimed to measure prominence and emotions coaches attribute to their role as a coach (Pope et al., 2014). A further study by Pope and Hall (2015) used the CIPS and suggested that coach identity prominence

significantly predicates coaches' commitment. To the best of our knowledge, the CIPS is the only relevant and reliable scale within the coach identity domain.

Another study of coach identity was performed in the UK by Purdy and Potrac (2016). These scholars applied existing literature exploring coaches' career trajectories (Cregan et al., 2007; Nash & Sproule, 2009) and adapted a narrative-biographic approach to focus on the career development of one high-performance coach (Maeve) and the critical events that were related to the formation and development of her coach identity. Maeve was a professional athlete who transferred from an athlete identity to a coach identity when she was not selected to compete at the Olympic Games, her ultimate dream. She was offered a full-time position in a newly created sport academy, leading her to become a coach. The study found that this led her to believe in her ability and success in such a role and envisage a career as a coach. This serious consideration of transition into coaching and the fact that she began to believe that she had the ability to be an Olympic coach was reported to be due to the relationship and interaction that she had with her coach. In this case study, Purdy and Potrac (2016) identified several contributing factors in helping her identify herself as a coach and strengthen that identity along the journey. A positive experience as an athlete, the enjoyment of coaching and her passion for helping athletes achieve what she failed to achieve as an athlete were some of the contributing factors in helping her envisage coaching as a career. Other factors such as acceptance of a full-time coaching position and social relations helped her form a coach identity. The full-time coaching career caused her to be fully immersed in the work and increased her affinity with the coaching role. Her interactions with other expert coaches and recognition from national selectors also increased the affinity she had with her role. Furthermore, the success of her athletes at the world championships, increased responsibility, enhanced status served to strengthen and develop her coach identity.

Overall, there are very few studies on coach identity, and the literature examining coach identity remains limited. For example, one study had only a single coach interviewed (Purdy & Potrac, 2016) and another study focused only on prominence and emotions that coaches attribute to their roles (Pope et al., 2014). Given that Stephan and Brewer (2007) explored the determinants of athletic identity and proposed that athletes' identity is influenced by personal (psychological) and social factors, it was hypothesised that the development of coach identity are beyond the determinants of psychological and social factors. Considering the complex and multidimensional nature of coaching (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006), it is surprising that a broad exploration of the determinants of coach identity has not been conducted. As a result, there is no suitable instrument to measure the development of coach identity based on the determinants of coach identity. Therefore, this thesis aimed to build on the existing literature by examining the range of factors contributing to the maintenance and development of coach identity and developing a coach identity scale that measures coach identity development.

Chapter 3: Method

Introduction

Chapter 2 provided an insight into the broad context of coaches' careers and their various roles and responsibilities. It also highlighted a gap in knowledge about coach identity and the limited research and understanding of how coaches gain an identity throughout their careers and what factors may contribute to enhancing their identity. Given the dearth of research examining the determinants of coach identity, there are few measures of coach identity. One of the current instruments that measure coach identity examines this construct from cognitive meanings that coaches attribute to their roles (Pope & Hall, 2014a). Another instrument used to measure coach identity is CIMS, which measures coach identity from personal and social aspects; however, this scale was not developed on coach population, and its psychometric proprieties remain unclear (Francis, 2012). Given that coaches' roles and responsibilities are complex (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006), it would be useful to have a coach identity survey in which items are derived from determinants of coach identity pertinent to a coaching context. This would allow for new research on coach identity to be undertaken. To achieve this aim, in the first phase of this thesis, a qualitative research method was applied to explore the determinants of coach identity. In the second phase, using the core qualitative data devised from the first study, a coach identity scale was generated. In the last phase of this thesis, a quantitative research method was applied to examine the psychometric properties of the scale. Indeed, the concept of coach identity is under-examined within the sport coaching and sport psychology literature, and its link with various aspects of coaching context such as coach relationship, coach commitment, coach success, and coach learning has not been examined yet. Given that very limited research has explored the concept of coach identity, little is known about the ontology and epistemology of this phenomenon.

From an ontological perspective, this thesis has been developed using the pragmatism research paradigm, in that the methods used have been determined by what would best answer the broad research question and the specific aims outlined above (Liamputtong, 2020); as they do not comfortably fit into the more traditional positivist or constructivist paradigms (Nelson et al., 2014). This has resulted in a multi-layered, mixed-methods approach, whereby both quantitative and qualitative data has been collected (Liamputtong, 2020). The first phase of the thesis focuses on individual psychosocial identifiers and follows a sequential exploratory mixed methods design (Liamputtong, 2020). This was due to the need to establish an understanding of the participant's coach identity. The second and third phases of the thesis focus on the development and validation of a coach identity scale. In understanding and examining identity, a realist epistemological approach was used within the thesis. From this approach, identity is understood as a ' real' thing internally within an individual that can be objectively measured. Thus, the goal of the studies in this thesis was to gain an understanding of coach identity and develop a measure of identity.

The purpose of this chapter is to present a rationale for the research methods employed in this thesis and put forward preliminary information on how the study was were executed. Specific detail on participants, procedures and data analysis pertinent to each study is provided in subsequent chapters. Furthermore, this chapter explains the research aims and the data analysis process for establishing the validity of the results. When discussing the methodological process, particular attention is paid to the process of collecting data, sampling research participants and putting forward a justification for the data analysis.

Research Aims

This thesis includes three studies. The aim of each study is described below:

- Study 1—An exploration of the determinants of coach identity throughout coaches' careers. This study aimed to investigate the various factors that develop and strengthen coaches' identity throughout their careers.

- Study 2—The generation of CIDS. Following on from Study 1, the second study aimed to develop a scale to measure coach identity development. To create the survey questions, the determinants of coach identity identified in the first study were used to generate an item pool.
- Study 3—The examination of the psychometric properties of CIDS. This study examined the psychometric properties of CIDS, in particular, its factor structure, internal consistency and convergent and discriminant validity. Furthermore, to examine the reliability of the scale, the test-retest reliability was assessed.

Method

Recent research exploring the knowledge of expert coaches has applied a mixture of questionnaires and in-depth interviews (Nash & Collins, 2006; Pope & Hall, 2014a, 2014b; Pope et al., 2014). This thesis utilises a mixed-methods approach for data collection and analysis. Mixed methods are often identified as the third methodological research approach after qualitative and quantitative designs (Johnson et al., 2007). Mixed-methods research is defined as 'the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding' (Johnson et al., 2007, p. 123). The aim of mixed-methods research is not to replace either qualitative or quantitative research, but rather draw on the strengths and decrease the weaknesses in both approaches (Andrew & Halcomb, 2014). When using mixed-method design, two criteria should be considered: time orientation and the relationship of the qualitative and quantitative samples. This research employed a sequential mixed-method design in which the second study occurred directly after the first

study, and the third study occurred after the second study so that the later phase was completely dependent on the former phase.

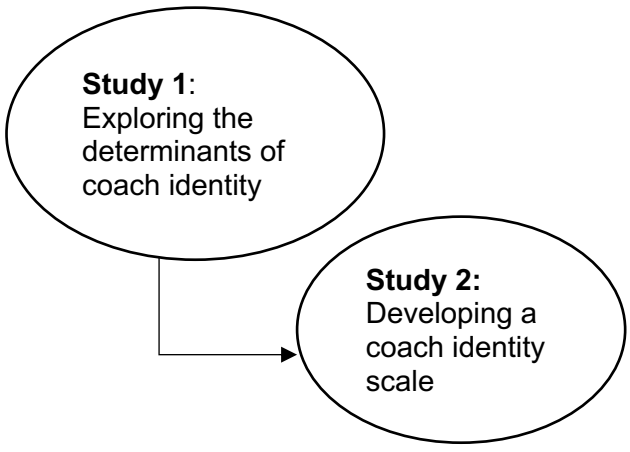
In this thesis, the qualitative results obtained from the first study were used to develop a scale (assessed using a quantitative approach) in the second study. Indeed, the developed survey was constructed directly from the core qualitative results, with the items reflecting the qualitative categories and the participants' language (Morse & Niehaus, 2009). In the third study, a quantitative research design was applied to examine the factor structure and the validity and reliability of the developed scale.

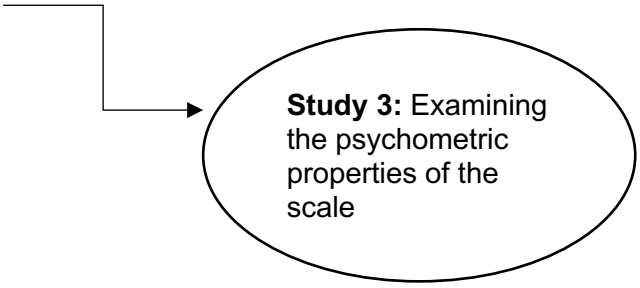
The qualitative and quantitative samples of coaches in this research have a nested relationship in which the sample of coaches selected for phase two represent a subset of those coaches chosen for the first phase of the study. The relationship of sampling participants between the first and third phases of this project is parallel, as the samples for the qualitative and quantitative phases are different but are drawn from the same population of interest (coaches) (Onwuegbuzie & Collins, 2007).

Figure 3.1 illustrates the relationship between the three studies in this thesis. As can be seen, in the first study, the determinants of coach identity were explored. Using the qualitative results from the first study, a scale was constructed in the second study. Following this, the validity and reliability of the developed scale from the second study were computed in the third study.

Figure 3.1

The Relationship Between Three Studies





Participants

Previous research examining coach identity interviewed expert coaches with a minimum of 10 years of coaching experience (Pope et al., 2014; Purdy & Potrac, 2016) and who had coached athletes that have competed at the national or international level (Purdy & Potrac, 2016). It is also worth noting that Stephan and Brewer (2007) interviewed retired athletes who had competed in the Olympics in exploring the determinants of identification with the athlete role. Thus, it appears that in the exploration of coach or athlete identity, experts from those domains have been the target population of prior research because they have excellent knowledge and experience related to their field. Regarding expert coaches, researchers have put forward the following criteria to define an expert coach: a minimum of 10 years of coaching experience (Côté et al., 1995; Côté & Sedgwick, 2003), recognised by the national organisational bodies and developed at least one athlete to an international standard or two athletes to a national level (Côté et al., 1995). Accordingly, expert coaches with a minimum of 10 years of coaching experience and who have coached athletes who have competed at (or are competing at) the national or international level were invited to participate in the first study.

Previous studies in coach career development (York & Dawson, 2015), coach identity (Pope et al., 2014; Purdy & Potrac, 2016), and athletic identity (Stephan & Brewer, 2007) have employed qualitative methods and used relatively small sample sizes. There is no

established minimum or maximum limit to sample size for in qualitative research (Vasileiou et al., 2018) as researchers are often in search of meaning of an observed phenomenon. To ensure sufficient rigor has occurred with exploring the phenomena under investigation, the process of data saturation is employed (Vasileiou et al., 2018). Saturation is defined as 'the point when we fully understood issues, and when no further dimensions, nuances, or insights of issues can be found' (Hennink et al., 2017. p. 594). Thus, given that predicting sample size in advance appears to be problematic, the concept of saturation was used as a guide for the sample size of the first study.

In the second phase, a pool of items for developing the CIDS was generated based on the data analysis from Study 1. Like previous research in assessing content validity of the CIPS (Pope & Hall, 2014a), a panel of experts consisting of six academic researchers knowledgeable in the field of sports coaching, sports psychology and sport sociology was engaged to assess the content validity of the CIDS. To evaluate the technical qualities of the scale, a pre-test was conducted (Pope & Hall, 2014a). Five expert coaches from the first study were invited to participate in the CIDS pre-test study.

For the third phase of this thesis, 216 sports coaches from a range of team and individual sports who were residents of English-speaking countries and had a minimum of one year of coaching experience were invited to participate in the study. Given that the third study aimed to explore the factor structure of the CIDS, a suitable sample size for conducting exploratory factor analysis (EFA) was considered. For conducting EFA, Gorsuch (1983) and Kline (1994) recommended sampling at least 100 participants, and Guilford (1954) proposed a minimum sample size of 200. Other authors have also proposed that the minimum sample size should be based on a ratio of the number of cases to the number of variables. Gorsuch (1983) recommended this ratio be at least five cases to one variable, and both Everitt (1975) and Nunnally (1978) suggested this ratio be 10 to one. Based on proposed total samples sizes

and the suggested least ratio of the number of cases to the number of variables, five cases per item (Gorsuch, 1983), the sample size was deemed sufficient.

Interviews

Semi-structured interviews were used for the qualitative component of this thesis. Cohen et al. (2000) are proponents of the semi-structured interview because its flexibility allows the interviewer to investigate responses in great detail and collect in-depth insights into coaches' lives and work. By using this method, the participants are provided with the opportunity to tell their own stories while allowing the researcher to probe and explore the information provided by each participant. Semi-structured interviews also provide the flexibility of using pre-prepared questions to form the interviews while also having the freedom to delve more deeply into the participants' stories or probe the ideas further in detail when the situations suited. The use of semi-structured interviews is also consistent with recent research investigating coach identity (Pope et al., 2014; Purdy & Potrac, 2016).

The main researcher conducted each interview. The interview schedule contained a series of open-ended questions that were derived from sports coaching literature, Erikson's development theory (1950, 1968) and Marica's (1966) elaboration on Erikson's work, Self-Determination Theory (SDT) (Deci & Ryan, 2008), as well as literature on coach identity (Fardilha & Allen, 2020; Purdy & Potrac, 2016). The semi-structured interviews in this study encouraged coaches to talk about their career as a coach, including their journey from athlete to coach, and how their identity changed over time, including factors that helped them gain a stronger self-belief as a coach. More broad and general questions were scheduled at the beginning to allow the participants to become acquainted with the interview process and to speak in a relaxed atmosphere. A full list of interview questions is provided in Appendix C.

The interviews followed a conversational style of questioning that elicits a more in-depth reply to each question. As the interviews evolved and salient information emerged,

probes were used to elicit further detail or to return to earlier points that required further development. Elaboration prompts were used to encourage the participants to expand their responses and gain an in-depth understanding of what they thought about each topic or experience they mentioned.

Questions relating to demographic data, such as age, gender, highest educational level, the sport they coach, years of athletic experience, years of coaching experience, the highest level of coaching experience, the highest level of athletes being coached, hours per week involved in coaching, the current coaching position (i.e., as a head coach or assistant coach), coaching as a primary or secondary source of income, were asked at the end of the interview.

The researcher herself is a practising coach and has been a professional athlete. The benefit of having a background in sport as an athlete and a coach is that the author has credibility as an investigator due to her lived experience, which enabled her to quickly establish a rapport with participants and discuss the phenomenon related to the coaching journey that a researcher without coaching experience could not have (Lindseth & Norberg, 2004).

Measures

The quantitative phase of this thesis employed three measures: 1) the CIDS created in Study 2; 2) the CIPS (Pope & Hall, 2014a); and 3) the Patient Health Questionnaire (PHQ-9) (Kroenke et al., 2001).

To examine the convergent validity of the CIDS, the relationship of this scale with an established survey related to coach identity context was computed. Furthermore, to assess the discriminant validity of the coach identity scale development, the correlation of the scale with a depression scale (PHQ-9) was examined. From Erikson's identity theory (1980), it seems

plausible that identity is not associated with depression and is a construct that should not be conceptually related and is in fact not correlated.

The Coach Identity Development Scale (CIDS).

This scale contained 28 items measuring various aspects that were identified to contribute to the maintenance and development of coach identity. A full list of questions is provided in Appendix E.

The Coach Identity Prominence Scale (CIPS).

Coach identity prominence was measured using the CIPS (Pope & Hall, 2014a). This scale contains two subscales labelled 'evaluative emotions' and 'centrality'. Participants were instructed to answer the eight items considering their coaching role over the past year with the five-point Likert scale provided, which was anchored by 0 (not at all true) and 4 (completely true).

The scale has been shown to have convergent and discriminant validity, with reliability (centrality $\alpha = .92$; $\omega = .90$; and evaluative emotions $\alpha = .80$; $\omega = .88$; centrality) and factorial validity (factor loadings $\geq .65$). The latent correlation for two subscales was reported strong at .72. The Cronbach's alpha coefficients for the two subscales were reported as acceptable (Pope & Hall, 2014a, 2014b). A full list of questions is provided in Appendix F.

The Patient Health Questionnaire (PHQ-9).

The PHQ-9 was used to assess depression symptoms in the past two weeks (Kroenke et al., 2001). This scale is a multipurpose instrument for screening, diagnosing, monitoring and measuring the severity of depression. The PHQ-9 incorporates DSM-IV depression diagnostic criteria into a brief self-report tool. The PHQ-9 consists of nine items scored on a Likert scale ranging from not at all (0) to nearly every day (3). The scale has construct and criterion validity, with an internal consistency of $\alpha \geq .89$ (Kroenke et al., 2001). A full list of questions from the PHQ-9 is provided in Appendix G.

Procedures

The data collection commenced following approval from the Victoria University Ethics Committee. As this research had three phases, the procedures of each phase are outlined below. Figure 3.2 illustrates the overall procedure of the three studies in this thesis.

Figure 3.2

Overall Procedures of Three Studies

Study 1

Before the recruitment of participants, to ensure the validity of the semi-structured interview questions, a pilot test was conducted on two coaches who had the same criteria that were set for the participants of the first study (Majid et al., 2017). That allowed the researcher to identify possible flaws before conducting the first study (Dikko, 2016). In the next phase, using convenience sampling (Onwuegbuzie & Collins, 2007), participants were recruited through the research team's networks. Convenience sampling was considered a valid recruitment method for this phase of the research (Onwuegbuzie & Collins, 2007), as

contacting high-performance coaches is very challenging and the researcher and her principal supervisor have extensive sport industry contacts. An initial invitation to participate in this project was sent out via the principal supervisor's professional network on LinkedIn with no respondents that met the selection criteria for expert coaches. The researcher then contacted several high-performance coaches from personal contacts regarding their willingness to participate in this research stage. The coaches that the researcher was able to recruit were from netball, soccer, volleyball, Karate, Taekwondo, athletics, table tennis and basketball. A final number of eight coaches from each of these sports agreed to participate. Upon the initial agreement of coaches to participate in this study, they were provided with an information package that included a plain language statement and consent form. A copy of these forms is provided in Appendices A and B.

Once each coach gave their consent by completing and returning the consent form, the venues and times were confirmed. The day before the scheduled interview, the researcher sent a text message to remind the coaches of the interview time and place. All coaches were reminded of their voluntary participation and the confidentiality of the interview before the commencement of the interviews. A copy of the interview questions was provided to the participant at the beginning of each interview because an interview guide provides continuity between interviews and helps the person being interviewed focus (Minichiello et al., 1999). However, the wording and the exact order of the questions differed from participant to participant, with topics that arose during the interview conversation being followed up with further questioning (Draper & Swift, 2011).

The interviews were conducted either in a coffee shop or workplace of coaches for two reasons. First, it was convenient to find a venue available at a time that suited both the participants and the investigator. Second, by interviewing each coach at their preferred venue, the chance of interruptions was diminished. Furthermore, a familiar environment could offer

participants a sense of comfort to increase their focus and improve their responses during the interview (Bolderstone, 2012).

All interviews were recorded on a digital recording device and transcribed by a professional transcription service. These transcripts were emailed to the participants to be approved as an accurate recording of the interviews and confirm that the results accurately reflected their experiences (Franklin et al., 2010). All coaches in a reply email approved the transcripts, and none of them amended the transcripts.

Study 2

Using the findings from the first study that explored the various dimensions of coach identity, the researcher aimed to develop a survey to assess the identity development of coaches. As such, in the second study, a coach identity development scale was generated. To develop the scale, scale development procedures advocated by De Vellis (2003) served as a guideline. As such, several steps were taken to develop the scale. First, a pool of items was generated using the themes and subthemes identified in the first study. It was then determined that each item would be assessed on a five-point Likert scale from 1 (strongly agree) to 5 (strongly disagree). Revilla et al. (2014) have recommended that for developing a scale, five-point Likert scales are more valid than seven or 11 points as the latter yield lower quality data.

After the generation of the item pool, the clarity and readability of the items were independently reviewed by supervisory panel. Based on the supervisory panel's feedback, redundant, lengthy and complex items were either excluded or modified. In the next step, to discover the extent to which each item was relevant to coach identity development, the initial item pool was reviewed by six experts in sports coaching, sports psychology and sport sociology. Prior to sending the survey to the expert panel, a summary of the results of the first study was presented to each member of the panel to provide them with insight into the

determinants of coach identity obtained from the first study. Prior to each meeting, each panel member gave their consent by replying to the invitation email and agreeing to participate in the study. At the beginning of each meeting, a brief explanation of the results of the first study, the aim of the second study, and how each panel can help with their participation in the study were provided. After each meeting, a copy of the determinants of coach identity development, the item pool and a content validity survey were emailed to the coaches.

The panel was asked to rate the content validity of each item on a four-point Likert scale: 1 (not relevant), 2 (somewhat relevant), 3 (quite relevant) and 4 (highly relevant) (Lynn, 1986; Polit et al., 2007). Additionally, the panel was encouraged to add their comments on items that they felt could be improved by a minor amendment. Thereafter, items were amended based on panel feedback and two items that were reported to be invalid (i.e., received the item score of 1 [not relevant] or 2 [somewhat relevant] by more than two experts) were removed.

In the next phase, a pre-test was conducted on a small sample to evaluate the technical quality of the scale and receive item feedback before finalising the scale and assessing its psychometric properties. The pre-test sample size should be small but as similar as possible to targeted respondents and can range from five to 100 people (Carpenter, 2018). In an attempt to recruit at least 20–30 participants, an initial invitation to participate in the pre-test was sent via the researcher's professional network on LinkedIn with no response that met the selection criteria. The researcher then contacted the coaches who participated in the first study. Five out of seven coaches agreed to participate in the pre-test. As such, the survey was sent to those five coaches to rate the technical qualities of each item by ticking off any of the following boxes for each item: a) lengthy, b) unclear, c) difficult to read, d) multibarreled or e) none of them (meaning the item does not have any issue). After sending the survey to the coaches for technical quality assessment, and prior to coaches completed the survey, the

researcher arranged a phone call meeting with each coach to provide them with more information about how to assess the technical quality of the scale and what they were required to do.

Study 3

In the third study, coaches from team and individual sports were recruited from sporting clubs and organisations websites. The online surveys were initially sent to coaches in different states in Australia. Following this, a search was conducted to identify coaches in other English-speaking countries. The online survey was emailed to coaches from Australia, the USA, the UK, New Zealand, and Canada. Participants accessed the survey through a link to Qualtrics. The survey link contained the questions of the CIDS, the CIPS and the PHQ-9. Furthermore, the survey included questions to collect demographic data such as age, gender, highest educational level, the sport they coach, previous experience as an athlete, years of coaching experience, the highest level of coaching experience, the current level of athletes being coached, hours per week involved in coaching, the current coaching position as a head coach or assistant coach, coaching as a primary or secondary source of income, and current residential country.

Throughout the recruitment process, the email addresses of participants who had not finished the survey were identified through Qualtrics, and the researcher sent a link to those email addresses so that those participants could resume the survey from where they had left it. To obtain the test-retest reliability of the CIDS, two weeks after completing the first survey, coaches were re-contacted via Qualtrics with a request to complete a second survey, which consisted only of the CIDS. A further reminder was sent 48 hours later to complete the survey. Test-retest reliability is important in the development of psychometric tools and refers to consistency among two or more measurements (Rust & Golombok, 2009). The interval between measures should be large enough that responses are not influenced by the

first set of responses. The interval chosen should be justifiable relative to the stability of the construct of the interest (Aldridge et al., 2017). Given the unstable nature of circumstances for coaches during the lockdown and COVID-19 restrictions impacts on the ability to engage in coaching and sport, two weeks of intervale between two measures was considered to have the least changes in coaches' coaching career and the sense of self, and be long enough that coaches would not be influenced by their first set of responses.

Data Analysis

Study 1

Data were systematically analysed using NVivo qualitative software version 12 to break down the data into meaningful categories and themes for further examination and comparison. This research used inductive thematic analysis in which the themes were directly identified from the participants' own words and were strongly bound to the data themselves (Braun & Clarke, 2006, 2012; Braun et al., 2016). In using an inductive approach, the researcher did not subscribe to the implicit theoretical commitments; rather, the analysis was data driven. In this analysis, the keyness of the theme did not necessarily rely on the prevalence of the theme across the data but rather whether it captured any significant context pertaining to the development of coach identity. To ascertain the factors that play a role in the maintenance and development of coach identity and how and why they played this role, the themes were identified at the latent level in which the analysis went beyond the semantic content of the data and began to recognise the underlying assumptions and ideas that were hypothesised as shaping the semantic content of the data. NVivo was used for the initial coding of similar content and also to generate initial codes. Relevant components of the raw data were coded and organised into meaningful and interpretable categories. Analysis at the latent level was conducted for each individual theme by identifying patterns in the data relevant to the research questions (Braun & Clarke, 2006, 2012; Braun et al., 2016). Different

methods were used to increase the rigour of this study by giving attention to the validity and reliability of qualitative data. Various methods were used to increase the reliability of the data methods, including using the verbatim accounts of the participants, staying close to the empirical data by supporting statements with exact quotations from the participants, calculating the frequencies for different themes/subthemes and confirmation of themes and subthemes by another researcher (Franklin et al., 2010). The validity of the data was obtained by the consensus of three researchers on what the key themes were and whether the data had covered enough of the aspects that were being explored (Franklin et al., 2010; Punch, 2005). Member checking through obtaining feedback from the participants was another method used to increase the validity of the qualitative data (Franklin et al., 2010; Smith & McGannon, 2017).

Study 2

For the second study, descriptive statistics were used to explore the frequencies of endorsement of each rating for each item on a four-point Likert scale from 1 (not relevant), 2 (somewhat relevant), 3 (quite relevant) to 4 (highly relevant) (Lynn, 1986; Polit et al., 2007). The content validity of the scale (S-CVI) was measured according to the overall proportion of the items in the scale that gained a rating of 3 (quite relevant) or 4 (highly relevant). In other words, S-CVI was considered the average of the I-CVIs for all items on the scale (S-CVI/Ave) (Polit et al., 2007). The technical quality of the scale was assessed by identifying the frequency of an issue being reported for each item. The items identified to have an issue by two or more coaches were modified (Lynn, 1986; Polit et al., 2007).

Study 3

In the third study, an EFA was conducted to explore the factor structure of the survey. Internal consistency was assessed using Cronbach's alpha. Convergent and discriminate validity, as well as test-retest reliability of the developed scale, were computed. The

relationship between the CIDS with the CIPS and the PHQ-9 was assessed using Pearson's correlation to explore convergent and discriminant validity, respectively. The significance level was set at $p \leq 0.05$. The test-retest reliability coefficient was assessed using Pearson's correlation.

Chapter 4: Study 1—Exploring the Determinants of Coach Identity

Introduction

Chapter 2 discussed the current knowledge about the complex career of coaching and the prominence of coaches in the lives of athletes, as well as athletes' performance and success. Yet, there is a lack of literature on how the identity development of expert coaches occurs, especially regarding the influence of the self, society and the sporting environment.

As discussed in the previous chapter, there are very few studies on coach identity and the literature examining coach identity remains limited. The literature that does exist has been conceptualised with a fairly narrow view of coaches, and it has not necessarily been considered within the broader context and scope of coaches. Thus, given the complex and multidimensional nature of coaching (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006), research to explore factors that contribute to coaches' identity from a broader context within the scope of coaching is lacking.

Stephan and Brewer (2007) revealed insights into the identity development of elite athletes through their qualitative research on perceived determinants of identification with the athlete role among elite competitors. By exploring the factors that play a role in athlete identity development, it was shown that athletic identity is influenced by many personal, social and environmental factors. Considering the complex and multidimensional nature of coaching, it was postulated that coach identity might be formed and developed through the influence of many factors within the scope of coaches' careers.

Exploring coach identity can provide an insight into why coaches act in the manner that they do and why they persevere in their roles (Pope et al., 2014). Examining coach identity can also provide insight into coaches' careers, experiences and working lives (Purdy & Potrac, 2016). To that end, the purpose of this study is to examine the factors that play a

role in the strength and development of coach identity from a broader context within the coaching domain.

Participants

Out of the eight coaches who agreed to participate in the first study, seven expert coaches (six males and one female) ranging in age from 36 to 66 (M = 49.42, SD = 10.39) participated in in-depth interviews. Data saturation was deemed to have occurred on the seventh interview when themes identified from the data did not add any additional information to the previous six interviews. Thus, data collection stopped after the seventh interview. As such, the interview with the eighth participant, who was a female basketball coach, did not take place.

The inclusion criteria were a) a minimum of 10 years of coaching experience, and b) have coached athletes who have competed at a national or international level. Coaches were from a broad range of team and individual sports in Australia, including table tennis, Taekwondo, Karate, athletics, volleyball, soccer and netball.

Participants reported coaching between 15 and 37 years (M = 23.42, SD = 7.48) and were currently undertaking eight to 30 hours of coaching weekly (M = 20.71, SD = 8.45). Coaches indicated that the highest level they had coached was national (two), international (three) or Olympic-level (one) teams or athletes. All the coaches had a broad range of coaching experience, from coaching at a community level, especially in the early stages of their coaching career, to national and international competitions and the Olympics.

Three coaches reported coaching as their primary source of income, two identified it as their secondary source, and one coach stated that they did not receive any income from coaching. In general, coaches recognised themselves as former high-level athletes in their sport with 8 to 45 years of athletic background (M = 21.57, SD = 12.14). The demographics of the participants are presented in Table 4.1.

Table 4.1

Participants' Demographic Information

Sport coach	Age	Gender	Years of athletic experience	Years of coaching	Hours weekly coaching	Highest level coached	Source of income	Highest educational level
Karate	60	Male	8	37	30	World	Primary	Diploma
Taekwondo	42	Male	25	20	8	World	Secondary	High school
Table tennis	66	Male	45	30	25	Olympics	Primary	Graduate diploma
Athletics	47	Male	20	20	20	Olympics	Voluntarily	Bachelor's degree
Netball	45	Female	23	25	30	World	Primary	Bachelor's degree
Volleyball	50	Male	10	22	12	National	Secondary	Diploma
Soccer	36	Male	20	15	20	National	Primary	Diploma

Note: Years of coaching represents the total years of coaching at any level.

Procedures

Before commencing the data collection, ethics approval was received from Victoria University Research Ethics Committee. Following the approval, the participants' recruitment for the first phase of this research began. Coaches were recruited through the research team's networks. Seven expert coaches from team (n = 3) and individual sports (n = 4) were invited to participate in this study.

An initial email was sent to the coaches to ensure they met the inclusion criteria of 10 years of coaching experience and having coached athletes who competed at state, national or international levels. The participants were provided with an information package that included a plain language statement and a consent form via email (see Appendices A and B). Upon providing informed consent, the participants were contacted by phone or email and a date, time and place were arranged for the interviews to be conducted.

Prior to commencing the interview, participants were reminded of the research aims. The plain language statement was discussed, highlighting that they could withdraw from the research at any stage, and if so, their data would be deleted. The researcher also took time to build up a friendly rapport by having a short conversation about her involvement with coaching as a coach and how the interviewee perceived their sport from a coaching perspective. The interviews lasted from 30 to 50 minutes and were conducted in person at a location of the coach's choosing, such as a coffee shop or the coach's workplace. Throughout the interviews, the researcher endeavoured to use a friendly, conversational style. The questions encouraged each coach to talk about their career as a coach, their journey from athlete to coach, and how their identity developed throughout their career, including factors that helped them to gain a stronger self-belief as a coach. As such, the interviews questions were not always asked according to the scheduled order but rather were asked according to the relevance and flow of the conversation. However, the interviewer ensured that all questions in the schedule were asked. At the end of each interview, the researcher thanked the participant for their contribution and time. A full list of interview questions is provided in Appendix C.

All the interviews were recorded using a digital audio recording device. The recording of each interview was transcribed verbatim soon afterwards. The transcripts were then de-identified with any potentially identifying information removed, such as athletes' names and any other stakeholder or organisation details such as sports club employees or volunteers. The final process was member checking, in which each participant was sent a copy of the transcript to confirm they agreed with its content and were asked if they wanted to add anything further. None of the participants made any changes to their interview transcripts.

Interviews

Semi-structured interviews were used for the qualitative component of this thesis. The interview schedule contained a series of open-ended questions informed by the empirical literature examining coaches' roles and responsibilities (e.g., How do you improve your coaching knowledge?). Additionally, some questions were derived from Erikson's (1950, 1968) development theory and Marica's (1966) elaboration on Erikson's work, as the aim was to explore the identity development of coaches throughout their careers. Prior research established that loss of motivation leads to the termination of a coaching career (Frey, 2007; Olusoga et al., 2010); therefore, some questions were derived from SDT (Deci & Ryan, 2008) to establish participant motivation to coach and their perceptions of career development. Furthermore, some questions related to income, athletes' improvement, peers and colleagues were derived from previous research on the exploration of coach identity (Fardilha & Allen, 2020; Purdy & Potrac, 2016). To gain more information for some questions, these questions contained sub-questions. For example, the sub-question for the question related to improving coaching knowledge was 'What impact does enhancing your coaching knowledge have on your coach identity and coaching practice?'. To gain the validity of the semi-structured questions, a pilot test was conducted on two coaches who had similar criteria to the participants in this study. Based on the trial interviews, it was determined that no modification to the interview questions was required.

Data Analysis

The data from the semi-structured interviews were analysed using thematic analysis (Braun & Clarke, 2006, 2012; Braun et al., 2016). The thematic analysis used an inductive approach in which the themes were data driven and directly identified from the participants' own words. To analyse the data, several steps were taken (Braun & Clarke, 2006; Braun et al., 2016). First, the researcher familiarised and immersed herself in the data by repeated

reading of the first three interview transcripts. During this phase, the researcher took notes and marked ideas on the transcripts, which was used to guide coding in subsequent phases. The data from the first three interviews were analysed after each interview. This process helped the researcher become more familiar with the data and be aware of potential data saturation.

Following the generation of an initial list of ideas about the data regarding the development of the participants' coach identity in their career, the next step was to define the node structures. Nodes were generated by labelling a feature of the data relevant to the research questions. The coding was then done by selecting the content and right-clicking to display the shortcut menu and choose one of the coding options, including a) code at new or existing nodes and b) code to recent nodes. After finishing coding in NVivo, the content of each node was reviewed. Some codes were deleted, and some nodes were transferred to other codes where they were a better fit. For example, 'coach–athlete relationship' was labelled a node, and any content related to interactions and relationships of coaches with athletes was coded in this node.

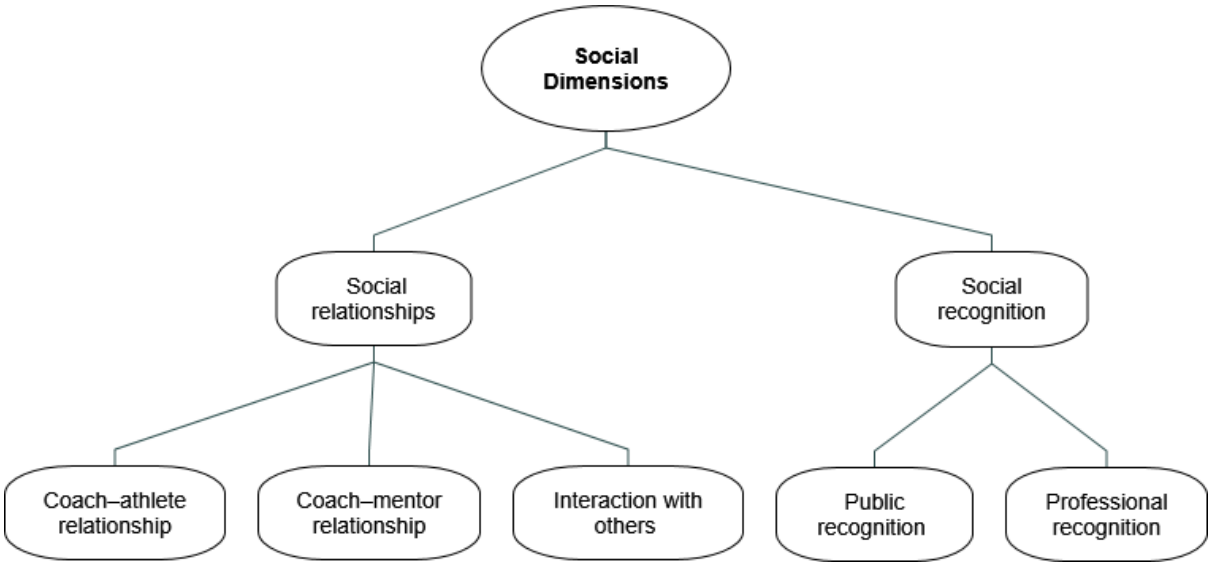
In the next step, the analysis re-focused at the broader level, which meant sorting different nodes into potential themes. This phase involved reviewing and refining the themes. All the coded data extracts for each theme were first examined to see if they formed a coherent pattern and second to code any additional data within themes that were missed in earlier coding. During this process, it was noticed that some themes were not clearly defined as the data were too diverse or insufficient to support the themes.

After reviewing and refining the themes, the relationship of each theme in relation to the others was examined. It was noticed that there were connections between themes. As such, with the aim of searching for higher-order themes, the analysis re-focused at the broader level, which involved sorting different themes into relevant higher-order themes and

collecting all the pertinent themes within the identified higher-order themes. Throughout this phase, the researcher reviewed the coded data extracts for each theme to ensure the themes within each higher-order theme were coherent and meaningful, while there was a clear and identifiable distinction between higher-order themes. Each higher-order theme was named; for example, ‘coach–athlete relationships’, ‘coach–mentor relationships’, and ‘interactions with others’ were identified to be pertinent to the relationships and interactions of the coach with different people within the social context of coaching. Thus, they were grouped and created the higher-order theme of ‘social relationships’.

Figure 4.1

Thematic Map of the Social Dimension of Coach Identity



In the next phase, the relationship of each higher-order theme to others was examined. It was identified that there was a connection between higher-order themes, so the higher-order themes were sorted into four distinct key themes. During this process, the researcher reviewed the coded data extracts and themes for each higher-order theme to ensure the themes within each higher-order theme were coherent and meaningful, while there was a clear and identifiable distinction between the four key themes. In the last phase, key themes were named; for example, the higher-order themes of ‘social recognition’ and ‘social

relationships' were identified to be related to the social aspects of the coaching domain. As such, they were grouped and created a key theme named 'social dimensions'.

Researcher triangulation was undertaken to develop a deeper understanding of the data. Researcher triangulation in qualitative research involves several trained researchers examining the data to develop a comprehensive undersetting of the phenomena being studied (Carter et al., 2014; Rice & Ezzy, 1999). Triangulation was also employed to reduce bias pertaining to the attitudes and expectations that both interviewee and interviewer bring to the interview, which may jeopardise the validity of the interview process (Nowell et al., 2017). Three trained researchers reviewed the coded data extracts for each key theme and their subthemes to determine if a coherent pattern was apparent. All key themes and their subthemes were carefully and critically examined by three researchers over three meetings. Throughout those meetings, it became clear that some themes did not have adequate data to support them, as they did not capture any significant context pertaining to the development of coach identity. Thus, they were removed from the final analysis reported below. All three researchers reached a consensus on what the key themes were and whether the data had covered enough of the aspects that were being explored (Punch, 2005).

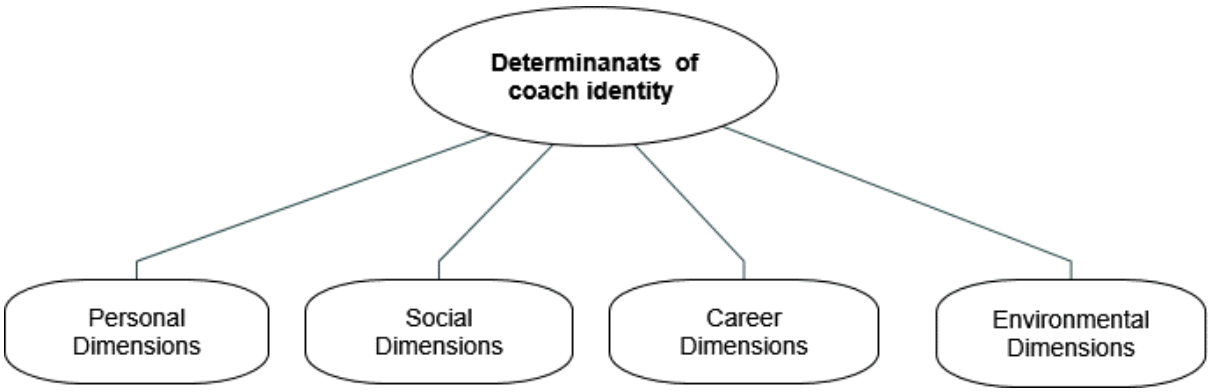
Results

The primary aim of this study was to explore the determinants of coach identity. Several factors that play a role in the development of coach identity were identified, which were grouped into four key themes: personal, social, career and environmental factors (see Figure 4.1). Each of these key themes was divided into higher-order themes. The personal dimensions were divided into three higher-order themes: coach motivation, coaching lifestyle and being a life coach. The social factor consists of two higher-order themes: recognition of experts and social relationships. The career dimensions were divided into three higher-order themes: coach success, coach development and high-performance coaching. The

environmental dimensions contain two higher-order themes: media and social media, and income. Each of these higher-order themes, in turn, contained subthemes, as will be outlined in this chapter.

Figure 4.2

Four Key Themes of Determinants of Coach Identity

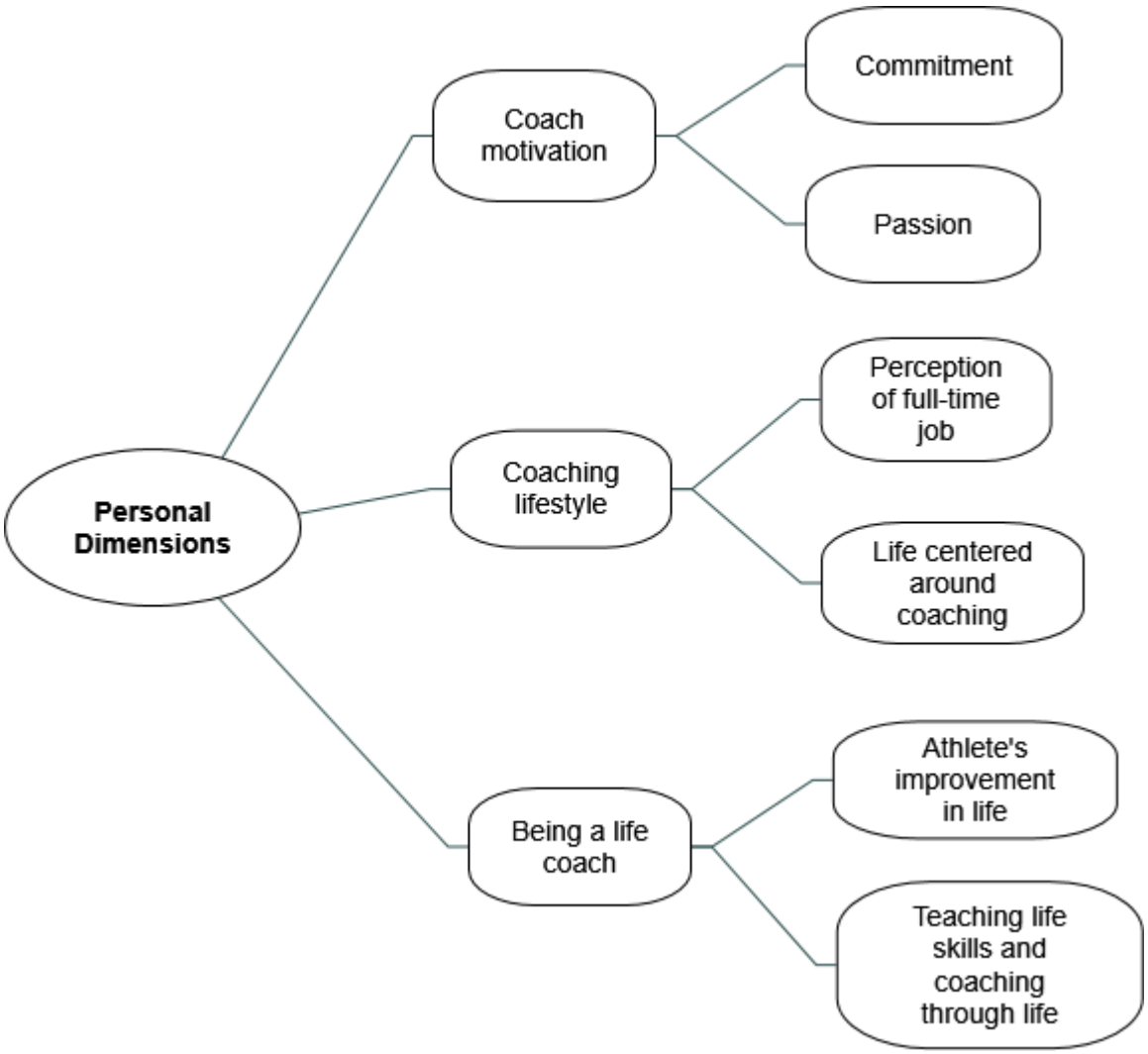


Personal Dimensions

Personal dimensions represent the factors playing a role in coaches' personal life and personal aspects of their coaching career that contribute to enhancing self-concept as a coach. The personal factors are comprised of three higher-order themes: 1) coach motivation, 2) coaching lifestyle, and 3) being a life coach (see Figure 4.2). These three higher-order themes have interesting interconnection in the way that coach motivation leads coaches to take a great deal of time out of personal life and invest it in coaching work and career. Consequently, their lives become subsumed by their coaching role, and it dominates their non-sport career. However, their focus is not just on performance but also athletes' welfare and guiding them throughout life.

Figure 4.3

Three Higher-Order Themes of the Personal Dimensions of Coach Identity and Their Subthemes

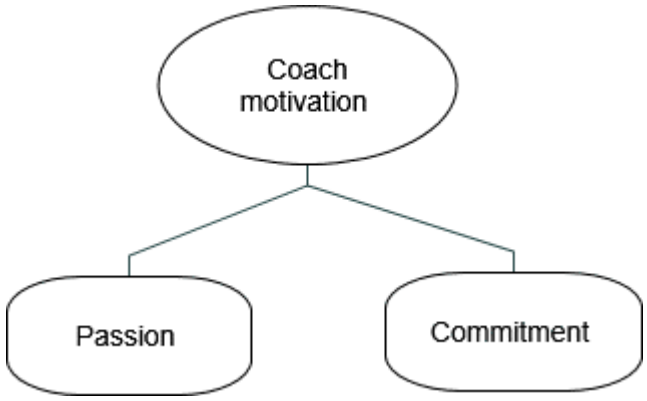


Coach Motivation. Coach motivation demonstrated that network connections and the interaction and relationships that coaches have with athletes and other people within the scope of their career, motivate and bound the coaches to their coaching careers. As reported by the coaches, the passion for helping athletes succeed and having interaction and relationships with them and others within the workplace drove coaches' passion and commitment to their career, which was identified to contribute to the development of coach identity. Thus, the subthemes identified from the data on coach motivation were divided into

two categories: a) passion; and b) commitment. These two factors are pertinent to personal desires that motivated coaches throughout the coaching journey and gave them a sense of coaching and internal satisfaction. The following sections provide greater insight into these two subthemes.

Figure 4.4

Subthemes of Coach Motivation



Passion. Coaches reported that their passion was fuelled by missing out as an athlete and their desire to help athletes achieve what they could not achieve. They were also passionate about the nature of the coaching career, in which they interact with people and establish relationships with athletes and others. Having a passion for sport and coaching was a key motivator for participants that led them to identify themselves as a coach: 'I'm passionate about it. I can't see me walking away from coaching; this is who I am' (Athletics Coach). As reported by the majority of interviewed coaches, a strong passion of coaches was to help their athletes develop and achieve what they had failed to achieve when they were an athlete themselves:

> I never had a coach that was able to take me to a national or international level. So after about 10 years I dedicated to the training, and work and competing, I felt I was not able to acquire any more success because of the lack of coaching that was available to me. I participated in several

> competitions. I found a little bit of success in the early stages, then I did not have anyone that could dedicate a lot of time and effort to develop me to a high level. So, then I decided to take another path, and one of those paths was becoming a coach. So, at some stage, I wanted to do the same, what I missed out I want to do for my students to dedicate a lot of my time towards them, to help them develop and find success, something that I missed out on. So, I am passionate about doing something that I could find. (Karate Coach)

The Karate coach did not have that devoted coach at the time he was an athlete; consequently, he believed he failed to achieve success at the highest levels of his sport. This disadvantage motivated him to be passionate about coaching and being very committed to his athletes and help them achieve what he failed to achieve. Similarly, this underachievement as an athlete was highlighted by the Taekwondo coach as well: 'You want them to be better than you, to be able to overcome the hurdles that you may not have been able to as an athlete or as a participant'.

Another aspect that drove passion to coaches was reported to be the nature of a coaching career whereby coaches can have interactions with people, which, in turn, made it an exciting career for the coaches, which drove their passion to coach:

> My full-time job, working for the city council is not a challenging job for me. It is just a job, you know, you go in for eight hours, and you do the same things every day, I think coaching is dealing with people, and when you deal with people it's certainly a very, very challenging thing, you know. (Soccer Coach)

Interaction with people within the coaching career led coaches to establish relationships with athletes and others within the scope of their career. As such, they favoured this environment because it intensifies who they are:

> Coming to volleyball, volleyball is like, it's another world to me, it's not my everyday world, it's another world, it's a world that I like to be in, comfortable, you know, relax, joking around with the kids, joking around with the players, you know, looking at other people's lives, and stuff like that, so I think definitely being a coach. (Volleyball Coach)

As is evident from the quotations, the interactions with people within the scope of coaching, as well as the ability to build a relationship with athletes and others within the workplace have made coaches passionate about their career, leading to the reinforcement of a sense of being a coach. The majority of coaches agreed that building a relationship with athletes at the workplace fuels their passion and motivation for coaching, resulting in identity development.

Commitment. As reported by the coaches, possessing a strong inclination towards coaching and investing a significant amount of time and energy had led to a strong commitment to their coaching career: 'I probably give more time than I should do this and my wife will say I spend too much time thinking about it, but yeah, it's 100% commitment' (Athletics Coach) as well as their club or sporting organisation:

> As I said earlier, I never thought of becoming a professional coach at the world level. As time went by, I started to change my life a lot. It shaped me differently, and I had to look at it from different perspectives. But number one, I am very committed to my club, and athletes and that always has been a priority. (Karate Coach).

As can be seen in the above quotation, the Karate coach is committed to his club and athletes. Coaches reported that they were committed to people within their sport, and that was a factor influencing their commitment: 'I'm very committed to the sport, to the people, I have many students that I think they rely on me, who I am and look up to me'(Netball Coach).

This commitment was through the connection that coaches had within their career: ‘I am committed to the people that I am connected to, to athletes, and people who are running the club’ (Taekwondo Coach). The volleyball coach expressed that he is committed to his club and athletes like the head of a family: ‘In my club, we are like a family, and I am the head of the family, it is a big commitment, it is not like three months, four months, it is a long-term commitment, and that really motives me and indicates who I am’ (Volleyball Coach). Despite voluntary coaching, this full commitment to coaching reportedly strengthened the identity of coaches and fostered their career development.

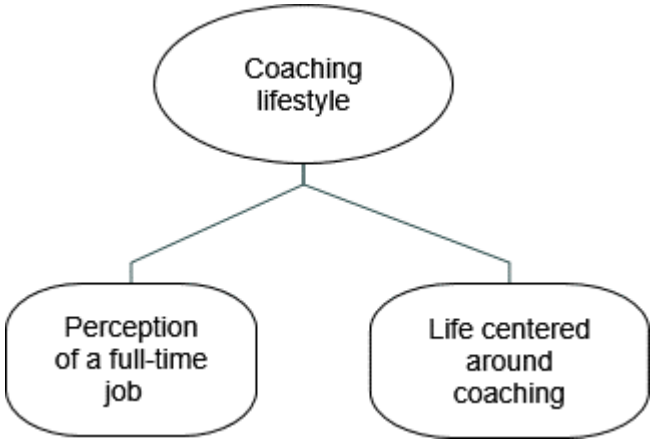
As is demonstrated in the interviews, the network and connections that coaches had with their athletes and other people within their careers were the underlying reasons for their commitment to their coaching. This commitment was reported to help coaches to progress and played a role in the development of their identity as a coach.

Coaching Lifestyle. This section focuses on the interviewed coaches’ lifestyle and how it relates to coach identity development. Coaching lifestyle refers to the way coaches in this study indicated that, over time, their lives became totally dedicated to coaching, with coaching occupying much of their time and thoughts even if they had another non-sport occupation. Furthermore, coaching became their preferred occupation because they enjoyed the intellectual, emotional and physical challenges of their work as a coach. As such, their life was strongly tied up with coaching tasks both on and off the field, resulting in the development of a sense of being a coach throughout most of life. Therefore, coaching was viewed as a lifestyle, with coaching integrated into their everyday lives and thoughts. Thus, the subthemes identified from the data on coaching lifestyle fell into two categories a) perception of a full-time job and b) life centred around coaching. These two factors are pertinent to the coaching lifestyle because they led to the coaches’ lives being organised

around coaching. The following sections provide greater insight into these two identified subthemes.

Figure 4.5

Subthemes of Coaching Lifestyle



Perception of a Full-time Job. The two interviewed coaches in this study who are working full time as a coach reported that their career and interactions with other coaches and athletes formed their coach identity: 'Just working full time in football and to work with a lot of players and coaches, I just see myself as a football coach' (Soccer Coach).

Half of all coaches in this study noted that their coaching job affects the way they perceive themselves. Reportedly, the roles and responsibilities of coaches help shape their identity. Thus, the identity of coaches is contingent on the roles and responsibilities in their coaching careers. The table tennis coach recognised himself as a coach when he worked as a full-time coach:

> I felt I truly became a coach when I went to a full-time coaching job in Queensland. The role of being an associate coach in northern Queensland, and really advising the committee on everything with general table tennis knowledge and background, so it is not that I try to get my way, but I try to provide you know as much as the knowledge. I could for the matters that they

were raising. So, I was a full-time professional coach for the club, so It was the role and the responsibilities that came with that.

This deep connection to coaching was also evident in both the part-time and volunteer coaches in this investigation in a way had led them to identify themselves as a full-time coach even though, in reality, it was a voluntary or part-time occupation: 'It's not just something that I do on the side, you know, it's like working, it's like my full-time job, you know' (Volleyball Coach).

Similarly, the athletics coach believed that his full-time job, working in a bank, was a hobby for him, and the coaching was his full-time career:

> Every day, so, I consider coming to work here at bank [name removed] my hobby and coaching is my job. It's just my hobby pays me to live and coaching doesn't pay any money, so I don't earn any money from coaching, it's all free. (Athletics Coach)

The athletics coach did not identify his full-time career based on the income but rather what he was driven by, coaching, as it has been internalised into his identity even though it was voluntary. Similarly, the netball coach perceived herself as a full-time coach when she was coaching part time: 'I coached part time different teams, state and national levels but I perceived myself as a full-time coach even though I had another job'. As is evident from the interviews, being involved in coaching and perceiving that as a full-time job helped coaches internalise their identity regardless of whether that coaching job was full time, part time or voluntary.

Life Centred Around Coaching. The coaches noted that their lives were tied to coaching tasks in their everyday lives, such as: 'everything I do is centred around coaching' (Soccer Coach). The coaches in this study all believed that in many non-coaching careers, individuals can switch off from work mentally when they leave their workplace; however, a

coaching career contrasts starkly in this regard. Coaching is usually a complex career and requires coaches to work on and off the field, as reported by the netball coach:

> I cannot finish my job and walk out the door and that is it. You are contacted 24 hours a day, emails, phone calls and that are really hard to balance because look, I never worked in a business I only have worked as a teacher and in this job. I do not know how people can switch off, because my job is to manage people. (Netball Coach)

The netball coach noted that as a coach, she has to manage athletes off the field through responding to emails and phone calls, and that requires her to be involved with tasks related to coaching even when she is not coaching. Providing support for people and athletes off the field led coaches to be tied to their coaching tasks and meant they centred their lives around their coaching roles and responsibilities. The Karate coach also highlighted that providing support for people through emails, calls or texts is part of his daily life, which caused him to be heavily engaged with coaching tasks even when he was not coaching:

> Every day of the week, I suppose there are huge responsibilities because there are people overseas that send me messages or email me, communicate with me asking questions, local, people from the other clubs, interstate people, always stay in touch and always wishing to find the edge and requesting some kind of technical support, moral support and ideas that would help them. Everything I do 95% of the time I am on the phone or is relating to Karate in some way or another whether it is coaching because you know we operate Karate as a business and career. There is not a day that goes by where I am not thinking about coaching, and I think I told you this before, it is very tiring. (Karate Coach)

In addition to providing support for athletes, it seems that coaches are also constantly engaged with coaching tasks off the field to plan for developing their athletes and how to approach problems and find solutions. That led coaches to spending a significant amount of time on coaching tasks:

> I always think about the kids that I'm looking after, I think about the club that I'm looking after, you know, so you think of a lot of things about how to develop them, what's the best way to communicate with one particular person, what is the best way to attack a problem or find a solution to a problem. My life organises around volleyball, and it reminds me who I am. (Volleyball Coach)

This intense involvement of the coaches in athletes' growth and development off the field resulted in coaches' lives being centred around coaching, consequently reminding them constantly of who they are and strengthening their coach identity.

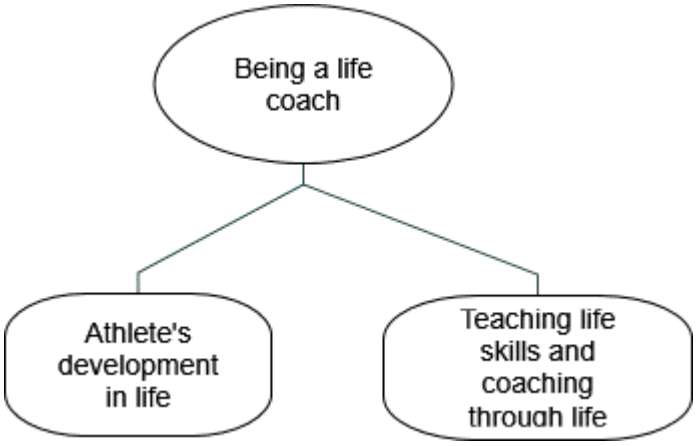
Being a Life Coach. The last higher-order theme of the personal dimension of coach identity is being a life coach. The higher-order theme reflected that coaches' focus was not only on performance; they also place a great value on athletes' welfare and development both as athletes and as people. For the interviewed coaches, being a life coach meant being involved in the lives of their athletes beyond the usual boundaries of sport and encompassed the way they coached their athletes throughout life. Coaches in this study believed that they should coach athletes in sport and also their life and problems. They indicated that their role beyond sport and the extent they could be influential in the personal lives of their athletes played a role in driving them throughout their coaching journey and strengthening their identity as a coach.

The subthemes identified from the data on being a life coach fell into two categories a) athlete's improvement in life and b) teaching life skills and coaching through life. These

two components are related to how the coaches guided and coached their athletes outside of the sport. The following sections explain these two subthemes in depth.

Figure 4.6

Subthemes of Being a Life Coach



Athletes' Development in Life. The coaches interviewed expressed the need to focus not only on performance-based criteria but also on their athlete's personal development and welfare: 'The improvement of my athletes in life is the major thing for me not just in table tennis' (Table Tennis Coach). All coaches noted that the physical, emotional and psychological development of athletes is the primary focus of their coaching. Helping athletes through life and providing them with advice when needed was reported as an important part of athletes' development off the field. This was highlighted by the soccer coach as well:

> So, I think a good coach is very beneficial to not all players, but I think a lot of players. And I felt that I could work with … I wanted to work with disenchanted players and assist them in making better decisions, not just on the field and with football but also off the field as well.

The emphasis of the coaches on the development and growth of athletes in their personal life indicated coaches focus on athletes' development out of the sport, as demonstrated by the athletics coach:

> I want my athletes to be well-rounded. I don't want them just focusing on athletics. I want them to spend a large portion of it, but they have to think of life outside of athletics and relationships with other people and what they're going to do when they finish athletics.

It is worth noting that the majority of coaches pointed out helping athletes outside of sport requires coaches to be more than 'just a coach'; it requires being a role model endeavouring to teach their athletes personal life skills:

> I do my best to not only be the coach but also a role model, and more than just a coach. Perfection of the character is something for me that I really advocate, and that is not just for my athletes, for me personally. (Karate Coach)

Being a role model as well as having an influence on the lives of athletes contributed to the coaches' self-beliefs about who they are and what they do, resulting in developing their coach identity, as the netball coach stated:

> If you are seeing someone that you believe you are helping improve whether that is on the court or in their lives you feel really good, and it is really good to help people. I think that definitely cements your belief and what you are doing and who you are.

As is evident from the coaches' interviews, the physical and psychological development of athletes beyond the boundaries of sport, as well as technical and tactical aspects, are a significant part of their coaching role. Helping athletes to improve in these aspects of their lives through their positive and influential role as a coach and role model was reported to be a way that enhanced their coach identity.

Teaching Life Skills and Coaching Through Life. Besides helping athletes with physical and psychological development in their lives, the coaches in this study related that they endeavoured to teach athletes life skills that could be implemented in real life:

> I try to pass on more than techniques, punches and kicks. I try to pass on a lot of wisdom, I try to pass on a lot of experience. It is a massive education in all aspects of life, not just punching and kicking. I also say I try to teach them to perfect the character, and that is probably the most number one priority for me. (Karate Coach)

Alongside teaching life skills, the coaches in this study also endeavoured to coach their athletes through complex matters in life such as problems, challenges and school, as they believed it was a way to help them stay in sport 'to coach athletes how to play the sport, it's coaching through life, coaching through problems, coaching through school' (Volleyball Coach). To do so, the coaches believed that being a coach was like being a parent who looks after their children. This was addressed clearly by the volleyball coach:

> A lot of my athletes, you know, they do come and look up to you, I think being a coach is not like just a coach, I think being a coach is like being a father. I mean to me, a coach is a, you know, is being a parent, and I refer to my players as my kids, you know I don't refer to them as my players, I refer to them as my kids, and like we have a saying in our environment, in our team, it is a family, and I am the head of the family. So that's how I relate myself to athletes.

Treating athletes like his own children and considering himself the head of the family showed that the coach has a strong sense of connection with his athletes and his identity as a coach. This connection and identity led the coach to act as a caring father for the athletes and

believed that to coach athletes in sport, it is necessary to coach them first through life and academic challenges:

> Being a coach is not just like, it's not to do with just coaching OK, it's about being involved in that person's life OK, so I've had kid's that have started with me that, they were 15 years old, 14 years old, and now they're 22, 23 years old, OK, so coaching is not just coach, to coach them how to play the sport, it's coaching through life, coaching through problems, coaching through the school. (Volleyball Coach)

The involvement of the coaches in athletes' development not just in the sport but more significantly out of sport was reported by all coaches to be important. As can be seen from the above extracts, the interviewed coaches reported a belief that effective coaching in sport cannot take place if coaches just focus on the development of athletes in sport. Rather, to coach athletes in the sport, a primary focus should be first on athletes' wellbeing and development in life. This focus can reportedly lead to a strong connection between the coach and athletes: 'If athletes are having problems, they can confide in you so that is why I like coaching' (Volleyball Coach). This results in the development of coaches' identity: 'If you are seeing someone that you believe you are helping improve whether that is on the court or their lives, you feel really good, and it is good to help people as a coach because that indicates me who I am' (Netball Coach).

Overall, the coaches reported a belief that teaching athletes' life skills alongside coaching them through life's problems challenges could ultimately result in helping athletes to perform better in sport. Having a significant role in the development of athletes off the field through teaching life skills and coaching them through life was identified as one of the factors that cements coaches' identity.

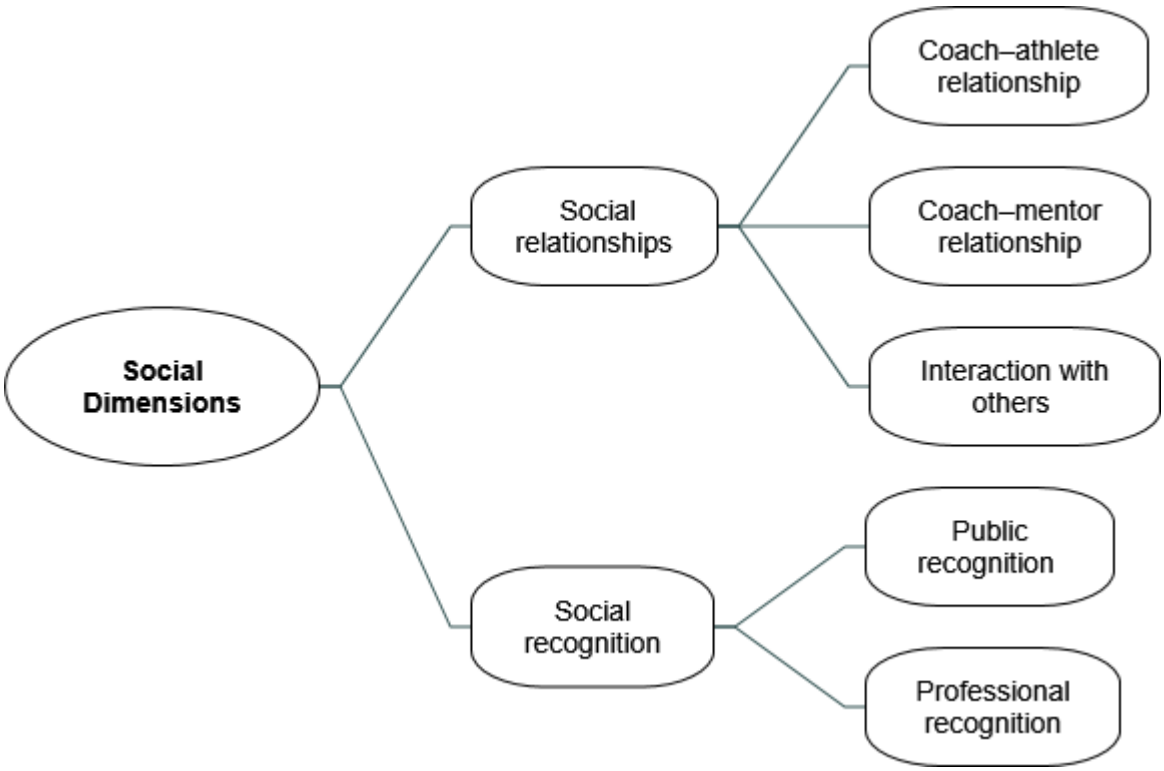
Social Dimensions

Another key theme regarding coach identity development was social dimensions. Social dimensions are the various social influences on coaches' beliefs, thoughts and behaviours, resulting in the development of their coach identity. Those social influences included the various social relationships with different people through their role as a coach and recognition of being a coach. Thus, the social factors encompass two higher-order themes: a) social recognition and b) social relationships.

Figure 4.7 demonstrates an overview of higher-order themes and subthemes of social dimensions associated with the development of coach identity. The subsequent paragraphs outline the context of these two higher-order themes.

Figure 4.7

Higher-Order Themes and Subthemes of Social Dimensions of Coach Identity

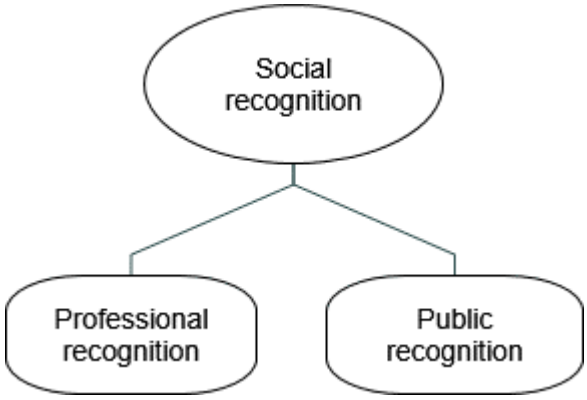


Social Recognition. One of the higher-order themes of the social dimensions of coach identity is social recognition. Social recognition of coaches refers to the social and

professional acknowledgement of society and its influence on the development of coach identity. Becoming known by the experts in the field along the coaching journey was important for the coaches in this investigation. Recognition from the public also strengthened coach identity. As such, these two components were bound to each other in that the association of both of them had a stronger impact on the development of coach identity. Consequently, the subthemes identified from the data on social recognition were divided into two categories: a) professional recognition and b) public recognition. These two factors are pertinent to social recognition because they are related to the influence of social context on coaches' beliefs and thoughts. The following sections provide greater insight into these two subthemes.

Figure 4.8

Subthemes of Social Recognition



Professional Recognition. As the coaches steadily progressed over the years in their coaching career, they became known by experts in their field: 'I have been involved in this particular area for about 35 years teaching this area so over those years people come to know about you' (Karate Coach). Becoming known by experts as their career progressed was an essential factor of identity development for the majority of the coaches interviewed in this study: 'I think probably meeting some amazing expert people along the journey and their

recognition on my job developed my identity' (Netball Coach). As these coaches became recognised by others in the field, their identity as a coach became stronger:

> Along the journey, it so happened that the state federation saw a lot of success in my members … they saw something is happening in the club, and they wanted to see how the success was made. After coaching my people for a few years, the state approached me to make a commitment and offered a coaching position, a state coaching position. For three years, I became the coach of Victoria. I had the opportunity to pass on my knowledge and expertise to other people, and you know, they seemed to receive it very well. And you know, one thing led to another, and then the national body saw something good is happening in Victoria. So, the national federation asked me to do some training for the national team members, and some people around the world started to see some other good things happening in Australia, and then some countries approached me. It is like a snowballing effect. So yeah, that journey was fantastic because it is a huge compliment when people ask for your services, and it cements who I am. (Karate Coach)

Furthermore, gaining recognition at the world level among Karate experts was a turning point for the Karate coach in the way that shaped his identity:

> My teacher gave me the opportunity to have a lot of international recognition through a particular publication that he distributed throughout the world, and I had been involved with it. That gave Karate people a lot of insights towards me, and they came to know about me, so they researched and came to find out something I may have to offer as well. That was a turning point in my life, and it shaped my identity. (Karate Coach)

As is evident from the extracts, the key to being recognised by experts in the field was the successful outcomes achieved along the journey. All coaches indicated that success was key to them becoming recognised by experts in their sport. The athletics coach stated that his first athlete's success in the 800 metres led sports people to see him as an 800-metre coach: 'As my first athlete progressed steadily over the years, people have seen me as an 800-metre coach which I want to be seen as, as well' (Athletics Coach). Similarly, the netball coach believed that to be recognised in high-performance sport, success was essential: 'I guess success is really important. If that had not happened, I would not have had the journey that I had. It is the elite sport: if you win, people want you, if you lose, you are out' (Netball Coach).

Public Recognition. The coaches indicated recognition from others outside of their sport further strengthened their identity. All coaches interviewed reported that recognition by the public meaningfully reinforced self-belief and identity as a coach: 'When you get recognition from parents and people that you're doing a good job it strengthens your identity; everyone as a coach, you need self-belief, but at the back of your head, you want someone to confirm that you're good as well' (Athletics Coach). This public recognition was particularly important for coaches' identity development at the early stages of their careers. However, it was reported that it takes time to be acknowledged by others. as outlined by the Karate coach:

> I have been fortunate enough where a lot of my students when they started as 4-5-6 years old, 30 plus years ago and now they are adults, and the word seemed slowly spread and over those years people come to know that it is the school of good reputation and reputation school, and as such the identity developed as people come to know about you.

This demonstrates that developing of a good reputation and becoming increasingly well known resulted in the development of his coach identity.

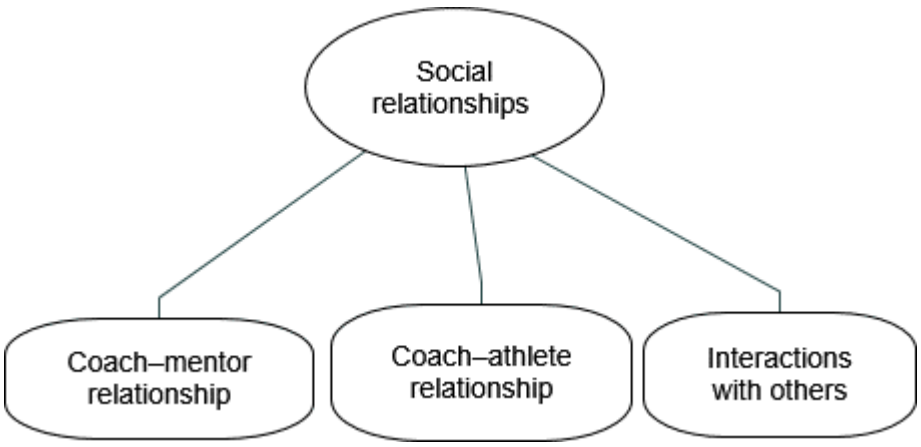
An analysis of the data reveals that the acknowledgement and recognition of their coaching abilities from other people who interact with the coach, such as athletes and parents, had a great influence on the identity development of the coaches.

Social Relationships. The second higher-order theme of the social dimension of coach identity is social relationships. Social relationships refer to the interactions and relationships that coaches have with different people during their coaching careers. All the coaches interviewed reported that the interactions and relationships with various people such as mentors, athletes and their parents, assistant coaches, support staff, sports officials and administrators during their coaching role were necessary for their work as coaches. Indeed, these relationships contributed to the development of coach identity and provided coaches with a sense of belonging, resulting in the cementing of their coach identity.

The subthemes identified from the data on social relationships were divided into three categories: a) mentor relationship, b) coach–athlete relationship and c) and interaction with others (e.g., colleagues and athlete's parents). These three subthemes are pertinent to social relationships where a coach interacts with different individuals in the coaching domain. The following sections provide a deeper insight into each of these three subthemes, based on the interviews with the coaches in this study.

Figure 4.9

Subthemes of Social Relationships



Coach–Mentor Relationship. Interaction with a mentor was identified as an important social relationship for coaches in this study. The coaches noted that, for them, a mentor was their coach, a family member or a colleague who was older and more experienced. The coach–mentor relationship had significant value for the coaches, especially at the early stage of their career because it helped them improve their coaching: 'I had my own coach and used to bounce my ideas off him in the early stages' (Athletics Coach). Most of the coaches indicated that they relied less on their mentor as they progressed towards more senior levels: 'I think now I'm a better coach than my old coach who is my mentor' (Athletics Coach). However, the relationship remained strong: 'Having a mentor or someone you can bounce ideas off from the start is valuable, and I still speak to those coaches that were around as mentors' (Table Tennis Coach).

Those fundamental connections with mentors and receiving that support throughout the coaching journey resulted in shaping the identity of coaches. The Taekwondo coach stated that the connection with his mentors helped develop his identity and enabled him to become involved in a higher level of the sport. He believed that coaching is a lonely job, and mentors played a critical role in leading him on the right path:

> The gentleman that I work for at this club here, [name removed] Taekwondo, he's an Olympic silver medallist. I've known [name removed] since 1998 when I first started coaching. I've known him for a very long time. And that's partly why I got involved in the Olympic movement. The other gentleman that I work for now at [name removed] Taekwondo, [name removed], he's the President of the [name removed], and he's been a long-time mentor. I've known him since I was 16 years old. When I first started Taekwondo, he was probably one of my original coaches or instructors, and he was one of the

> instructors that sent me on my path as an instructor, I used to instruct for him for quite a while. So, yeah, I think those connections are very, very important. The connection with those people formed my identity. You know coaching is a very lonely job, and if you don't have mentors to talk to about certain situations and things, or whether you're heading on the right path, I think it can be very detrimental to what you're doing. (Taekwondo Coach)

As can be seen from these extracts, the interviewed coaches sought advice from their mentors to learn about their roles along the journey. However, the coach–mentor relationship throughout their coaching career was important for more than technical and psychological support. As such, this coach–mentor relationship was still maintained even when the coaches did not need the same level of technical support from their mentor. The coaches reported that these relationships contributed to strengthening their coach identity.

Coach–Athlete Relationship. All participants indicated that relationships with their athletes were by far the most important aspect of successful coaching: 'The relationship with my athletes is number one thing in my coaching; they are the ultimate goal' (Volleyball Coach). The relationship was identified as one of the drivers behind coaching: 'Having a very good connection with someone as an athlete to coach is cool. That relationship has been always one of the drivers behind coaching' (Soccer Coach). Coaches noted that this relationship could enable them to help their athletes perform at their best: 'If you do not have a good relationship with athletes they won't perform at their best and they won't get the best out of themselves if that relationship is not there. So, the athlete/coach relationship is really important'. This connection was reported to give coaches a better self-perception as a coach: 'Having a better relationship with my athletes, I feel as myself learning to become a better coach' (Taekwondo Coach). This was also reported to enhance the sense of being a coach, as coaches noted that their athletes see them as role models: 'The connection with athletes

reinforces my identity because a lot of athletes, you know, they do come and look up to you' (Volleyball Coach).

The netball coach indicated that she has to present her coach identity according to people's needs to bring out the best in everyone. She presented herself differently based on her athletes' motivational needs. Adapting her identity for each athlete helps her to know herself better. This, in turn, strengthens the coach–athlete relationship, resulting in the development of who she is:

> I think identity is an interesting thing I think it is not stable, does not stay the same, and it changes weekly, daily, and I kind of like that. I kind of like that in here, you know, have 16 people coming in every day here, and I kind of have to change who I am for each of them to get the most out of them in this coach–athlete relationship. So, I might have who I am but what I put out there is not always exactly who I am because that is my job to motivate them, and that motivates me to know me better so that I know that I can be who they need me to be as a coach. And because of this connection and relationships we have, for me, that really formed who I am.

As can be seen from the above quotations, the coach–athlete relationship is one of the vital components for coaches to help their athletes develop and succeed, which, in turn, leads coaches to have a better self-perception and stronger identity as a coach.

Interaction with Others. Relationships with other people on and off the field such as athletes' parents, coach assistants, managers and others were recognised as another component that formed coaches' identity: 'To make the coaching work, it is very important that you are able to communicate with players, assistant coaches and managers in different stages. It indicates who you are' (Volleyball Coach).

Another coach interaction that was identified by five of the coaches interviewed was

the interactions and relationships with parents. The coaches indicated that the coach–parent relationship is vital since without their parents, the children would not be able to participate in sport: ‘The interaction that I have with parents is critical as they are the final buyers of the coaching product’ (Karate Coach). These relationships take time to develop, and that leads to people interacting with the coach, understanding the coach’s character and attributes and admiring what the coach does in their role, which, in turn, contributes to the development of the coaches’ identity: ‘I have created so many friends, so many relationships with the political people, coaches, athletes and others. It is that rapport that you gain over many decades that people may have some admiration of your work, your character as a coach which signifies who I am’ (Karate Coach). As a result of different relationships with different people, the majority of coaches noted those relationships contributed to the development of their identity as a coach: ‘I think they are different people in the sport and different relationships that I play a significant role which indicates me who I am and cements my identity’ (Soccer Coach). As can be seen from these extracts, the relationships that coaches have with different parties within their coaching careers develop over time, which can lead to coach recognition as their careers progress, resulting in the development of their identity.

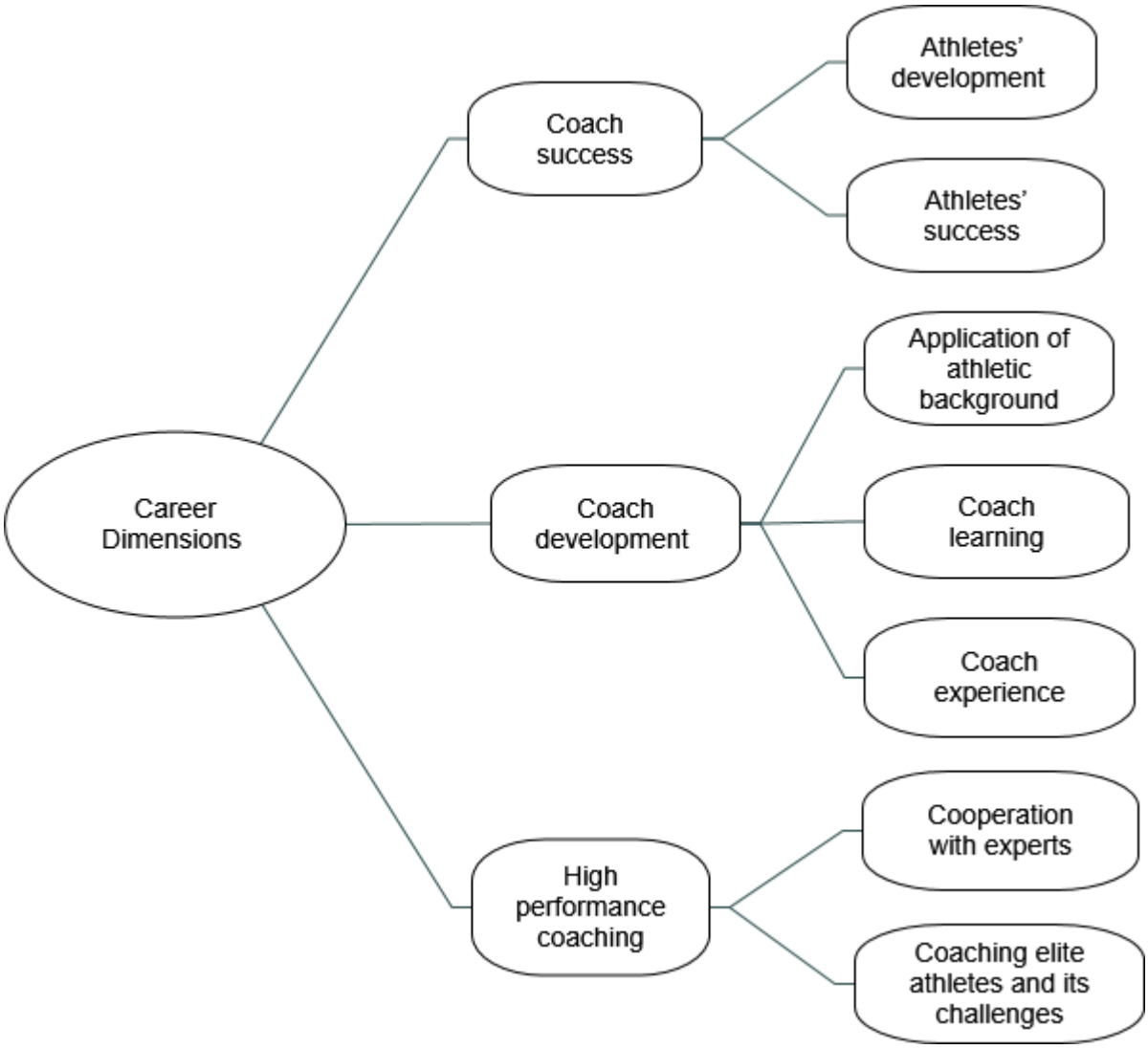
Career Dimensions

Another key theme identified was career dimensions. Career dimensions are the components related to coach career development by which coaches can develop and excel in their coaching career and help their athletes achieve success. The career dimensions from this investigation are comprised of three higher-order themes: a) coach success, b) coach development and c) high-performance coaching.

Each higher-order theme of career dimensions contained subthemes, as depicted in Figure 4.10, and that will be discussed in greater depth in the following sections.

Figure 4.10

Higher-Order Themes and Subthemes of Career Dimensions of Coach Identity

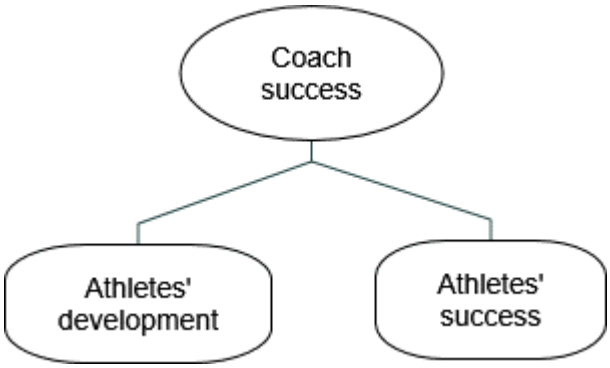


Coach Success. Coach success was identified as one of the higher-order themes of the career dimension of coach identity. Coaches in this study all agreed that one of the key factors driving them in their coaching career has been their success; that is, the influential roles they have played as coaches in the development and success of their athletes. Coaches reported that the development and progress of their athletes throughout the athletic journey were elements of success for themselves as coaches. Indeed, realising the influential role they had played in the development of athletes' physical abilities and their achievement at national or international championships was an initial reason for coaches to start seeing themselves as

a coach, which, in turn, cemented coach identity. Indeed, all the coaches in this study expressed an underlying view that helping their athletes to improve and succeed reflected who they are. Thus, the subthemes identified from the data on coach success were divided into two groups: a) athletes' development and b) athletes' success. The following sections expand on each subtheme.

Figure 4.11

Subthemes of Coach Success



Athletes' Development. Coaches interviewed in this study attributed their success to their athletes' development: 'If you are seeing someone that you believe you are helping to improve whether that is on the court or in their lives you feel really good as a coach' (Netball Coach). All the coaches interviewed described that they evaluated their success by the extent to which their athletes improved in the sport. The athletic coach pointed to this fact clearly:

> If you can take an athlete from A to B and there's an improvement, then that's where the rewards are. If an athlete gets better when they're with you, that's what every coach wants. If they get worse, then you really have to reflect on what you're doing.

Athletes' development in sport was what every coach desired, and it was a foundation for coaches to start believing in themselves as a coach and identify themselves with this role:

> When I started to … we brought in this kid who, he was really uncoordinated, very gangly and we worked with him over maybe six months and up until that

point he'd struggled even to make it into a community club. He'd gone to a community club, and they would put him in like the D team or something like that. Within six months, he was making the representative team of [name removed]. And so after that period of time, I thought, OK well, if we can have this impact on this kid, then it must be … I started to feel like a coach after that, and then I started to have some good results. (Soccer Coach).

The soccer coach gained a coach identity when he saw his significant influence on an athlete who had a poor physical ability. The development and progress of the athlete was a primary factor that played a role in the development of the coach's identity.

Athletes' Success. As reported by coaches in this study, their influence on athletes' development was not limited to progress at the amateur level but rather extended to their athletes' achieving within competitions. The success of athletes during competitions reflected the coaches who they are:

> The more successful you become as a coach, it reflects on the athletes and team that you coach, OK, so if the team is doing well or succeeding, winning lots of tournaments and stuff like that, I think that reflects you as a person because it means that you know you can. (Volleyball Coach)

This contribution to the success of athletes strengthens coaches' identity: 'If you contributed to an athlete's success, then that's great and absolutely impacts on who you are a coach' (Taekwondo Coach).

Having a journey with an athlete and being the central part of an athlete's success reflected on who the coaches are, and that accounted for the development of the coaches' identity, as addressed by the volleyball coach:

> When you see someone develop, when you see someone achieve, I think you become part of that ride; you become part of their dream, you know. I mean

like, you know that person will turn around and say, 'well he's the person that coached me, that got me where I am. This strengthens my identity as a coach!

A further example of how the journey with the athlete builds coach identity comes from the interview with the Taekwondo coach:

> If you contributed to an athlete's success, then that's great and absolutely impacts on who you are as a coach. Like it impacts you, it makes you happy, you know you contributed. At the same time, if they lose, for me personally, yeah, I'm impacted. It doesn't mean that I haven't done a good job, just means we have things that we need to work on. Whether it affects me as a coach, yeah, it does. Whether it changed my view of myself as a coach, no, it doesn't. Does it mean I have to work harder? Yes. Does it mean I have to study harder? Yes, but that's part and parcel of the job as a coach, isn't it?

As demonstrated in the above extract, being part of the success of an athlete's journey strengthened the identity of the coaches in this study. Conversely, as the Taekwondo coach pointed out, an athletes' failure does not diminish the view a coach has taken of themselves as a coach, rather it indicates that more needs to be done to achieve success as a coach.

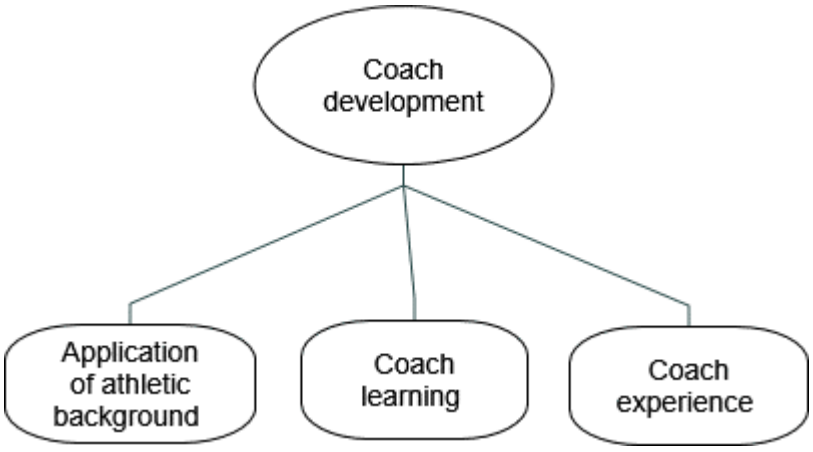
The above quotations highlight that the development and success of athletes are the key to coaches' success. Coaches reported that their success resulted in the strengthening of their coach identity throughout their coaching journey.

Coach Development. The coaches in this study reported that professional development throughout their career contributed to the development of their identity. Coaches reported career development, such as improving coaching knowledge and skills throughout the coaching journey. The implementation of experience gained as a player was one of the ways coaches improve their coaching skills. Furthermore, they noted that learning through reading books, magazines, journals and attending coaching conferences and

workshops were other methods to develop knowledge and skills. All coaches were in consensus that these methods of obtaining coaching knowledge and skills helped coaches with their career development and increased their competency and confidence in their roles, resulting in the strengthening of coach identity. The subthemes identified from the data on the coach development fall into three categories: a) application of athletic background, b) coach learning and c) coach experience. All these three components are relevant to the career dimension of coach identity, as they played roles in the coaches' career development resulting in strengthening their identity as a coach.

Figure 4.12

Subthemes of Coach Development



Application of Athletic Background. The majority of participants in this study indicated that transferring their athletic experience into coaching was a significant factor in teaching the technical and tactical aspects of coaching in their sport, especially in the early years of their coaching career. As reported by all interviewed coaches, applying their experiences from their athletic background into coaching was the first source of coaching knowledge. This was depicted in a statement by the athletics coach:

> When I look back at my coaching career, my athletic career, I realised I was asking a lot of athletes around the world what they do for training and I have lots of notes at home, conversations I've had with people at a certain race in

> Europe and what they did for training and me think that was my grounding for coaching later on, because I had all this information and was collecting it really for myself, to improve myself, but then I realised all this information I had when I'm 33 is not that useful because I'm not running anymore, so I used that in my coaching to put towards other people.

Indeed, being an athlete helped the coaches in this study understand the struggles of athletes throughout their athletic career: 'Because I am not a gifted athlete, I had to work very hard and understand and do every little aspect of table tennis I picked up. And I think that gave me some insights into how to coach people who might be struggling along the way' (Table Tennis Coach). Coaches depicted relying on this knowledge, which then built up their confidence and belief in themselves as a coach: 'I think everything that I learned as an athlete was through my mistakes, so I tell my athletes do not worry about making mistakes, I have made them all already for you. Everything we do now is right' (Athletics Coach). This led coaches to believe themselves as who they are as a coach:

> Towards the end of my running career, I was coaching myself. I learned a lot in the last 10 years of my athletic journey, what works and what does not work. Applying those things, I have learned into my coaching career has definitely made me the coach I am. (Athletics Coach)

As demonstrated in the extracts, the interviewed coaches indicated that athletic background was the first source of coaching knowledge and implementation of that into coaching functioned to build up confidence and belief in themselves as a coach.

Coach Learning. Besides their athletic background and experience, coaches in this study mentioned several other means by which they gained more knowledge of coaching, leading to being more connected to their role and strength of their coach identity.

Research, academic journals, the internet, magazines, books, talking to fellow coaches and sport scientists, watching other coaches' training sessions live and attending conferences and workshops were various ways coaches in this study learned and improved their coaching skills and developed their expertise. The netball coach indicated that learning from various sources has changed her coaching dramatically:

> Over the last three months, I had a significant change in the way that I coached to the fact that it is almost unrecognisable from the last season. And that is being brought by a lot of reading and research and asking and talking to the people about the best coaches in the world, what they do and who are they and the best team in the world, what are they doing and who they are. Also, I have people here who I go and talk to. So, I have got [name removed], who is our leadership and culture expert in the club. He was the captain of this club in 2010, and he has run a number of very successful leadership and culture programs across a number of the clubs. So, I pick his brain around being a better leader lets the light shine on others rather than having to do all the work yourself. And I pick [name removed]'s brain who is our club psychologist, and we are working around some projects around mindfulness and education of mental health within our programming. Then I have got [name removed], who is our PhD student in sport science, and I pick his brain around the workload and cognitive loading rather than just physical loading. I use these sources around me, and they provide me with books and conferences.

This increase in knowledge and skills led coaches to be more confident in themselves as a coach: 'I think the more you can learn, the more confident you get in your abilities and that people might see you as the person who has all the knowledge and you're the person they come to as a coach' (Athletics Coach). This resulted in the development of coach identity, as highlighted by the soccer coach, 'I think going to a lot of different courses, not just them, workshops, watching a lot of other coaches' coaching sessions, attending coaching conferences really helped implant my identity' as well as the volleyball coach, 'This high coaching knowledge definitely contributed to my coach identity. The more experience that you have in coaching, the more knowledge about the sport, as a coach you become a doctorate of coaching'.

The rest of the coaches were in agreement about the application of different learning sources and the influence of constant coach learning on the strength and development of their coach identity.

Coach Experience. The experience that coaches gained from making mistakes and through trial and error was another factor contributing to their identity development. All the coaches stated that coaching is a learning journey. This was summarised by the volleyball coach:

> Coaching is a learning journey. Every time you coach someone is different, every kid is different, every player is different. So different personalities, different characters, different walks of life. So, you know you need to be able to adapt and you will never stop learning.

Trial and error featured prominently in the coaches' experience: 'There was definitely a lot of trial and error there. There was definitely a lot of error, but over a period of time, I was able to work out what worked and what did not' (Soccer Coach). Participants in this

study believed hands-on experience counted more towards their identity compared to a formal qualification as addressed by the Taekwondo coach:

> I think coaching really comes down to experience rather than degrees. So, you go to university, you can get a degree in business or finance or sports science or sports medicine or be a doctor, like a medical doctor, not a PhD but a medical doctor, and that's considered competent. But it's very hard to be a competent coach I think if you don't have the experience. And there are very little courses that I've seen that are focused on that. I think there are degrees out there that are like coaching, how to become a coach, but without the experience and the trial and error, it is almost impossible to gain a coach identity.

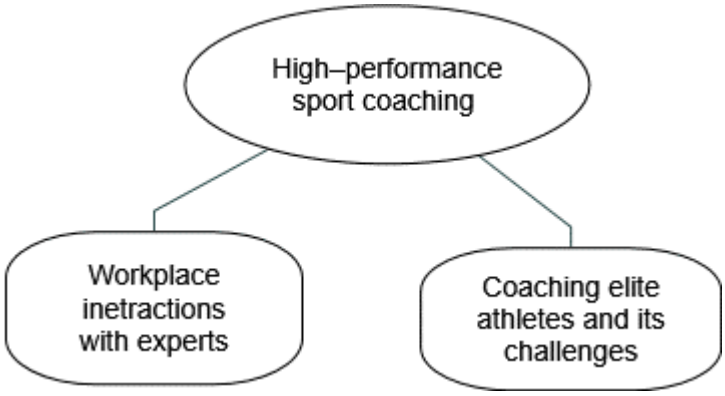
As is clear in the above quotations, coaches constantly learn through making many mistakes and learning from them. Those trials and errors helped them develop throughout their career, resulting in enhancing their coach identity.

High-Performance Sport Coaching. The last higher-order theme of the career dimension of coach identity is identified as high-performance sport coaching. High-performance coaching refers to the work performed by coaches in elite sporting environments. Embarking on the high-performance side of the sport led coaches in this study to interact and cooperate with other experts, such as sport scientists and elite coaches in the field. It also led coaches to become familiar with high-performance sport settings, leading to introducing their athletes to this arena and coaching them at elite levels and encountering challenges of coaching at that level. Thus, the subthemes identified from the data on the high-

performance sport setting were divided into two categories: a) interaction with experts and b) coaching elite athletes and its challenges.

Figure 4.13

Subthemes of High-Performance Sport Coaching



Workplace Interactions with Experts. Some of the coaches interviewed indicated that workplace interaction and cooperation with other professionals in their sporting field prompted them to start coaching in an elite setting, resulting in developing their identity as a coach. This was demonstrated in a statement by the Karate coach:

> I never felt that I needed to become a coach from the sporting perspective. My original idea was to simply teach Karate, general Karate, traditional Karate. It was through interaction and work cooperation with some colleagues and friends that were very much involved in sport, and then I offered some of my students this side, that particular side of Karate from a sporting point of view. So, I introduced them into the sport and that I first became involved as a coach.

Through work interactions with other experts, coaches learned different coaching methods: ‘Through coaching by side of expert coaches they would provide you coaching and advice for free’ (Taekwondo Coach).

Furthermore, the work interaction and cooperation of the coaches with other experts, such as a group of sport scientists in high-performance settings, helped them to find the best-

suited coaching method for themselves and contributed to the development of their coach identity, as was summarised by the netball coach:

> You know, in this club in particular, there is an amazing group of people as sport scientists, highly skilled, highly experienced, who all have their bit and value to add. At the moment, it is quite scary because I am trying something completely that I have never done before. I love it because I have got great people around me. If I did not have this number of people I could not do, I could not try new coaching methods. The cooperation with these people helps me to believe in myself as a coach.

As is evident from the extracts, the cooperation with experts in the high-performance sporting arena led to a significant and influential effect on the coaches' career development. Collaboration with experts caused them to desire to reach the level of other coaches or colleagues. The engagement of coaches in a high-performance setting allowed coaches to collaborate with other experts, which helped them to develop as a coach and also believe in themselves more as a coach, resulting in enhanced coach identity.

Coaching Elite Athletes and its Challenges. The participation of athletes in high-level sport required coaches to undertake the tasks and responsibilities of coaching elite athletes and deal with the related challenges. Coaching athletes at a professional level led coaches to get a deeper insight into the coaching role at the professional level and its challenges and was reported by the majority of the coaches to be an influential component in the development of their identity. The Taekwondo coach portrayed his view about high-performance coaching and also articulated how that caused him to feel like a coach:

> I think I truly became a coach when I went overseas when I went to do my high-performance work with [name removed] country. I guess the seriousness, I guess. The way I had to conduct myself. It wasn't just about training for the

> sake of training, it was about actually being the coach of the game. I don't really see myself as a coach, I see myself as an instructor when I'm teaching kids, young kids. I see myself as a coach when I'm cultivating the side of being an athlete, an overall well-rounded athlete. So, I, as a coach, I'm not there I guess if you say coach in a sports sense. I'm not there to cultivate their spirit, to be well mannered, right, because that's to a certain extent dictated by the rules of what we need to do. I'm there to get the best out of them as a sportsperson, as an athlete.

Some coaches reported that other components of coaching elite athletes enhanced their identity. For example, the soccer coach pointed out the element of respect given to the position of a coach at high-performance setting: 'I think obviously when you're coaching elite-level teams and high-level teams, the athlete's always going to respect the coach because of the position that they're in which causes me to feel more like being a coach'(Soccer Coach).

As is clear from the above quotations, the components that came along with coaching elite athletes, such as the role of being a high-performance coach for a team, the seriousness of the work setting, encouraging the best from of athletes and respect for the position of the coach, solidified the identity of coaches within that high-performance setting.

In addition, coaches reported that involvement in high-performance sport is bound to challenges such as 'working on enhancing technical and tactical part', 'failure and learning' and 'people management'. Encountering these challenges to help athletes to reach their goals throughout the coaching career gave a deeper insight into the roles and responsibilities of the coaches and were identified to contribute to the development of coach identity: 'It is a challenge to help them to reach their goals. Yes, I guess it is just the challenge of it that I like in my coaching journey as it gave me a deeper view into the sport and helped me strengthen my identity as a coach' (Soccer Coach).

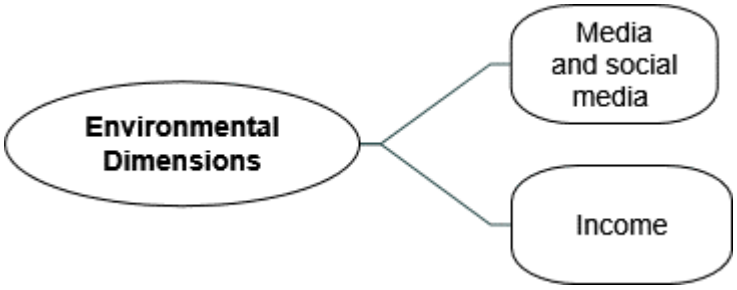
Coaching elite athletes and encountering its challenges throughout that journey provided coaches with a deeper meaning of coaching roles, which resulted in enhanced coach identity. Coaches indicated that having an elite player means having a challenging journey with this player, which is always interesting.

Environmental Dimensions

The last key theme of the determinants of coach identity identified in the data is environmental factors. This category represents environmental components that play a role in the development and strengthening of coach identity. These influential components were media and social media and income. The following section outlines the context of each higher-order theme.

Figure 4.14

The Environmental Dimensions of Determinants of Coach Identity



Media and Social Media. Coaches reported that media and social media are tools that educate the public about sporting culture and coaching roles, which subsequently influence public respect and acknowledgement for coaches in society resulting in the development of coaches' self-perception and identity. Through mass media, it was reported that coaching has become more acceptable to society: 'I think it's become more acceptable to be a coach because of the influence of mass media' (Table Tennis Coach). The change in the mindset around coaching as a career was reported to bring more respect and public acknowledgement for coaches in society: 'I think people are more respectful towards coaches when the general public becomes aware of how demanding that is to become a successful

coach and it is through practical work and education through media' (Netball Coach). This change in the public opinion of sport and a coach's role was identified to reinforce coaches' self-perceptions as a coach: 'I think it has definitely changed the mindset behind coaching which can help with reinforcing who I am as a coach' (Soccer Coach).

Furthermore, through social media, coaches in this study stated that they could share their knowledge and skills with the public and gain public acknowledgement, resulting in the strengthening of their identity. A statement by the Karate coach clearly depicted the significant role of social media on sport and coach identity:

> Social media is everything. It has changed the world, and it defiantly changes Karate on many levels, but without it, it is very hard to expand and let people know who you are and you have something special to offer. Yes, it is definitely a necessity in Karate or everything, I think.

The coaches stated that social media can provide a favourable image of their coaching expertise:

> I think I identify myself as a coach and want to be identified as a really good coach, so I think the stuff you put on social media is what you want to be portrayed as and I think a lot of people only post positive stuff on there. I put everything on there, whether it was a good result, a bad result, I have no secrets on there. (Athletics Coach)

Indeed, coaches believed that through media, the public opinion on the sporting culture and role of coaches can be enhanced: 'I think the support of media can contribute to the development of our sporting culture and coaches' roles' (Karate Coach). Exposure to media shaped the thoughts and ideas of the public on coaching as a career, which, in turn, affected the coaches' journey and identity: 'I think the level of exposure has certainly made my journey and who I am' (Netball Coach).

As can be seen from the extracts, media and social media shape public opinion on sport and bring social recognition for coaches, resulting in the enhancement of coaches' self-perception. It also allowed the coaches to present their expertise to the public, leading to gaining public acknowledgement and the development of their identity.

Income. Coaches indicated that income can have an influential role in the quality of their coaching, as this enables coaches to develop their careers and identity. Coaches all agreed that a full-time paid coaching job would enable them to spend more time in their coaching roles and on their career development and would allow them to dedicate more time to their athletes:

> I have to come to work every day to make a living. If I could make a living from coaching, I'd definitely do it full time and I think I'd be a better coach. If I could coach full time, I'd be twice as good a coach as I am. At the moment, it's just not financially viable and it limits the amount of time you can dedicate to each athlete, which is not ideal. (Athletics Coach)

As reported by half of the coaches, income from coaching can influence the quality of the coaching, as it can allow them to invest in their professional development:

> If there is not an income, there was going to be hard to improve my personal coaching skills, my personal technical ability because I needed to seek knowledge also because I had to develop, not only develop my students but develop myself and that came at the price. So, I can say the income kind of contribute to my coach development and identity. (Karate Coach)

Earning enough money from coaching to live on led half of the coaches to identify themselves as a coach, as indicated by the netball coach:

> I got coaching in the school environment and I could earn enough money. So, I think for that was the time you know when you fly out of the country and

> you have to write what your occupation is, that was the first time I started writing a netball coach.

Coaches believed that having income from full-time coaching would create a coach identity, as reported by the volleyball coach:

> The coaches overseas in Europe and America, coaching is a full-time job for them and it comes with income. They get paid to do it, and it really can contribute to coach identity as the more time you spend as a coach, the more you create your identity as a coach. (Volleyball Coach)

These quotations indicate that income from coaching would allow coaches to invest more time in their careers and professional development, leading to the enhancement of coach identity.

Discussion

The data showed that personal, social, career and environmental factors all play a significant role in the development and maintenance of coach identity. Coach identity has only received minimal research attention, with one study that explored coaches' identity from the perspective of coaches' emotions and coaching behavioural expectations (Pope et al., 2014) and another that interviewed only an expert coach to investigate the factors that influence coach identity. Thus, coach identity has not previously been explored from a broader context within the coaching domain. The present results provide a valuable contribution to coaching literature, specifically in coach identity.

Personal Dimensions

The results of this study indicated that personal dimensions—factors that play a role in coaches' personal life and personal aspects of their coaching—contributed to their identity as a coach. The findings indicated that even though personal dimensions are related to coaches' personal life and the personal aspects of their coaching, the coach's relationship with their

athletes plays a role in the development of some personal aspects of their identity, such as coach motivation and being a life coach. Thus, personal dimensions appear to be relatively influenced by social dimensions, and the interconnection of both dimensions together may further enhance coaches' identity.

Coach Motivation. Prior research on coach passion and motivation has focused on the influence of coach passion on athletes' psychological health as well as athletes' relationship with the coach (Bennie & O'Connor, 2009; Jowett, 2017; Lafrenière et al., 2011; McGee &DeFreese, 2019; Poczwardowski et al., 2002; Santos et al., 2018). There is, however, little known about coach passion and how it can influence coaches, including their sense of being a coach. The data from this study indicated that having a passion and commitment for coaching was a driving factor that led to the reinforcement of their sense of being a coach. The results showed that the desire to help athletes achieve what the coach failed to achieve when they were an athlete, network connections and the interaction and relationships that coaches have with athletes and other people within the scope of their career drove coaches' passion and commitment to their career. Viewed from a role theory perspective, commitment is understood as the degree to which an individual's relationships depends on occupying a given role or identity in a network of relationships. This degree is affected by the number of people the person is related to and the importance of the others with whom an individual relates through occupying a given role (Stryker, 1980). Thus, it can be postulated that coaches' commitment is tied to others in the social structure of coaching and their influence on developing the importance of the others. Given that the coach plays a pivotal role in the development of athletes, teams and sport organisations (Dawson & Phillips, 2013), it appears that the coach has a significant role in developing the importance of others. Thus, the social network of the coach and their influential role on developing the importance of athletes, teams and sport organisations may lead to enhanced commitment.

This commitment can influence the salience of coaching roles and their identity as a coach (McCall & Simmons, 1978; Stryker, 1980).

Although this study mirrors prior research indicating that coach passion plays a role in coaches' identity (Purdy & Potrac, 2016), it provides an insight into the components that drive coaches' passion and how they contribute to identity development. Furthermore, the results from this study add to the existing literature on coach passion. Prior research on coach passion has noted that successful professional coaches have a strong desire to help others achieve what the coaches failed to achieve as an athlete, and this passion is a driving force in coaching (Mallett & Coulter, 2016; Pope et al., 2014; Purdy & Potrac, 2016). Likewise, the present results showed that passion is a driving force in coaching, with the majority of coaches passionate about coaching athletes to a higher level to achieve what the coaches failed to achieve themselves as athletes. This study extends prior research by indicating that the relationships and interactions that coaches have with athletes and others within their sport drove their passion and commitment to their career. Given that losing passion for coaching may cause coaches to terminate their coaching career (Frey, 2007; Hassmén et al., 2019; Olusoga et al., 2010), further research is required to examine various factors that play a role in coach passion and motivation, and their links with coach identity and coach retention.

Coaching Lifestyle. Similar to prior research on coach identity, the present study has also demonstrated that a life immersed in coaching was integral to coach identity (Pope et al., 2014) and coaches' affinity with this role (Purdy & Potrac, 2016). This study's findings indicated that coaches were heavily engaged with their coaching roles and responsibilities both on and off the field. The results indicated that over long periods, the coaches have become dedicated to coaching, with coaching occupying much of their time and thoughts, so they can provide support and care for their athletes. While Pope et al. (2014) proposed that coach identity develops through coach centrality and sacrificing other aspects of life, the

current study indicated that centring life around coaching contributes to coach identity through the coach's role in the personal development of athletes beyond the boundaries of sport. Coaches in this study noted that all coaching tasks off the field were performed to provide support and care for their athletes. The data fit with a role theory conceptualisation of identity. That is, enacting coaching roles and behaviours beyond the boundaries of the sport enhances the salience of coach identity, which can result in the development of self-identification with the coaching role beyond the boundaries of sport (Stryker, 1968; Stryker & Serpe, 1983).

While centring life around coaching roles to support athletes can lead to coach identity development, various roles and tasks of coaches can be viewed as stressors when coaching tasks dominate life outside of sport, leading coaches to make sacrifices in their personal life (Hassmén et al., 2019; Frey, 2007; Lundkvist et al., 2012; McNeill et al., 2016; Pope et al., 2014). Being fully immersed in a coaching role can leave coaches vulnerable to burnout when facing complex personal and professional issues related to home and work (Hassmén et al., 2019; McNeill et al., 2016). This can increase the possibility of the coach terminating their coaching career (Frey, 2007; Hassmén et al., 2019; Olusoga et al., 2010) and may thus also be a threat to coach identity. Thus, more in-depth exploration of this aspect of coach identity is also needed. Given that a coaching lifestyle can build identity but may also lead to burnout, it may be beneficial for coaches to take some time off coaching to be away from coaching roles and prevent the possibility of coach burnout (Hedstorm, 2014). Whether this strategy benefits coaches and reduces burnout warrants ongoing research. Future research examining the link between identity and burnout may also be of benefit.

Being a Life Coach. Being a life coach was also identified as one of the higher-order themes of the personal dimension of coach identity development. The results indicated that coaches' focus was not solely on athletic performance; rather, coaches placed a high value on

athletes' overall welfare and holistic development through teaching life skills and coaching athletes through life. This, in turn, leads to establishing a profound connection with athletes and effective coaching, enhancing coaches' self-perception and identity. It can be postulated that being a life coach and having an influence in athletes' personal life and growth can form identity prominence (McCall & Simmons, 1978; Purdy & Potrac, 2016). Additionally, the influence of coaching roles beyond the boundaries of sport may result in coaches' reflecting on their significant role within the social structure of coaching career, which can shape coach identity (McCall & Simmons, 1978; Stryker, 1980). This result adds to the extant literature on positive youth development and humanistic coaching in which coaches play a significant role in athletes' development and personal growth.

The research in positive youth development has noted that the ultimate goal of coaches is the personal growth and development of athletes (Camiré et al., 2019; Pope et al., 2014; Reade et al., 2009; Vella & Gilbert, 2014; Vierimaa et al., 2018). In addition, Côté and his colleagues (Côté, 2006; Côté & Gilbert, 2007) indicated that the most important task in coaching is developing athletes in the 4Cs (competence, connection, confidence and character/caring). Given that coaches in this study reported that teaching life skills alongside coaching athletes through life, problems and challenges were methods of effective coaching, this study's findings align with positive youth research and Côté et al.'s (2010) coaching model. While a great deal of research in youth development has focused on the role of a coach in positive youth outcomes, it is interesting that the focus of attention has been mainly on athletes and less attention has been paid to coaches, the way coaches should teach life skills and whether the implementation of those skills influences coaches. The results of this study suggest that from a coach's perspective, the type of coaching in which coaches make positive changes in athletes' development on and off the field can influence coaches' self-perception and the development of their coach identity. Thus, this study adds to the previous

literature by providing an insight into the influence of teaching life skills on coaches. Further research needs to examine more closely the various methods that coaches can teach life skills and their influence on coach identity.

Research examining the influence of coaches beyond the sports domain remains in the nascent stages. Humanistic coaching, whereby the primary focus is on the holistic development of an athlete by the coach, was one perspective examined by coaching researchers (Falcão et al., 2017; Lyle, 2002). Humanistic coaches invest in the personal development of the athletes rather than focusing on winning at any cost (Falcão et al., 2017; 2019). Coaches using a humanistic approach to their coaching were found to help athletes achieve better long-term results and success (Falcão et al., 2020; Vallee & Bloom, 2005). It is worth noting that the lens of prior research on humanistic coaching has only been on athletes' outcomes. How humanistic coaching may affect coaches and coaching outcomes remains unknown. The results from the present study showed that being a life coach and teaching life skills to athletes led coaches to perceive a strong relationship with their athletes and become aware of their positive influence on athletes' development, resulting in gaining a sense of an effective coach. Accordingly, humanistic coaching may be mutually beneficial for the coach and the athlete; however, it was beyond the scope of this research to explore coaches' identity regarding various humanistic coaching behaviours noted by Falcão et al. (2017). Further research could explore the way humanistic coaching and practice can influence coach identity.

Furthermore, recently, there has been a shift in the way sporting organisations, such as the Australian Institute of Sport, view athlete development with a new focus on the holistic development of athletes through career assistance programmes (CAP). The CAP initiative has helped athletes develop their identity, career and life skills in and outside of sport, which has been highly beneficial for athletes (Torregrossa et al., 2019). Given that, in sporting systems,

coaches are typically the closest individuals to athletes, and they can play a significant role in the lives of athletes, further supporting and promoting holistic and humanistic coaching may be valuable for enhancing the identity of coaches and may also be beneficial for athletes' development and outcomes.

Social Dimensions

The findings indicate that social factors influence coaches' beliefs, thoughts and behaviours, which then play a role in the development of coach identity. Social relationships, such as the interactions and relationships of the coach with various stakeholders within the coaching domain played a role in the development of coach identity. A further social factor related to coach identity development was social recognition, that is, the social and professional acknowledgement of society influenced the development of coach identity. It appears that both social relationships and recognition of the public were paramount for the coaches and reinforced their identity.

Social Recognition. Another identified social factor that contributes to the development of coach identity is social recognition. As noted by the coaches in this study, the professional and public recognition from parents, experts and other people within their own sport reinforce coaches' identity. The findings highlighted that the development of coach identity through social recognition was aligned with role identity theory. According to this social-psychological concept, a person's self (identity) grows through interpersonal interactions and the perception of others in society (Stryker, 1980). In other words, role theory specifies that humans imagine not only how they appear to others but also the judgment of that appearance, and then develop a self-identity through the perceived appraisal of others (identity verification). Thus, it can be concluded that the recognition that coaches receive from the public and professionals help them to realise that others see them in the same way they see themselves resulting in identity verification (Burke & Stets, 2009). This

identity verification facilitates the development of coaches' self-identity and identification with the role as found by Purdy and Potrac (2016).

Social Relationships. Of interest are the interactions and relationships of a coach with mentors, athletes, parents, assistant coaches and managers, which were identified as the factors in coach identity development.

This study showed that a mentor was an important social relationship for coaches. This finding further supports the idea of the positive contribution of coach–mentor relationships on the development of coaching performance (Koh et al., 2014; Tonidandel et al., 2007) as well as coach career development (Jones et al., 2009; Dawson & Phillips, 2013; Koh et al., 2014). One way this relationship contributed to coaches' identity may be that the mentor relationship offers a platform for coaches to establish a coaching network and connect with other coaches (Banwell et al., 2019, 2020; Douglas & Douglas, 2020;). Furthermore, this relationship might assist young coaches to develop their identity and confidence, and become more competent in their coaching behaviour, coaching style, knowledge (Curran et al., 2014; Koh et al., 2014). This study adds to the literature on the significance of coach mentorship for coaches in the sport and the influence of mentorship programmes on coaches' self-perception, and identity.

Previous research on the coach–athlete relationship indicated that this relationship is a two-way interaction that requires coaches and athletes to lock into a relationship, and the quality of this relationship can influence coaching effectiveness (Jowett, 2017; Santos et al., 2018). This relationship then forms a key part of an athlete's sporting experience, exerting a significant influence on the development and success of the athlete (Bennie & O'Connor, 2012; Davis et al., 2018; Jowett, 2017; McGee &DeFreese, 2019; Poczwardowski et al., 2002; Santos et al., 2018). Indeed, the relationship is a means by which the important processes of coaching such as influencing, guiding and supporting and helping can be

enacted, resulting in both coach and athlete development, growth, and success (Jowett, 2017; McGee &DeFreese, 2019). While this relationship requires the involvement of two people—the coach and the athlete—research examining the coach–athlete relationship has largely focused on the motivation and satisfaction of athletes in this two-way relationship and very limited attention has been on coaches. While research has shown that increased quality of coach–athlete relationship influences athletes' motivation, wellbeing, and success (Camiré et al., 2019; Davis et al., 2018; Lafrenière et al., 2011: McGee &DeFreese, 2019; Santos et al., 2018; York & Dawson, 2015), there is limited research about how the impact of this relationship can influence coaches, including their sense of being a coach. The findings in the current study demonstrate that a good coach–athlete relationship can facilitate coaches' involvement in athletes' development on and off the field, resulting in the development of coach identity.

Additionally, research has shown that coaches interact with a variety of people, including parents (Smoll et al., 2011), administrators (Potrac & Jones, 2009; Dawson & Phillips, 2013), assistant coaches (Jones et al., 2009), and others such as health and medical professionals and sport scientists (Waters et al., 2019; Côté & Gilbert, 2009). This study's findings extend the literature on coach relationships by showing that these relationships with other people within the coaching domain contribute to the maintenance and development of coach identity. It seems that the interactions and involvement of a coach with different groups and attempting to fulfil the coaching roles within each group develops a group identity pertinent to each group, resulting in the development of coaches' self-identity, and identification with the role (Burke & Stets, 2009). Further research is required to investigate methods of establishing and improving effective coach relationships and their impacts on coaching outcomes, as well as how coach identity is shaped by different relationships within the coaching domain.

Viewed from SIT, the social relationships that coaches have with different groups within the social structure of coaching may develop a group identity pertinent to each group, resulting in the development of coaches' self-identity. It seems that coaches, as the leaders of each group, are more influential and effective than other members of the groups; thus, they are strongly recognised by the groups and trusted to be acting in the group's best interest. It appears that the salience of this social identity affects personal dimensions of coaches' identity in the way they centre their life around coaching to support the groups they belong to, thus focusing more on athletes' development and growth on and off the field. This social identity and relations to different groups may also affect coach motivation and commitment.

Career Dimensions

The results of this study demonstrated that factors associated with the coaches' career contributions to the development and maintenance of their coach identity. The career factors that develop identity are related to coach career development and the ways in which they can develop and excel in their coaching careers.

Coach Success. The coaches in this study reported that they measured success by the development and success of their athletes, with athlete success then reinforcing coach identity. The coaches perceived themselves to be successful based on their role in the development of athletes' physical abilities and success at national or international championships. The results of this research support prior research on coach success that has demonstrated that athletes' or team success is a measure of coach success and that success in competitions can be a strong motivation for coaches (Horn, 2008; Mallett & Coulter, 2016).

Although extensive research has been carried out on coach success, far less attention has been paid to what success means to coaches and how it may influence their thoughts or beliefs about themselves as a coach. The current study showed that coach success influences

coaches' self-perception and helps them develop their coach identity. These results align with prior research in coach identity (Pope et al., 2014; Purdy & Potrac, 2016), which indicated that the development and success of athletes have a significant degree of influence on the reinforcement of coach identity. It is noteworthy that, similar to prior research in coach identity (Pope et al., 2014; Purdy & Potrac, 2016), this study's findings indicated that the personal growth and development of athletes were the driving forces behind their coaching, which required a good coach–athlete relationship. Thus, it can be argued that coaches' identification with their role is associated with their social interaction with their athletes as well as their athletes' success, which form the self and social structure of coaches' identity (Burke & Stets, 2009).

This study may also inform the debate on the measurement of coach success. While some scholars advocate that coach success is largely dependent on athlete success (Flanagan, 2001, 2003; Mallett & Coulter, 2016), other research defines coach success as the extent to which athletes develop through sport (Côté & Gilbert, 2007; Horn, 2008). The current study suggests that both athletes' development and athletes' success are considered measures of coach success by coaches themselves. The former is paramount at the early stage of athletes' career, and the latter at the professional stage; both contribute to coach identity development—one was not perceived by coaches to be superior to the other.

Coach Development. Coach development referred to the various ways in which coaches could improve their coaching knowledge and skills, leading to an increase in competence, confidence and the development of their coach identity. The subthemes identified in the data relating to coach development were coaches' application of their athletic experience, coach learning and coach experience.

The bulk of research on coach development has noted that experience as an athlete is a significant source of coaching knowledge and practice (Chroni et al., 2019; Cushion et al.,

2003; Denison, 2010; Gilbert et al., 2006; Greenberg & Culver, 2019; Irwin et al., 2004; Rynne & Mallett, 2014). Some researchers have proposed that coaches gain and develop an early understanding of what and how to coach from when they were athletes. This previous knowledge and experience as an athlete act as a primary knowledge source that they can rely on in subsequent years as a coach (Chroni et al., 2019; Cushion et al., 2003; Greenberg & Culver, 2019; Gilbert, Côté & Mallett, 2006; Rynne & Mallett, 2014). It can also assist the coach in the early stages of their coaching career to gain an employment opportunity; after this, the performance and record of the coach become more relevant to future employment opportunities (Mallett et al., 2007). Consistent with prior research, this study's findings also indicated that athletic experience was a useful source of knowledge to assist coaches with helping them embark on coaching at the early stages of their careers. This study's data extended previous research and indicated that applying athletic experience into coaching practice at the early stages of their coaching career built up coaching confidence, which was reported to enhance coach identity.

Besides applying athletic experience into coaching, coaches learn through reflecting on their knowledge and practical coaching experiences (Callary et al., 2018; Greenberg & Culver, 2019; Rynne & Mallett, 2014). Coaches in this study reported that learning and gaining experience throughout the coaching journey helped them acquire further coaching skills and knowledge. The results of this research are consistent with a body of research that has indicated that coaches learn through different formal and informal avenues such as education courses, workshops (Nelson & Cushion, 2006), reading books (Abraham et al., 2006; Callary et al., 2018; Irwin et al., 2004; Wright et al., 2007), journal articles and magazines (Schempp et al., 1999), exploring the internet (Callary et al., 2018; Wright et al., 2007), and reflecting on physical and technical training sessions, athletes' performance and what needs to change for the next training season (Callary et al., 2018; Cassidy et al., 2009;

Cushion et al., 2003; Gallimore et al., 2014; Gilbert & Trudel, 2001, 2006; Werthner & Trudel, 2006. 2009). While the bulk of research has shown that coach learning plays a role in improving coach effectiveness and career development, it is noteworthy that within the coach education literature, the influence of coach learning on coaches' perception of themselves is not well understood. This study's findings add to the literature on coach education and showed that coach education in any means (formal and informal) enhances coaches' perception of their competency and confidence, which, in turn, contribute to the maintenance and development of coach identity.

Coach learning and coach education are resources that enhance the coach's connection to the coaching role, strengthening their identification with the role (Stets & Serpe, 2013). Thus, it can be argued that these resources can help coaches to enhance their coaching knowledge and practice, resulting in coaches' enhanced influence on and interaction with athletes and others within the social structure of coaching. This may lead to the verification of coaches' identity by influencing their beliefs about themselves regarding their competency and worthiness (Stets & Cast, 2007). The current study added to the extant literature in coach education and coach identity by enhancing an understanding of the influence of coach learning and coach education on the development of coach identity. More research is required to establish the connection between different avenues of coach learning (formal and informal) with coach identity development.

High-Performance Coaching. The third higher-order theme of career dimensions was high-performance coaching. The subthemes identified from the data on the high-performance sport setting were workplace interaction with experts and coaching elite athletes and its inherent challenges. Of interest in high-performance sport coaching is the workplace

interaction with other professionals, which were noted to contribute to the development of coach identity.

Reportedly, the workplace interactions with others in high-performance settings helped the coaches gain insight into different ways to think about their coaching practice, improve coaching methods and deepen learning throughout their career. Thus, it can be argued that informal learning, which comes through workplace interactions and cooperation with experts in high-performance coach settings, is a useful resource to help coaches with their learning and career development (Greenberg & Culver, 2019; Rynne & Mallett, 2012, 2014; Waters et al., 2019). This, in turn, can enhance the influence and interaction of the coach with athletes and others, which could lead to reinforcement of coaches' identity by influencing their beliefs regarding their competency and worthiness (Stets & Cast, 2007). The present findings are consistent with recent research that found that workplace interaction with other expert coaches positively influences self-perception as a coach (Purdy & Potrac, 2016). This research further showed that these interactions and working alongside other expert coaches and sports scientists enhance identity through improving coaching knowledge and competency.

Another factor that coaches reported to reinforce their coach identity was coaching elite athletes and the associated responsibilities and challenges. In line with previous research (Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006), this study showed that coaching elite athletes is a challenging journey for all expert coaches. While prior research has considered this notion of training elite athletes as challenging and stressful (Dawson & Phillips, 2013; Mallett, 2010; Olusoga et al., 2010; Trudel & Gilbert, 2006; Thelwell et al., 2008), this investigation indicated that those challenges do not diminish coaches' feelings towards their role and even enhance their identity as a coach. Research has shown that high-performance coaches work in a dynamic environment where they constantly assess and solve

problems and create change (Lara-Bercial & Mallett, 2016; Thelwell et al., 2008). Throughout this dynamic process towards the production of high-performance, leadership and decision-making become one of the primary tasks of the coaches (Chan & Mallett, 2011; Rynne et al., 2017). It seems that this leadership position enhances coaches' self-identity through interactions and the perception of others (Stryker, 1980) in high-performance coaching. As such, it can be argued that coach identity further develops within the context of professional coaching (Thompson et al., 2014).

Environmental Dimensions

The last key theme noted in the data was environmental dimensions. This theme represents environmental factors that play a role in the development and strengthening of coach identity. The subthemes noted were media and social media, as well as income.

Media and Social Media. Coaches in this investigation indicated that media and social media played a role in their coach identity development in two ways. First, media and social media have allowed coaches to present their knowledge and expertise to the public and become known more broadly as an expert. Second, media and social media have educated the public about sporting culture and coaching roles. This education was felt to have brought more respect towards coaches.

Social media and mass media play a key role in social recognition, generating meaning, forming our values and defining who we are (Dwivedi & Pandey, 2013; Morley & Robins, 1995; Renner, 2019). In line with this, this study's findings showed that the further respect for coaches gained through public education via the media may function to validate coaches' identity from the public. Social media as a resource help coaches develop beliefs about themselves related to their competency by shaping the perceived appraisal of others in society, resulting in identity verification (Burke & Stets, 2009). Thus, it could be argued that exposure to media and social media may also have led to social recognition and identity

verification, which further contributes to the enhancement of coach identity. Viewed from SIT, the media can play a role in enhancing coaches' identity by offering a social comparison regarding coach skills and expertise. It can also present information about the success of a coach and his or her team, which can bring positive perception and social recognition and enhance coach self-concept, which is determined by social category. The current finding echoes the literature on athlete identity where media and social media were identified as one of the components playing a role in developing athletes' identity (Stephan & Brewer, 2007).

Income. The results of this study showed that income plays a role in the development of coach identity. Some coaches noted that when they received enough income from their coaching jobs to live on, this reinforced their self-concept and identification with their role as a coach. Additionally, they reported that income from coaching would allow them to invest in their career development and spend more time on coaching roles if there were a full-time coach.

Consistent with role theory, it can be postulated that income is a resource that allows coaches to enhance the centrality of their role through presenting themselves solely as a coach, which can enhance their identification with the role and shape the personal structure of coach identity (McCall & Simmons, 1978). Additionally, this resource also allows coaches to focus on developing coaching knowledge and practice and have a greater influence on athletes and others within the social structure of coaching. This could then lead to reinforcement of coaches' identity by influencing coaches' beliefs about themselves regarding their competency and worthiness (Stets & Cast, 2007). The current study added to the extant literature in sports coaching and coach identity by enhancing the understanding of the influence of income in the development of coach identity.

While the findings from this study suggest that media, social media and income, which all play a significant role in commercialised coaching in sport, can enhance coach

identity, Fardilha and Allen (2020) noted that it can diminish coach identity. These scholars reflected on challenges of coach identity and role prominence in contemporary football. They indicated that, while strong coach identity may enhance coach motivation and commitment, being a coach in an increasingly commercialised sport may misalign with expectations and behaviours associated with coaching roles, resulting in a threat to coach identity. A possible explanation for the different findings in this study compared to the recent study (Fardilha & Allen, 2020) might be that, unlike Fardilha and Allen's (2020) research, in this study, the majority of the coaches were not involved with commercialised coaching and it was their choice to consider income and media and social media as part of their career. More research is required to establish the effects of environmental factors and other sport settings with commercialised coaching on coach identity.

Overall Discussion

The data from this study indicated that personal, social, career and environmental factors showed support for role identity theory. However, some aspects of the data are consistent with Erikson's (1950, 1968) development theory, Self-Determination Theory (SDT), and Social Identity Theory (SIT).

When viewed from Erikson's (1950, 1968) development theory, it seems that coach motivation and coach commitment can play a role in the development of coach identity. Coaches may explore coaching through thinking actively about the commitments they have enacted. For coaches to succeed in their practice, they have to interact regularly with their athletes and other professionals. As such, coaches need to develop their knowledge to establish a good relationship with their athletes and others. This can enable coaches to overcome the challenges of coaching athletes and help them achieve their goals (Mallett & Coulter, 2016). Thus, while Erikson's (1950, 1968) development theory supports the career dimensions, coach–athlete relationships and coach motivation, it seems that environmental

dimensions and some of the data within social and personal dimensions of coach identity development do not fit with this theory.

Viewed through the lens of self- Determination theory, it seems that the social dimensions of coach identity may result in coach relatedness through the development of trusting relationships with athletes and others. Career factors such as coach learning, coach success, and coaching challenges can create conditions that develop coaches' skills and expertise which may strengthen the feeling of competence within the social structure of their coaching career. The personal dimension of coach identity development appears to increase the sense of coach autonomy as coaches choose freely to engage in different personal aspects of coaching such as coach commitment and being a life coach to develop athletes beyond the sport boundaries. While this theory supports personal, social, and career dimensions of coach identity development, it seems that it does not support the environmental dimensions.

Viewed from SIT, the social relationships that coaches have with different groups within the social structure of coaching may develop a group identity pertinent to each group, resulting in the development of coaches' self-identity. It seems that coaches, as the leaders of each group, are more influential and effective than other members of the groups; thus, they are strongly recognised by the groups and trusted to be acting in the group's best interest. It appears that the salience of this social identity affects coaches' behaviour in the way they centre their life around coaching to support the groups they belong to, thus focusing more on athletes' development and growth on and off the field. This social identity and relations to different groups may affect coach motivation and commitment. Furthermore, the media can play a role in enhancing coaches' identity by offering a social comparison regarding coach skills and expertise. It can also present information about the success of a coach and his or her team, which can bring positive perception and social recognition and enhance coach self-concept, which is determined by social category. However, some aspects of the findings

within career and environmental dimensions do not fit with SIT. How coach identity can develop through coach learning, coach experience, application of athletic background, workplace interaction with experts, coaching athletes and its challenges, and income could not be explained through SIT.

Overall, while personal and social dimensions of coach identity development fit with SIT, most of our career and environmental data did not fit this theory. Conversely, career and social dimensions fit within Erikson's (1950, 1968) development theory, but the data on environmental and some of the personal dimensions did not fit with this theory. In comparison, while the data within the personal, social, and career dimensions showed support for SDT, the data on environmental dimensions did not fit with this theory. Thus, out of role identity, SIT, SDT, and Erikson's development theory, this study's data best fit with role identity theory. Therefore, it can be concluded that, like previous research in coach identity (Pope et al., 2014), the data from Study 1 supported role identity theory for conceptualising and understanding coach identity.

Limitations

There were a number of limitations in the present study. Since the member checking produced 100% member agreement, it was not certain if the participants simply agreed with the researcher or deferred to her expertise (Smith & McGannon, 2017). In addition, it was not possible to ensure that each participant fully engaged with member checking; they may have only briefly scanned the transcripts.

Moreover, given that an attempt was made to conduct this study with a sample of expert coaches, this research only explored the coach identity from expert coaches' perspectives. Since coaches with different levels of expertise coach athletes at different levels, they may have different perceptions of their coaching roles and identity. Thus, the extent that these findings might apply across different levels, such as recreational, club, state,

national and international, remains an area for future research to examine. Furthermore, participants in this study were predominantly male (one female and six males), consistent with Australian sporting culture, which is predominantly male dominated (May, 2021). While the gender contribution of the sample with more male participants reflective of the actual population of coaches in the real world can be considered a strength, whether the determinants of coach identity in male coaches differ from female coaches is not clear from this investigation. How the findings from this study might apply to male and female coaches more broadly awaits further study.

Implications

This study was among the first to examine the multidimensional nature of coach identity. According to the Australian Sports Commission (n.d.), many clubs struggle to recruit and retain coaches due to a range of factors, such as their coaching work conflicting with other career and personal commitments in their lives. For example, while the majority of coach education courses and workshops attempt to put forward ways to help coaches develop their coaching knowledge and career (Callary et al., 2018; Kjær, 2019; Stoszkowski & Collins, 2016), specific ways to help coaches invest in themselves and their identity as a coach are lacking. Implementing this study's findings in coach education and development of sporting organisations may assist coaches in deepening their connection with their role and identity. As such, having a better understanding of coach identity may potentially assist sporting organisations with coach recruitment, retention and career development.

Furthermore, recently, there has been significant focus on coach education and coach development, focusing on the various ways coaches access professional development throughout their coaching career (Douglas et al., 2018; Greenberg & Culver, 2019; Rynne & Mallett, 2012). Even though the majority of coach education courses and workshops attempt to put forward ways to help coaches develop their coaching knowledge and career (Callary et

al., 2018; Kjær, 2019; Stoszkowski & Collins, 2016), specific ways to help coaches invest in themselves and their identity as a coach are under-researched. Implementing this study's findings in coach education and development may assist coaches in deepening their connection with their role and identity. Moreover, the results of this research may potentially be applied to other careers where human interaction and development are a prominent component (Nazar & Heijden, 2012; Williams 2019), although further research would be needed to ascertain this.

Directions for Future Research

The present research adopted a holistic lens using coaches' roles and responsibilities to research coach identity. Given the limited literature investigating coach identity in expert coaches, further research to build on the present findings by exploring coach identity among coaches from different coaching levels such as club, state, national and international levels would benefit the field of sports coaching. Similarly, further research on how coaches could implement the determinants of coach identity development in their coaching context would be of benefit, offering further insight into coach career development. Furthermore, little is known about the interconnections between coach identity and coaches' behaviour. Additional exploration of the interconnections between coach identity and coach effectiveness would be beneficial to coaching psychology.

The current research explored only Australian coaches. The finding from this research could expand by exploring coach identity in other countries to see if similar coach identities occur within different sports and cultural contexts. Moreover, given that coach identity might be threatened by the commercialisation of sport (Fardilha & Allen, 2020), exploring coach identity within other sport settings with commercialised sporting profiles such as AFL, rugby and cricket might also further the understanding of coach identity.

Additionally, future research could explore the factors that diminish and threaten coaches' identity at different coaching levels. Similarly, exploration of the drawbacks of strong coach identity and its repercussions on identity crisis would be valuable and could be used to promote the psychological wellbeing of the coaches.

Conclusion

This research explored the determinants of coach identity from a broader context pertinent to the scope of coaching through interviewing seven expert coaches from a range of team and individual sports. This study's findings demonstrated that coach identity develops through various factors within the personal, social, career and environmental dimensions, indicating that coach identity is multidimensional, consistent with the complex and multidimensional nature of coaching (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006).

It was identified that the coach's ultimate goals within the personal, social, career and environmental dimensions of coaching are predominantly connected to athletes' development. However, to reach the goal of athlete development and success, the social network and interaction of the coach with athletes and other people were recognised to be vital. Therefore, it can be argued that coaches' identification with their role is associated with the social interaction and the development and success of their athletes, which forms the self and social structure of their coach identity (Burke & Stets, 2009). While the social and personal dimensions, as well as media and social media showed support for SIT, some aspects of the findings within career and environmental dimensions did not fit with this theory.

Thus, similar to previous research on coach identity (Pope et al., 2014), the findings in each of the four dimensions supported role identity theory for conceptualising and understanding coach identity. Role identity theorists (McCall & Simmons, 1978; Stryker,

1980) claimed that identity is partially constructed by the social structure and partly by the individual, and when taken together, they present the person. That is, an individual's self-identification with a role, combined with how other's view their roles, together shape identity. Within the context of coaching, this study indicates that the various roles coaches play within their career develop self-meanings and the identification with the coach identity through the coach's interaction and relationships within the social structure of coaching.

Chapter 5: Study 2—Scale Development

Introduction

Using the semi-structured interviews with seven expert coaches, the first study aimed to identify the factors that play a role in the development and maintenance of coach identity. The results of the first study demonstrated that coach identity consists of personal, social, career and environmental dimensions, indicating a multidimensional notion of coach identity. This matches with the complex and multidimensional notion of a coaching career (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006). Study 2 aimed to generate a coach identity development scale using the determinants identified to influence the development of coach identity from the first study.

Currently, there are only two existing measures to assess coach identity. The first one was introduced by Francis (2012). By substituting 'athletes' for 'coaches', she adapted the AIMS and applied it to coaches. Athletic identity is 'the degree to which an individual identifies with the athlete role' (Brewer et al., 1993, p. 237). Using role identity theory, the AIMS was introduced by Brewer et al. (1993) as a measurement tool to measure athletes' identity. Given that the results of the previous study in this thesis showed the factors that can play a role in the strength and development of coaches' identity within coaches' careers, it is worthy to note that the determinants of coach identity are different from the determinants of athletic identity. Stephan and Brewer (2007) showed that the feeling of being an athlete is influenced by social and personal factors. Social factors were identified as social recognition, peers and teammates, sports staff, socio-professional flexibility. Personal factors that influence athletic identity were life rhythm and bodily dimension. The first study in this thesis showed that, as with athlete identity, coach identity is influenced by personal and social dimensions; however, the factors within each dimension have very little similarity. Specifically, there are factors within the personal and social dimensions of coach identity that

do not apply to athletes. Furthermore, career and environmental dimensions are also two dimensions identified in the first study that play a role in coach identity. Thus, given that the determinants of coach identity are broader and different from the determinants of athlete identity and the process of scale development and item generation of the AIMS was performed on a population of athletes rather than coaches, it can be argued that a survey to measure athlete identity is not suitable to be used for coaches. It is worth noting that while a three-factor structure of the CIMS has been shown in CFA on coaching populations (Francis, 2012), the psychometric properties of the CIMS were not examined, and the author only relied on the psychometric properties of the AIMS. As such, the validity and reliability of the CIMS are unclear. Thus, a survey developed from the determinants of coach identity to measure the identity of coaches from various aspects of coaching context is valuable.

The second coach identity measure was developed by Pope and Hall (2014a). This is a measure of coach identity; however, it focuses on measuring the prominence and emotions that coaches attribute to their roles. It does not measure coach identity from various aspects within coaches' careers. Considering that the results of Study 1 indicated that coaches' identity is influenced by various factors within the personal, social, career and environmental dimensions of coaches' careers, a scale to measures coach identity from a broader context is valuable.

Given the complex and multidimensional nature of the nature of coaching and coach identity (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006), it seems that a scale to measure coach identity from a broader context within the scope of coaching is lacking. Developing such an instrument will allow researchers to comprehensively assess coaches' identity by analysing different aspects of coaches' careers and their influence in the development and maintenance of coach identity. Additionally, item generation and scale development procedures have been minimal within

coach identity literature, and the CIPS does not provide an in-depth procedure of item generation and scale development. Thus, providing in-depth and detailed procedures of the CIDS can serve as a guide for future researchers. To this end, using the determinants of coach identity in Study 1, Study 2 aimed to develop a scale to measure coach identity from the personal, social, career and environmental dimensions of coaches' careers. The detailed procedure of item generation is outlined in this chapter.

Method

The purpose of this section is to provide the procedure of items generation, the criteria for items validation, as well as the justifications for items modifications. This chapter also explains the data analysis and the process for establishing the validity of the items (I-CVI) and the scale (S-CVI).

Participants

The study utilised three expert panels—one supervisory panel, one academic panel and one coach panel. The research panel was one male and one female who were the supervisors of this thesis. Three males and three females, who were academic researchers at Victoria University, comprised the academic panel. Members of the academic panel ranged from 39 to 62 (M = 47.83, SD = 8.97) years of age and reported their academic position as senior lecturer (n = 3) and lecturer (n = 3). Their academic departments included sport and exercise science (n = 5) and psychology (n =1). Three of the academic members were currently coaching sport.

In addition, five expert coaches also participated to form the panel of coaches. The inclusion criteria were a) a minimum of 10 years of coaching experience and b) have coached athletes who have competed at the national or international level. Despite attempts to invite five new coaches, recruitment was not successful. Thus, coaches from the first study were invited to participate in this study. Five coaches from the first study agreed to be the

participants in the pre-test sample. The coaches were from Taekwondo, netball, table tennis, Karate and athletics. The coaches (one female and four males) ranged from 42 to 66 years old (M = 52, SD = 10.41). The highest level coaches had coached was the international (n = 3), and Olympic-level (n = 2). Participants had been coaching between 20 and 37 years (*M* = 26.40, *SD* = 7.23) and were currently coaching eight to 30 hours per week (*M* = 22.60, *SD* = 9.15). The demographics of the participants are presented in Table 5.1.

Table 5.1

Coaches' Demographic Information

Sport coach	Age	Gender	Years of athletic experience	Years of coaching	Hours weekly coaching	Highest level coached	Source of income	Highest educational level
Karate	60	Male	8	37	30	World	Primary	Diploma
Taekwondo	42	Male	25	20	8	World	Secondary	High school
Table tennis	66	Male	45	30	25	Olympics	Primary	Graduated diploma
Athletics	47	Male	20	20	20	Olympics	Voluntarily	Bachelor's degree
Netball	45	Female	23	25	30	World	Primary	Bachelor's degree

Procedures

Before commencing the development of CIDS, ethics approval was received from Victoria University Research Ethics Committee. The coach identity scale development procedures were guided by the work of De Vellis (2003).

Step 1: Clearly Determine What It Is Intended to Measure. The first step in developing the coach identity scale was to identify the components that play roles in developing coach identity. Data in the first study indicated four key themes and 10 higher-

order themes, of which eight contain subthemes. Thus, in the present study, the coach identity construct was defined based on the multidimensional approach found in Study 1.

Step 2: Generate an Item Pool. Once the coach identity construct was defined and determined, the next step was to generate a pool of items to include in the scale. To generate a scale that represented the determinants of the coach identity, items were developed based on themes and subthemes. Therefore, items were generated based on each theme to measure that aspect of coach identity. For example, items generated for coach motivation included items specific to the subthemes of coach passion and commitment. An initial pool of 28 items relevant to the themes and subthemes of coach identity were generated. After the generation of the item pool, the clarity and readability of the items were independently reviewed by supervisory panel. Based on the supervisory panel's feedback, redundant, lengthy and complex items were either excluded or modified.

Step 3: Determine the Format for Measurement. This study used a Likert scale format. Likert scales are commonly used in instruments measuring beliefs, opinions and attitudes. The Likert format allows respondents to specify their levels of agreement or disagreement on a systematic agree-disagree scale. Recent research by Revilla et al. (2014) has recommended that five-point Likert scales are more valid than seven- or 11-point Likert scales, as the latter yield lower quality data. Thus, in developing the present measure, a five-point scale was used with responses to each item. Note that Pope and Hall (2014a) also used a five-point Likert scale in developing the CIPS.

Step 4: Have the Initial Item Pool Reviewed by Experts. The content validity of the items was assessed by the expert panel members. An invitation email was sent to eight experts familiar with sport psychology, sports coaching and sport sociology. Out of eight invitations sent to academic staff, six of them expressed their interest by a reply email to be one of the panel members. Before meeting with the researcher, the panel gave their consent

by replying to the invitation email and accepting to participate in the study. Following consent, a suitable date and time were arranged to meet each expert in their office at Victoria University. At the beginning of each meeting, the panel member was provided with the findings from the first study (i.e., the themes and subthemes that were identified as the components of coach identity development). The panel needed to be aware of the findings, given that the items had been derived from them. Content validity for items was explained to the panel members as the extent to which each item was relevant to what it is intended to measure (coach identity development). Thus, each member independently assessed the degree to which each item was relevant to the subthemes of each dimension of the coach identity development. Based on the advice of early scholars (Lynn, 1986; Waltz & Bausell, 1981) in this field, item ratings of content validity are usually on a four-point ordinal scale from 1 (not relevant), 2 (somewhat relevant), 3 (quite relevant) to 4 (highly relevant) (Lynn, 1986; Polit et al., 2007). Thus, the panel was asked to rate the content validity of each item on the four-point scale. Additionally, the panel was encouraged to add their comments on the clarity and readability of the items that they felt would benefit from a minor amendment. The assessment of all panel members on content validity was collected within two months.

Step 5: Include the Valid Items. In the next phase, the items that were recognised by the panel to be invalid were discarded, and the items that were recognised as valid were kept (a detailed discussion of the assessment of item validity is presented below). Also, based on the panel's feedback on items, some items were modified and some items retained with no modification. A total of 28 items were included in the scale.

Step 6: Pre-test. A recent research guide on scale development and reporting (Carpenter, 2018) has noted that it is vital to conduct a pre-test prior to launching a survey on the actual population. As such, the final step of scale development in this study was to conduct a pre-test with five coaches to ascertain the technical quality of the items from the

coaches' perspective, such as if there were any ambiguous, confusing, lengthy or difficult items. Five coaches from Study 1 were the sample for the pre-test. An initial invitation to participate in the pre-test was sent via the researcher's professional network on LinkedIn with no response that met the selection criteria. The researcher then contacted the coaches who participated in the first study. Five out of seven coaches agreed to participate in the pre-test. Thus, an email was sent to the Karate, netball, athletics, table tennis and Taekwondo coaches, explaining the second part of this research. Upon their agreement, coaches were provided with a PDF copy of the survey and short instructions on how to assess the technical quality of the survey. The participants were encouraged to rate the technical qualities of each item by ticking off any of the following boxes: a) lengthy, b) unclear, c) difficult to read, d) multibarreled or e) none of them (i.e., the item does not have any issue). In addition, a comment box was available at the end of the survey, and participants were asked to provide any additional feedback they had regarding the items. Following sending the survey to the coaches for the technical quality assessment, the researcher arranged a phone call meeting with each coach to ensure coaches were fully aware of what they were required to do. The assessment of all coach panel members on technical quality was collected within six weeks.

Data Analysis (Assessment of Item Validity)

For each item to be considered a validated item (I-CVI), five out of six judges needed to agree on 'highly relevant = 3' or 'quite relevant = 4' for each item (Lynn, 1986; Polit et al., 2007). The items that were recognised by two or more experts as not relevant (1) or somewhat relevant (2) were considered invalid. Then, for each item, I-CVI was computed as the number of judges giving the rating of either 3 or 4, divided by the total number of experts. To provide a proportion of agreement on the relevance of each item, Davis (1992) proposed that items with 80% agreement or higher are considered valid items. Thus, for this study with six experts, the items that were rated as 'quite' or 'highly' relevant by at least five judges

were considered valid. As such, items with an I-CVI of 5/6 = 0.83 were valid, and this was the minimum rate for considering an item to be valid. The items that gained the agreement of all six judges on being 'quite' or 'highly' relevant were considered to have the highest rate of the I-CVI (6/6 = 1.00) (Polit et al., 2007).

The content validity index (CVI) of the scale (S-CVI) was measured according to the overall proportion of the items in the scale that gained a rating of 3 'quite relevant' or 4 'highly relevant'. In other words, S-CVI was considered the average of the I-CVIs for all items on the scale (S-CVI/Ave) (Polit et al., 2007). S-CVI/Ave was calculated by averaging the I-CVIs by summing and dividing them by the number of items: (28 items x 1.00)/28 = 1.0. (Polit et al., 2007). According to Waltz, Strickland and Lenz (2005, p. 178), the standard criterion for acceptability for the S-CVI/Ave is 0.9.

The technical quality of the scale at the pre-test phase was analysed in three steps. First, participants' responses pertaining to the technical quality of the items were evaluated Thereafter, the responses on each item were assessed, and the items that were addressed to have any issues (lengthy, unclear, difficult to read or multibarreled) by two or more coaches were identified. The items that were identified as lengthy were modified to a shorter sentence. The items that were unclear or difficult to read were revised to simple sentences. The items that were multibarreled were modified to contain only one concept.

Results

An initial pool of 28 items related to the subthemes of the personal, social, career and environmental dimensions of coach identity was generated. Each item was generated from the broader theme and subthemes related to each dimension developed from the first study. The dimensions contain different numbers of items because of differing numbers of themes and subthemes within each dimension. Thus, the initial pool contained 11 items in personal dimensions, four items in social dimensions, 11 items in career dimensions and two items in

environmental dimensions. Here, the initial item pool, the research panel/supervisors' comments on the items and their revised version are outlined.

Personal Dimensions

Coach Motivation.

Passion.

1. I am very passionate about coaching. (Retained)
2. I am very passionate to help my athletes achieve what I failed to achieve as an athlete.
3. I am passionate to coach athletes at any level even if I earn no income from it.* (Modified & retained)

The researchers' feedback on Item 3 was to focus on one idea per item: 'Athletes at any level' and 'income' were two ideas. Given that the target of the survey was for coaches at any level, the words 'any level' was removed.

*Item 3 revised version: I am passionate about coaching even if I earn no income.

Commitment.

4. Sometimes I focus on my coaching more than I should.* (Modified & retained)
5. I am 100% committed to my coaching career.** (Modified & retained)

General feedback by the panel was to consider reverse wording for some items, where possible. Indeed, it helps to check that people read items and respond accordingly rather than randomly selecting numbers throughout (De Vellis, 2003).

Item 4 was considered suited for this reverse wording. Besides, it was also suggested not to use the number '100' in an item. Thus, both items were revised after the feedback.

*Item 4 revised version: I do not feel committed to my coaching at all.

**Item 5 revised version: Sometimes I focus on my coaching more than I should.

Coaching Lifestyle.

Perception of a Full-time Job.

6. I feel like a full-time coach when I am fully engaged with the roles and responsibilities regardless of coaching voluntary, part time or full time.* (Modified & combined)
7. Regardless of I am coaching full time, part time or voluntary, I always identify myself as a coach.* (Modified & combined)

The aim of items six and seven was to generate items that can measure 'perception of a full-time job'. Item 6 was noted to be long and confusing and had the same meaning as Item 7. Thus, two items were combined into one.

* Items 6 and 7 combined: I see myself as a coach regardless of coaching voluntary, part time or full time.

Life Centred Around Coaching.

8. My life is centred around coaching tasks even when away from training sessions.* (Modified & retained)

The feedback on Item 8 was to keep items short where possible to avoid confusion and ensure people read them. Thus, the item was shortened.

*Item 8 revised version: My life is centred around coaching.

Being a Life Coach.

Athletes' Development in Life.

9. Helping athletes to grow in their personal lives and seeing their development is satisfying. (Retained)

Teaching Life Skills and Coaching Through Life.

10. Coaching my athletes' life skills is as important as coaching their sport skills. (Retained)

11. As a coach, I endeavour to teach life skills to my athletes and encourage them to apply those skills in their life.* (Modified & retained)

It was indicated that Item 11 was lengthy. Also, given that earlier it was recommended to reverse some items, this sentence was reversed.

*Item 11 revised version: I do not care about teaching life skills to my athletes.

Social Dimensions

Social Recognition.

Professional Recognition.

12. I put a high value on being known and recognised by the experts in my sporting field.* (Modified & retained)

The feedback on Item 12 was that the item should reflect the professional recognition of expert coaches as it should indicate that. Thus, the item was revised to address this comment.

*Item 12 revised version: Recognition from other expert coaches and colleagues give me a sense of being a coach.

Public Recognition.

13. Recognition from parents, athletes and others reinforces my confidence in being a coach. (Retained)

Social Relationships.

Mentor Relationships and Interactions with Others.

14. My relationships with my mentors and assistant coaches reinforce who I am as a coach. (Retained)

Coach–Athlete Relationship and Interactions with Others.

15. My relationships with athletes and parents are important to me and reinforce who I am as a coach. (Retained)

Career Dimensions

Coach Success.

Athlete Development.

16. My ability to influence athletes' physical, psychological and emotional development in sport strengthens my sense of being a coach. *(Modified & retained)

It was noted to consider one word 'emotional' or 'psychological' to condense the item. The phrase 'my sense of being a coach' was noted to have been repeated in several items and was recommended to be replaced with 'help me see myself as a coach'.

*Item 16 revised version: My influence on my athletes' physical and emotional development helps me see myself as a coach.

Athlete Success.

17. My contribution to athletes' success in competition reinforces my self-belief as a coach. (Retained)
18. The more successful my athletes are, the more I see myself as a coach. (Retained)

Coach Development.

Application of Athletic Background.

19. When I apply my experience as an athlete to my coaching in the way that it leads my athletes to be more successful, that reinforces my self-belief as a coach.* (Modified & retained)
20. Application of my athletic experience into my coaching career which can result in my athletes' development and success helps me to believe in myself as a coach. (Removed)
21. I try to apply my experience from being an athlete to my coaching so that my athletes don't make the same mistakes that I did. (Removed)

The above items that reflected the application of athletic experience were noted to be lengthy and confusing. The three items were considered repetitive; thus, items 20 and 21 were deleted. The experts put forward a new item to make Item 19 shorter and clearer.

*Item 13 revised version: My experiences as an athlete influence the way I coach.

Coach Learning.

22. The more I learn about coaching the more I see myself as a coach. (Retained)

Coach Experience.

23. My experiences through trial and error contribute to my sense of being a coach. (Retained)

High-Performance Coaching.

Work Interactions with Experts.

24. The more I learn from other coaches and experts, the more I see myself as a coach. (Retained)

Coaching Elite Athletes and its Challenges.

25. Coaching elite athletes to get the best out of themselves at high-level competitions gives me a sense of being an effective coach. (Retained)
26. Going through the challenges throughout coaching my elite athletes provides me with a deeper understanding of all of my coaching roles and responsibilities.* (Modified & retained)

    Item 26 was noted to be lengthy. Thus, it was revised to a shorter item.

*Item 26 revised version: Overcoming the challenges of coaching gives me a sense of being a good coach.

Environmental Dimensions

Media and Social Media.

27. Having a presence in sport-related mass media and social media reinforces my self-belief as a coach.* (Modified & retained)

Income.

28. When I am paid for my coaching, it reinforces what I do and who I am as a coach.* (Modified & retained)

Items 27 and 28 were identified to be too narrow and may not apply to all coaches. Thus, the revised versions attempted to cover these two comments.

*Item 27 revised version: I believe media and social media can reinforce my sense of coaching.

*Item 28 revised version: When coaching comes with income, it contributes to the sense of being a coach.

As demonstrated above, 16 items were revised, out of which, two items were combined and two items were deleted. Furthermore, a new item, 'Being selected as a state or national coach reinforces my sense of being a successful coach', was proposed by one of the research panel members. This was proposed because being selected as a state or national coach can fit under the coach success subfactor. Given that this variable was indicated as one of the factors playing a role in coach identity in Purdy and Potrac's (2016) study, the recommendation was accepted, and the item was included in the item pool, taking the pool to 26 items.

Content Validity of Items (I-CVI) and the Scale (S-CVI)

Once the pool of items was generated and revised by the research team, the content validity for each item was assessed by six academic experts. Furthermore, this panel provided feedback on the items perceived to have issues. Based on the panel feedback, some items

underwent a slight modification to be clearer. The modified version of the items that required amendment according to the panel feedback is illustrated below, showing the amended items in italics.

Personal Dimensions

Coach Motivation.

1. I am very passionate about coaching. (Retained) (I-ICV = 1)
2. I am very passionate to help my athletes achieve what I failed to achieve as an athlete. (Modified & retained)* (I-ICV = 1)

   **I am very passionate about helping my athletes achieve their goals*.
3. I am passionate about coaching even if I earn no income. (Rejected) (I-ICV = .66)
4. I do not feel committed to my coaching at all. (Modified & retained)* (I-ICV = 1)

   **I do not feel strongly committed to my coaching.*
5. Sometimes I focus on my coaching more than I should. (Modified & retained)* (I-ICV = 1)

   **Coaching is one of my major commitments in my life.*

Coaching Lifestyle.

6. I see myself as a coach regardless of coaching voluntary, part time or full time. (Modified & retained)* (I-ICV = 1)

   ***I see myself as a coach regardless of whether my coaching is voluntary or paid.*
7. My life centred around coaching. (Retained) (I-ICV = 1)

Being a Life Coach.

8. Coaching my athletes' life skills is as important as coaching their sport skills. (Retained) (I-ICV = 1)
9. Helping my athletes to grow in their personal lives and seeing their personal development is satisfying. (Retained) (I-ICV = 1)

10. I do not care about teaching life skills to my athletes. (Modified & retained) *(I-ICV = 1)

**It is important to me to teach life skills to my athletes through sport.*

Social Dimensions

Social Relationship.

11. My relationships with my mentors and assistant coaches reinforce who I am as a coach. (Modified & retained)* (I-ICV = 1)

**My relationships with my coaching mentors reinforce who I am as a coach.*

**My relationships with other coaches reinforce who I am as a coach.*

12. My relationships with athletes and parents are important to me and reinforce who I am as a coach. (Modified & retained)* (I-ICV = 1)

**My relationships with athletes are important to me and reinforce who I am as a coach.*

**My relationships with athletes' parents are important to me and reinforce who I am as a coach.*

Social Recognition.

13. Recognition from other expert coaches and colleagues give me a sense of being a coach. (Modified & retained)* (I-ICV = 1)

**Recognition of my competencies from other coaches give me a positive sense of being a coach.*

14. Recognition from parents, athletes and others reinforces my confidence in being a coach. (Modified & retained)** (I-ICV = 1)

**Recognition of my competencies from athletes reinforces my confidence in being a coach.*

***Recognition of my competencies from athletes and parents reinforces my confidence in being a coach.*

Career Dimension

Coach Success.

15. My influence on my athletes' physical and emotional development helps me see myself as a coach. (Retained) (I-ICV = 1)
16. My contribution to athletes' success in competitions does not reinforce my self-belief as a coach. (Modified & retained)* (I-ICV = 1)

    **My contribution to the success of my athletes at competitions reinforces my sense of coaching.*
17. Being selected as a state or national coach reinforce my sense of being a successful coach. (Retained)
18. The more successful my athletes are, the more I see myself as a coach. (Rejected) (I-ICV = .66)

Coach Development.

19. My experiences as an athlete influence the way I coach. (Retained) (I-ICV = 1)
20. The more I learn about coaching the more I see myself as a coach. (Modified & retained)* (I-ICV = 1)

    **The more I learn about coaching the more I identify myself as a coach.*
21. My experiences through trial and error contribute to my sense of being a coach. (Retained) (I-ICV = 1)

High-Performance Coaching.

22. The more I learn from other expert coaches and sport experts the more I see myself as a coach. (Modified & retained)* (I-ICV = 1)

    **The more I learn from expert coaches the more I see myself as a coach.*

    **The more I learn from other sport experts (sport scientists, sport psychologists), the more I see myself as a coach.*

23. Coaching athletes to get the best out of them for competitions gives me a sense of being an effective coach. (Retained) (I-ICV = 1)
24. Overcoming the challenges of coaching gives me a sense of being a good coach. (Retained) (I-ICV = 1)

Environmental Dimensions

Media and Social Media.

25. I believe media and social media can reinforce my sense of coaching. (Modified & Retained)* (I-ICV = 1)

**My presence in media and social media can reinforce my sense of who I am as a coach.*

Income.

26. When coaching comes with income, it contributes to the sense of being a coach. (Retained) (I-ICV = 1)

In assessing the I-CVI, the findings indicated that 26 items had valid I-CVI = 1, and two items had an item validity of .66. Given that items with a validity of < .78 are considered invalid (Lynn, 1986; Polit et al., 2007), items 3 and 18 with an item validity of .66 were deleted from the item pool, taking the item pool to 24 items. Table 5.2 illustrates the rating of I-CVI by the panel on each item.

Upon panel feedback on 26 items, 12 items were modified, and four items (11, 12, 14 and 22) were recognised to have more than one concept. As such, each of those four items was divided into two different items leading to a total item pool of 28.

After assessing the I-CVI, the next step was to compute the CVI for the scale (S-CVI). S-CVI was considered the average of the I-CVIs for all items on the scale (S-CVI/Ave). As all 28 items gained the I-CVI of 1, the total S-CVI was: 1 x 28/28 = 1. Given that the standard criterion for acceptability for the S-CVI/Ave should be 0.9 (Waltz et al., 2005, p. 178), it was concluded that the CIDS had sufficient S-CVI.

Table 5.2

Rating of I-CVI on the CIDS by Six Experts

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Number in Agreement	Item CVI
1	4	4	4	4	4	4	6	1.00
2	4	4	4	4	4	4	6	1.00
3	3	2	3	3	1	3	4	0.66
4	4	4	4	4	4	4	6	1.00
5	3	3	4	3	3	4	6	1.00
6	3	3	3	4	4	4	6	1.00
7	4	4	4	4	4	4	6	1.00
8	4	3	4	3	3	4	6	1.00
9	4	4	3	4	4	3	6	1.00
10	4	4	3	4	4	3	6	1.00
11	4	4	3	3	4	4	6	1.00
12	4	4	3	3	3	4	6	1.00
13	4	4	4	3	3	4	6	1.00
14	4	4	3	3	3	4	6	1.00
15	4	4	4	4	4	4	6	1.00
16	4	4	4	4	4	4	6	1.00
17	4	3	3	4	3	4	6	1.00
18	4	3	3	2	3	2	4	0.66
19	3	3	3	3	3	3	6	1.00
20	4	4	3	3	3	4	6	1.00
21	4	3	4	4	4	3	6	1.00
22	4	3	4	3	3	4	6	1.00
23	4	4	4	3	3	4	6	1.00
24	3	3	4	3	4	4	6	1.00
25	4	3	4	3	3	4	6	1.00
26	4	4	3	4	4	4	6	1.00
Proportion relevant	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Mean I-CVI = 1.0

Technical Quality of the Items

The feedback from the five coaches on the technical qualities of the scale indicated that five items had technical difficulties. The technical issues of each item and modified version of them are outlined below:

Item 13 was noted to be 'multibarreled' by two coaches.

13. My relationships with athletes' parents are important to me and reinforce who I am as a coach.

It was modified to *My relationship with the parents of my athletes reinforces who I am.*

Item 18 was identified to be 'difficult to read' and 'multibarreled'.

18. Recognition of my competencies from athletes' parents reinforces my confidence in being a coach.

It was modified to *Recognition from the parents of my athletes on my coaching skills reinforces my sense of coaching.*

Item 19 was recognised to be 'unclear' and 'multibarreled'.

19. My influence on my athletes' physical and emotional development helps me see myself as a coach.

It was modified to *Influencing my athletes' development in sport helps me see myself as a coach.*

Item 22 was recognised to be 'unclear' and 'multibarreled'.

22. My experiences through trial and error contribute to my sense of being a coach.

It was modified to *Gaining coaching experience through trial and error contributes to my sense of being a coach.*

Item 23 was recognised by two coaches to be 'multibarreled'.

23. It is important to me to teach life skills to my athletes through sport.

It was modified to *As a coach, it is important for me to teach life skills to my athletes.*

Item 24 was recognised to be 'unclear' and 'multibarreled'.

24. Recognition of my competencies from other coaches gives me a sense of being a coach.

It was modified to *Recognition from other coaches on my coaching skills gives me a sense of being a coach.*

The final version of the CIDS using a five-point Likert scale has been provided below. The full version of the survey entailing the demographic information part has been provided in Appendix E.

1. I am very passionate about coaching.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

2. I do not feel strongly committed to my coaching.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

3. Coaching is one of my major commitments in my life.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

4. The more I learn about coaching the more I identify myself as a coach.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

5. My presence in media and social media can reinforce my sense of who I am as a coach.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

6. Overcoming the challenges of coaching gives me a sense of being a good coach.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

7. I see myself as a coach regardless of whether my coaching is voluntary or paid.

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

8. The more I learn from expert coaches the more I see myself as a coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

9. My life is centred around coaching.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

10. Coaching my athletes' life skills is as important as coaching their sport skills.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

11. Helping my athletes to grow in their personal lives and seeing their development is satisfying.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

12. My experience as an athlete influences the way I coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

13. My relationship with the parents of my athletes reinforces who I am as a coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

14. My relationships with athletes are important to me and reinforce who I am as a coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

15. Coaching athletes to get the best out of them for competitions gives me a sense of being an effective coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

16. Recognition of my competencies from athletes reinforces my confidence in being a coach.

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

17. I am very passionate about helping my athletes achieve their goals

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

18. Recognition from the parents of my athletes on my coaching skills reinforces my sense of coaching

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

19. Influencing my athletes' development in sport helps me see myself as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

20. My relationships with my coaching mentors reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

21. My relationships with my assistant coaches reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

22. Gaining coaching experiences through trial and error contributes to my sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

23. As a coach, it is important for me to teach life skills to my athletes

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

24. Recognition from other coaches on my coaching skills gives me a sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

25. My contribution to the success of my athletes at competitions reinforces my sense of coaching

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

26. When coaching comes with income, it can contribute to my sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

27. Being selected as a state or national coach reinforces my sense of being a successful coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

28. The more I learn from other sport expert (sport scientists, sport psychologists) the more I see myself as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

Discussion

The purpose of the current study was to develop an instrument measuring coach identity development, which can assess the extent to which coaches are engaged with various aspects of coaching roles that have been found to influence their identity. To date, scales to measure coach identity have been narrowly focused on prominence and emotions that coaches attribute to their role, and a scale to measure coach identity based on the determinants of coach identity is lacking. Study 1 explored the determinants of the coach identity considering all aspects of a coach's career, with findings indicating four key dimensions and 10 subthemes related to coach identity development. Thus, CIDS was developed to assess the subthemes in each dimension found in Study 1. The results from this study suggested an instrument of 28 items with content validity for the items (I-CVI) and the scale (S-CVI). The results of this study add to the literature in coach identity by developing a measurement that can measure coach identity from a broader scope of coaching within coaches' careers.

In choosing an index of expert agreement from various available indices of interrater agreement such as Lawshe's (1975) content validity ratio (CVR) and CVI, scale developers might be guided by different criteria, including the ease of understandability, ease of computation, understandability and ease of communication, and adjustments for chance agreement (Polit et al., 2007). CVI has advantages over other indices because the proportion of agreement on the relevance of items can be easily computed and understood (Polit et al., 2007). Furthermore, averaging the I-CVIs to assess the content validity for the scale is easy to communicate to others. While Lawshe's (1975) CVR is easy to assess, it is not easy to interpret and communicate to others, and its values can range from −1.0 to +1.0, with CVR = 0 when half the experts judge an item to be relevant (Polit et al., 2007). While this study provides evidence of content validity for the items and scale by using (CVI), Pope and Hall (2014a) computed the content validity of the items in the CIPS using Lawshe's CVR

(1975), and the content validity for the scale remains unclear because the authors did not report it. Thus, according to Polit et al. (2007), in using Lawshe's (1975) CVR, it seems that it is not easy to interpret and communicate the content validity for the scale in the CIPS to others. It is also worth noting that the content validity of the CIMS developed by Francis (2012) remains unclear since it was not computed. Thus, given that CVI is a widely used approach, it can be postulated that the findings on content validity for the items and the scale in CIDS might be easier to communicate and be understood by others compared to the other scales (Polit et al., 2007).

In addition, it is noteworthy that even though an attempt was made to have some negatively worded items in the initial item pool, only one item was left negatively worded/reverse coded in the final version of the scale, with the other negatively worded items were transformed to positively worded items after receiving the coaches' and the panel's feedback. Similar to this study, the final item pool of the CIPS contained 13 items, mainly with positively worded items and only negatively worded two items (Pope & Hall, 2014a). In the common practice of scale development, scale developers use both positively and negatively worded items to prevent any agreement bias or affirmation bias, which refers to respondents' tendency to agree with items regardless of their content (Chyung et al., 2018; Dalal & Carter, 2015; De Vellis, 2003). However, as noted by De Vellis (2003), there are many examples in social science where these negatively worded items have performed poorly. Reversals in the item's polarity may confuse the respondents, especially when the surveys are lengthy (Chyung et al., 2018; De Vellis, 2003). Given that CIDS contains a large number of items, the inclusion of negatively worded items appeared to be potentially confusing. This supported the changes to item wording based on reviews by the research, academic and coaching panels, respectively.

Of interest was the coaches' feedback (pre-test) on the items. Even though the academic experts attempted to correct any problems with the items, five items were identified as unclear

by the coaches. Perhaps these different views can be attributed to the fact that coaches are practically engaged in coaching compared to the panel who are engaged in coaching academically. Accordingly, the pre-test and revision of some items based on the coaches' feedback led to the scale being adjusted for this study's target population.

Comparing the items contained in CIDS with the two existing scales, it appears that the latter do not assess additional aspects of coach identity that CIDS can measure. Even though CIMS measures self-identity, social identity and strength and exclusivity of the coaching role, this scale lacks measuring personal and social dimensions of coaches' careers from a broader context, even though these areas were found to contribute to coach identity in Study 1. Additionally, CIMS does not measure the career and environmental factors that influence coach identity, which were identified as determinants of coach identity in Study 1. Furthermore, CIMS was not developed on a coaching population; rather, it was developed through a modification of the AIMS, and only a three-factor structure of the CIMS has been shown in CFA on coaching populations (Francis, 2012). Given that this scale's content validity and reliability are unclear, its utility is problematic (Furr & Bacharach, 2014; Polit et al., 2007). In comparison, the CIPS was developed for coaches and the eight items in this instrument measure coach identity through coaches' emotions and the prominence that they associate with their roles (Pope & Hall, 2014a). Thus, CIDS appears to be a comprehensive scale for scholars who seek to measure coach identity from a broader context within the scope of coaches' careers. Whether this scale is valid and reliable for future research is yet to be determined in the subsequent chapter.

Limitations and Directions for Future Research

There were some limitations in the present study. One of the primary limitations of this study was coach recruitment to assess the technical quality of the scale. To conduct a pre-test, the researcher planned to have a sample of five coaches who were not previously involved with

the study. Despite attempts to invite five new coaches, recruitment was unsuccessful. As a result, it was deemed that coaches who were already involved in Study 1 could be the participants in Study 2. They were aware of the scope of the research and had an established rapport with the researcher from the interviews. Future research could assess the technical quality of the scale on another sample of coaches.

Another limitation of this study was related to the recruitment for the academic panel. The researcher endeavoured to recruit eight academic experts from the College of Sport and Exercise Science at Victoria University. Out of all invitations sent to suitable academics, two did not consent to participate in this study, leading to having six members in the academic panel. Future research could examine the content validity of the scale with more than six experts.

Implications

This study developed a scale that might be useful for researchers who seek to measure coach identity from a broader context within coaches' careers. Previously, only one scale had been developed specifically to measure coach identity field, and research demonstrating item generation and scale development procedures was minimal. Information regarding the procedures used in this research for item generation and validation can serve as a guide for future researchers.

Conclusion

Coach identity is limited by the lack of a clear scale to measure coach identity from a broader context within the scope of coaching. Previously, only one scale specifically assessed coach identity, but it was limited to focusing on the feelings and prominence that coaches associate with their roles. Given that coaching is a complex career, a scale to measure all the factors influencing coaches' identity within their careers is necessary. Thus, this study contributes to the limited literature in coach identity by developing an instrument to measure

coach identity from various aspects of the coaching context. For researchers to use the scale in the future, examining the psychometric properties of the scale is vital. The following chapter will examine the validity and reliability of the scale.

Chapter 6: Study 3—Examining the Psychometric Properties of the Scale

Introduction

This thesis aimed to explore the factors that contribute to the development of coach identity and generate a coach identity development scale. The preceding chapter outlined the development of CIDS. CIDS encompasses 28 items and has content validity for the items and scale. The purpose of this chapter is to examine the psychometric properties of the scale further.

Psychometrics is about the procedures used to estimate and evaluate the types of information in the test and the reliability and validity of the measure. An evaluation of the psychometric properties of a scale increases the accuracy of psychometric instruments and establishes the measure's utility for assessing the targeted construct (Furr, 2021). This allows researchers to use the scale with confidence that it will provide valid, reliable and meaningful information. Two types of psychometric properties that a test must have to be considered a good measure are validity and reliability (Furr & Bacharach, 2014).

To date, only two existing measures assess coach identity. The first one is the CIMS introduced by Francis (2012). By substituting 'athletes' for 'coaches' and modifying three items, she adapted the AIMS and applied it to coaches. It is worth noting that while a three-factor structure of the CIMS has been shown in CFA on coaching populations (Francis, 2012), the psychometric properties of the CIMS were not examined, and the author only relied on the psychometric properties of the AIMS. As such, the psychometric properties of the CIMS are unclear. Additionally, given that the results of Study 1 showed the various factors that can play a role in the strength and development of coaches' identity, the determinants of coach identity are broader and different from the determinants of athletic identity, as outlined by Stephan and Brewer (2007). Furthermore, coaches' roles and

responsibilities are very different to those of athletes. As such, a survey to measure athlete identity is not necessarily meaningful for coaches.

The other scale that measures coach identity is the CIPS developed by Pope and Hall (2014a). This measure was validated with a coaching population of 495 to examine its factorial validity and reliability (Pope & Hall, 2014a). In their subsequent study (Pope & Hall, 2014b), these authors examined the CIPS's factorial validity, convergent validity and discriminant validity with 338 coaches. The psychometric properties were reported to be satisfactory (Pope & Hall, 2014a, 2014b). This scale contains two subscales, centrality and evaluative emotions, which measure coaches' feelings and experience as well as the importance of the centrality of the coaching role. The scale has been shown to have a reliability of (centrality $\alpha = .92$; $\omega = .90$; and evaluative emotions $\alpha = .80$; $\omega = .88$), with the factorial validity (factor loadings $\geq .65$). The latent correlation for two subscales was reported strong at .72. The Cronbach's alpha coefficients for the two subscales were reported as acceptable (Pope & Hall, 2014a, 2014b). As a test of convergent and discriminant validity, the correlation between the CIPS and various motivation forms was examined (Pope & Hall, 2014b). The scale was reported to have convergent validity and partial support for discriminant validity (Pope & Hall, 2014b).

Considering that the reliability and validity of the CIMS are unclear (Francis, 2012), to the best of our knowledge, the CIPS—with satisfactory psychometric properties—is the only relevant and reliable scale within the coach identity domain. As previously outlined, a limitation of this scale is that it only focuses on the emotions and prominence that coaches attribute to their roles; it does not measure coach identity from the various aspects of coaches' careers. Given the multidimensional nature of coaching and coach identity demonstrated in the first study, it appears that a scale to measure coaches' identity beyond the cognitive aspects of coaching would be beneficial.

The findings from the two previous studies demonstrated that the CIDS measures coach identity from various aspects, including personal, social, career and environmental dimensions. Thus, it can be argued that the CIDS could be a suitable scale for researchers to examine coach identity from a broader perspective. Given that ascertaining the validity and reliability is necessary to establish the utility of the scale, this study aimed to examine the psychometric properties of the CIDS, particularly its factor structure, internal consistency, discriminant and convergent validity and test-retest reliability.

Method

Participants

A total of 216 coaches completed an online survey. Inclusion criteria were a self-reported minimum of one year of experience as a coach at any level in any sport, English speakers from any English-speaking countries across the world. After removing 16 participants who failed to respond to the CIDS, there were 156 males and 58 females (see Table 5.2). Participants reported having coached for between one and 62 years *(M* = 17.85, *SD* = 13.73), with one to 60 hours of coaching weekly (*M* = 14.20, *SD* = 11.30). Out of the 216 coaches, 67.6% (*n* = 146) were from Australia, 24.5% (*n* = 53) from the UK, 3.7% (*n* = 8) from New Zealand, 3.2% (*n* = 7) from the USA, and 1% (*n* = 2) from Canada. These participants reported coaching across 17 different sports. The numbers and percentage of participants in each sport are presented in Table 6.1. Furthermore, 12 coaches reported coaching more than one sport. See Table 6.1 for more information about sample characteristics.

Table 6.1

Sample Characteristics

	N	Percentage
Sports		
Athletics	52	24.1%
Karate	42	19.4%
Taekwondo	36	16.7%
Swimming	24	11.1%
Soccer	12	5.6%
Cycling	10	4.6%
Badminton	10	4.6%
Basketball	8	3.7%
Volleyball	6	2.8%
Tennis	5	2.3%
Hockey	2	0.9%
Gymnastic	2	0.9%
Rugby	2	0.9%
Table tennis	2	0.9%
Netball	1	0.5%
Wrestling	1	0.5%
Kayaking	1	0.5%
Age category		
18–30	26	12.0%
31–40	34	15.7%
41–50	66	30.6%
51–60	61	28.2%
61–70	18	8.3%
70 & above	11	5.1%
Highest coaching level		
Club	57	26.4%
State	33	15.3%
National	52	24.1%
International	74	34.3%
Coaching status		
Head coach	154	71.29%
Assistant coach	30	13.88%
Private coach	32	14.81%
Source of coaching income		
Primary	65	30.1%
Secondary	77	35.6%
Voluntary	74	34.3%

Measures

A range of demographic information was collected, including age (18–30, 31–40, 41–50, 51–60, 61–70 or 70 and above), gender (male, female, non-binary or prefer not to say), highest educational level (high school, bachelor degree, graduate diploma, master's or PhD), the highest level of coaching experience (club, state, national or international), the current level of athletes being coached (recreational, club, state, national or international), the current coaching position as a head coach or assistant coach and the source of coaching income (primary, secondary or voluntary). Coaches were also asked to indicate which sport they coach, years of experience as an athlete, years spent coaching, hours per week spent coaching and their current country of residence.

The Coach Identity Development Scale (CIDS). As outlined in the previous study, the CIDS is a 28-item scale exploring coach identity development. Participants were asked to indicate the extent to which they agree with each item by responding on a five-point Likert scale ranging from 1 = 'strongly agree' to 5 = 'strongly disagree'. The scale was designed to measure the personal, social, career and environmental aspects of coach identity. Out of 28 items, item 2 was negatively worded (and thus reverse scored). A total score can be calculated, with higher scores indicating stronger identity development. As outlined in the previous chapter, the validity of items (I-CVI) and the scale (S-CVI) were 0.9 and 1.00, respectively, which indicated the CIDS has a content validity for items and scale.

The Coach Identity Prominence Scale (CIPS). Coach identity was assessed using the CIPS (Pope & Hall, 2014a). This eight-item scale asks participants to report their emotions, 'Coaching gives me a sense of fulfilment', and centrality, 'Coaching is central to who I am', regarding their role as a coach relative to other roles in their life over the past year with the five-point Likert scale provided, which was anchored by 0 (not at all true) and 4 (completely true). This scale contains two subscales labelled 'evaluative emotions' and

'centrality'. The scale has been shown to have convergent and discriminant validity, with the reliability of (centrality α = .92; ω = .84; and evaluative emotions α = .81; ω = .90), and acceptable internal consistency of .72 (Pope & Hall, 2014a, 2014b). In the present study, internal consistency was high (α = .90).

The Patient Health Questionnaire (PHQ-9). The nine-item depression module from the full Patient Health Questionnaire (PHQ-9) was used to assess depression symptoms. The nine items are devised based upon the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria for Major Depression. Participants rate the frequency of symptoms in the past two weeks on a four-point Likert scale ranging from 0 = 'not at all' to 3 = 'nearly every day' to assess depression symptom severity. Higher scores are indicative of greater depressive symptomatology. This scale has been reported to have construct and criterion validity and acceptable reliability (r = .73; $P < 0.01$) (Kroenke et al., 2001; Sun et al., 2020). The PHQ-9 has good sensitivity and specificity for detecting depression (Kroenke et al., 2001; Sun et al., 2020). The scale has been reported to have good internal consistency (α ≥ .89). In the current study, internal consistency was .80.

Procedures

After receiving ethical approval from the Victoria University Research Ethics Committee, participants were invited to complete an online questionnaire hosted by Qualtrics. Participants were invited to complete the initial online survey and then a second follow-up survey two weeks later. Potential participants were identified through national, state or club organisations' websites. Where email addresses of coaches were available on websites, coaches were approached via email. Alternatively, clubs and organisations were contacted and requested to invite any coaches to participate. Recruitment materials contained study information, inclusion criteria and a link to the Qualtrics survey. The study was also advertised on LinkedIn and the social media page of some sporting organisations.

At the initial time point, after providing informed consent, participants completed the whole survey, which took approximately 10 minutes. Two weeks after completing the first survey, which contained all measures and demographic questions, coaches were re-contacted via Qualtrics with a request to complete a second survey, which consisted only of the CIDS. A further reminder was sent 48 hours later to complete the survey.

Data Analysis

After screening the data, EFA was used to examine the factor structure. Cronbach's alpha was used to assess the internal consistency of the scale and factors. Pearson's correlation between the CIDS and the CIPS, as well as the PHQ-9, was utilised to assess convergent and discriminant validity, respectively. To measure the test-retest reliability, Pearson's correlation of the CIDS at time 1 and time 2 was performed.

The Kaiser–Meyer–Olkin (KMO) test was carried out to determine the sampling adequacy of the data for factor analysis. Based on Stevens' (2002) suggestion, the cut-off point was 0.4. Bartlett's Test of Sphericity was also undertaken to determine if there are significant correlations between the items for factor extraction. An EFA with varimax rotation was conducted on the 28 items with a maximum of 25 iterations for convergence. Given this size of the dataset, the default of 25 iterations was adequate to find a solution (Field, 2009). To define the most suitable rotation method, the EFA was conducted with alternative rotation methods, including Direct Oblimin and Promax Rotation. After identifying the best rotation method and a suggested factor solution for the data, EFA was conducted with smaller factor structures to identify the most suitable solution. To determine the number of factors, a visual inspection of the Scree Plots was undertaken, as well as consideration of eigenvalues > 1.00 (e.g., Stevens, 2009). Using Stevens' (2002) guideline to choose a suitable factor loading size according to the sample size, the factor loading at a value of more than 0.4 was applied. To identify the best factor solution the criteria used were:

1) item loadings above 0.4; 2) no or fewest cross-loadings; and 3) no factors with fewer than three items (Costello & Osborne, 2005). In the last phase, the factors were interpreted and named. Consistent with the recommendations in prior research (Costello & Osborne, 2005; Tabachnick & Fidell; 2012), the meaning of each factor was based on the strongest loading items within the factor. Internal consistency of the factors was assessed using Cronbach's alpha.

Results

The KMO measure of sampling test for 28 items was high (KMO = 0.826; $p < .001$), indicating adequate sampling for factor analysis (Field, 2009). Bartlett's Test of Sphericity was also significant ($\chi 2$ (378) = 2464.921, $p < .001$), indicating that the data were suitable for factor analysis.

The initial EFA with Varmix rotation on 28 items resulted in an eight-factor structure based on eigenvalues >1, explaining 65% of the variance. The communalities of the items with the eight-factor solution ranged from 0.52 to 0.82. While a criterion of eigenvalues >1 would suggest an eight-factor structure, the K-1 eigenvalue rule tends to overestimate the number of factors to retain (Zwick & Velicer, 1986). The eigenvalue for the eight-factor was close to 1, and visual inspection of the scree plot did not support an eight-factor solution. Factor eight accounted for only a small variance (3.68%) and had only one item. In this factor structure, three items are cross-loaded across multiple factors (see Appendix H). Therefore, further analysis was conducted examining a seven-factor solution. A seven-factor solution was specified and accounted for 61.40% of the variance, with six items cross-loading across multiple factors. The communalities of the items in the seven-factor solution ranged from 0.42 to 0.81. Again, the eigenvalue for the seventh factor was close to 1 and accounted for a small amount of variance (3.94%), and the scree plot did not clearly support a seven-factor solution (see Appendix I). As such, a seven-factor structure failed to meet the criteria

specified for determining a factor solution due to six cross-loaded items and only two items on factor seven (Costello & Osborne, 2005). Therefore, analysis was undertaken with a six-factor solution specified.

After Varimax rotation, the six-factor solution accounted for 57.46% of the variance, and the factor six accounted for 4.43% variance (see Table 6.2). While the first factor accounts for 27.34% of the variance with the highest eigenvalue, the next five factors with eigenvalues > 1 accounted for the remaining 30.12% of the variance. Each factor had at least three items, with four items cross-loading across multiple factors (see Table 6.3). The commonalities of this factor solution ranged from 0.33 to 0.81.

Despite the low commonalities of five- and four-factor solutions, additional solutions were also specified to assess the strength of the six-factor solution. A five-factor solution with communalities ranged from 0.20 to 0.68 failed to meet the criteria specified for determining a factor solution due to six cross-loaded items (see Appendix G). The four-factor solution with very low commonalities from 0.09 to 0.68 failed to converge in 25 iterations.

Table 6.2

Total Variance Explained

Component	Initial Eigenvalues		Cumulative %
	Total	*% of variance*	
1	27.345	27.345	27.345
2	8.621	8.621	35.966
3	6.725	6.725	42.692
4	5.571	5.571	48.263
5	4.764	4.764	53.027
6	4.438	4.438	57.465
7	3.942	3.942	61.407
8	3.688	3.688	65.094
9	3.126	3.126	68.221
10	2.937	2.937	71.157
11	2.728	2.728	73.885
12	2.690	2.690	76.575
13	2.615	2.615	79.191

Component	Initial Eigenvalues		Cumulative %
	Total	*% of variance*	
14	2.268	2.268	81.459
15	2.239	2.239	83.698
16	2.129	2.129	85.827
17	1.944	1.944	87.771
18	1.726	1.726	89.497
19	1.523	1.523	91.020
20	1.424	1.424	92.444
21	1.375	1.375	93.819
22	1.190	1.190	95.009
23	1.115	1.115	96.124
24	0.968	0.968	97.092
25	0.869	0.869	97.960
26	0.747	0.747	98.707
27	0.692	0.692	99.399
28	0.601	0.601	100.000

Table 6.3

Factor Loadings for 28 Items with a Six-Factor Solution

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Item 11	.675					
Item 26	.603					
Item 4	.600					
Item 15	.557					
Item 23	.540					
Item 18	.536					
Item 14	.535					
Item 8	.479					
Item 20	.437					
Item 13		.812				
Item 12		.702				
Item 16		.676				
Item 22	.484	.578				
Item 10	.424	.521				

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Item 27		.509				
Item 6			.877			
Item 9			.830			
Item 7			.726			
Item 5			.437			
Item 17				.709		
Item 3				.579		.571
Item 19				.530		
Item 21					.780	
Item 24					.768	
Item 28				.455	.517	
Item 25					.467	
Item 2						.566
Item 1						.484

Considering all factor solutions against the criteria for determining the best factor structure (Costello & Osborne, 2005), it was evident that the eight-factor solution failed to meet the criteria because of three crossed-loaded times and only one item with a small amount of variance (3.68%) on factor eight. Factor seven also was not a suitable factor structure due to six cross-loaded items and only two items with a small amount of variance on factor seven.

Factor five with six cross-loaded items did not meet the criteria of lowest cross-loaded items. Also, the communalities of this factor solution were low. Thus, the six-factor solution with the least cross-loaded items (four items), and each factor containing at least three items accounting for 57% of the total explained variance, with factor loadings ranged from .424 to 0.877 across the six factors offered the most conceptually coherent solution.

Cross-Loaded Items

To ascertain which factors the items with cross-loadings should be retained on, the strength of the factor loadings and the internal consistency of each factor with and without the cross-loaded item was assessed (see Table 6.4). The criteria to determine which factor the items load on better were: 1) the theoretical rationale; 2) higher item loading; 3) and Cronbach's alpha for each factor with and without the cross-loaded items (Costello & Osborne, 2005).

Table 6.4

Cronbach's Alpha for Cross-Loaded Items

Cross-loaded items	Internal consistency of factor (α)	
Item 22: Influencing my athletes' development in sport helps me see myself as a coach	Factor 1	Factor 2
Item 22 retained on factor	.840	.795
Item deleted from factor	.817	.763
Item 10: My relationships with the parents of my athletes reinforce who I am as a coach	Factor 1	Factor 2
Item 10 retained on factor	.840	.795
Item deleted from factor	. 826	.778
Item 3: Coaching is one of my major commitments in my life	Factor 4	Factor 6
Item 3 retained on factor	.579	.438
Item deleted from factor	.458	.243
Item 28: The more I learn from other sport experts (sport scientists, sport psychologists) the more I see myself as a coach	Factor 4	Factor 5
Item 28 retained on factor	.679	.659
Item deleted from factor	.667	.442

Using the above criteria, a comparison of the internal consistency of Item 22, which relates to athletes' development on factor one compared with factor two, indicated that the effect on internal consistency was comparable, but the item had stronger loading on factor two. Items loading on factor one was mainly pertinent to socio-personal aspects of coaching, while items loading on factor two was primarily related to coaches' social recognition. Given that the findings from Study 1 suggested that athletes' development can lead to coach success and recognition, this item appeared to fit better with factor two. As such, it was concluded that Item 22 be retained in factor two.

Item 10, which relates to the coach–parent relationship, had stronger loading on factor two than factor one. Removal of this item from factor one and factor two slightly reduces the internal consistency of both factors. Items loading on factor two were related to coaches' social relationships and recognition, whereas items loading on factor one was related to coaches' socio-personal development. Therefore, given that this item is related to the coach relationships, the theoretical aspect of this item matches better with the factor. As such, Item 10 was retained in factor two.

For Item 3, the factor loading of this item on factor four and factor six was comparable. However, comparison of the internal consistency with this item on factor four compared with factor six indicated that removal of this item from factor six greatly reduced the internal consistency of this factor (.43 vs. .24), while the internal consistency of factor four was less affected by the removal of the item (.579 vs. .458). Additionally, items loading on factor four were related to coach learning, whereas items loading on factor five were related to coach motivation. Given that his item also related to coach motivation, the theoretical aspect of this item fits better with factor six. As such, Item 3 was retained on factor six.

Item 28 related to coach income had stronger loading on factor five than factor four. Additionally, comparison of the internal consistency with this item on factor four compared with factor five indicated that removal of this item from factor five greatly reduced the internal consistency of this factor (.659 vs. .442), while the internal consistency of factor four was less affected by the removal of the item (.679 vs. .667). Items loading on factor four were related to coach learning: the more coaches learn about coaching and from expert coaches, the more they see themselves as a coach. Items loading on factor five were related to coach success. It was postulated that coaches perceive income as part of coach success (Galambos & Silbereisen, 1987) rather than a way to help coaches learn. Thus, this item was retained in factor five. As a result, factor four contained only two items, despite this contrasting with one of the criteria for choosing the most suitable factor solution (no factors with fewer than three loading items). Based on the three criteria of a) the factor loading, b) theoretical rationale, and c) internal consistency, this item appeared to produce a stronger solution when included on factor five, even though this produces a factor with fewer than three items. Thus, the stronger factor loading that this item had on factor five compared to factor four, together with the higher internal consistency of this item with other items on factor five and the theoretical rationale whereby this item, like other items on factor five, measure coach success, all provide strong reasons for this item fitting better on factor five rather factor four (which contains items related to coach learning). As such, this item was retained on factor five, and factor four remained with two items only.

Internal Consistency

In Table 6.5, the mean, standard deviation, Cronbach's alpha coefficients and the number of items of each factor are reported. The internal consistency of the overall scale was > .80, indicating good internal consistency (George & Mallery, 2003). Cronbach's alpha coefficients of socio-personal development, social recognition and life coaching were > 0.70,

indicating acceptable internal consistency (Taber, 2017). However, the internal consistency for coach learning and coach motivation was poor $\alpha < 0.60$. As can be seen in the table below, the factors with acceptable internal consistency > 0.70 have a minimum of four items. Factor four and six with poor internal consistency contains only three and two items. The communalities of the items in factor four and factor six were > .3, indicating no problem with the items.

Table 6.5

Means, Standard Deviations and Cronbach's Alpha Coefficients for Six Factors

Factors	Mean	SD	Cronbach's alpha	Number of items
CIDS	117.41	11.19	.875	28
Factor 1	39.93	4.06	.799	9
Factor 2	22.79	3.78	.795	6
Factor 3	17.43	2.35	.739	4
Factor 4	8.46	1.36	.598	2
Factor 5	15.46	2.61	.759	4
Factor 6	13.34	1.96	.438	3

Interpretation of Items

In the last phase, the factors were named and interpreted. The interpretation of the six factors was conducted considering the pivotal items (those that load most heavily) within each factor and related to previous literature (Hawthorne et al., 1999).

The items in factor one draw on the personal, social and career aspects of coach identity development, and this factor was labelled 'socio-personal development'. Factor two consists of a combination of items that pertained to social aspects of coaching that lead to recognition. In this factor group, the items related to social recognition had higher loading than the other items and thus was labelled 'social recognition'. The items loaded on factor three highlight the role of a coach in the personal development of athletes through centring

life around coaching and teaching life skills and were named ‘life coaching’. The items on factor four draw relate to coach learning and the way coaches learn. Accordingly, this group was labelled ‘coach learning’. Factor five encompasses a combination of items that reflect coaches’ success and how they interpret their success within a coaching context, and was labelled ‘coach success’. The items in factor six draw on coach passion and motivation. As such, the name of this group was labelled ‘coach motivation’. Table 6.6 demonstrates the items within each factor as well as the factor labels.

Table 6.6

The Names Labelled for Six Factors

Item	Factor
	Factor 1: Socio-personal Development
11	My relationships with athletes are important to me and reinforce who I am as a coach.
26	The more I learn from other sport experts (sport scientists, sport psychologists), the more I see myself as a coach.
4	I see myself as a coach regardless of whether my coaching is voluntary or paid.
15	My relationships with other coaches reinforce who I am as a coach.
23	Gaining coaching experiences through trial and error contributes to my sense of being a coach.
18	Overcoming the challenges of coaching gives me a sense of being a good coach.
14	My relationships with my coaching mentors reinforce who I am as a coach.
8	I am very passionate about helping my athletes achieve their goals.
20	My experience as an athlete influences the way I coach.
	Factor 2: Social Recognition
13	Recognition from the parents of my athletes on my coaching skills reinforces my sense of coaching.
12	Recognition of my competencies from athletes reinforces my confidence in being a coach.
16	Recognition from other coaches on my coaching skills gives me a sense of being a coach.

Item	Factor
22	Influencing my athletes' development in sport helps me see myself as a coach.
10	My relationships with the parents of my athletes reinforce who I am as a coach.
27	My presence in media and social media can reinforce my sense of who I am as a coach.
	Factor 3: Life Coaching
6	Coaching my athletes' life skills is as important as coaching their sport skills.
9	As a coach, it is important for me to teach life skills to my athletes.
7	Helping my athletes to grow in their personal lives and seeing their development is satisfying.
5	My life is centred around coaching.
	Factor 4: Coach Learning
17	The more I learn about coaching the more I identify myself as a coach.
19	The more I learn from expert coaches, the more I see myself as a coach.
	Factor 5: Coach Success
21	Coaching athletes to get the best out of them for competitions gives me a sense of being an effective coach.
24	My contribution to the success of my athletes at competitions reinforces my sense of being a successful coach.
28	When coaching comes with income, it can contribute to my sense of being a coach.
25	Being selected as a state or national coach reinforces my sense of being a successful coach.
	Factor 6: Coach Motivation
3	Coaching is one of my major commitments in my life.
2	I do not feel strongly committed to my coaching.
1	I am very passionate about coaching.

Convergent and Discriminant Validity

Convergent validity was examined using the CIPS. There was a significant positive correlation between the CIDS and the CIPS ($r = .612$, $p < .001$), indicating convergent validity.

Table 6.7 presents the correlations of two subscales of the CIPS—evaluation and centrality—with six factors of the CIDS. In addition, among the factors of the CIDS, five factors were significantly correlated with the CIPS and its two subscales. However, one of the factors (coach success) was not significantly correlated to the CIPS or its two subscales ($p > .05$).

Table 6.7

Correlation Between the CIPS and its Two Subscales and Six Factors of the CIDS

Variable	M	SD	1	2	3
1. CIPS	34.62	4.98	—		
2. Evaluation	3.83	1.58	.776**	—	
3 Centrality	9.53	3.88	.966**		—
A. Socio-personal Development	44.39	4.55	.517**	.554**	.433**
B. Social Recognition	23.14	3.78	.357**	.288**	.342**
C. Life Coaching	17.43	2.35	.635**	.490**	.615**
D. Coach Learning	8.46	1.36	.388**	.375**	.345**
E. Coach Success	15.46	2.61	.125	.069	.132
F. Coach Motivation	13.34	1.96	.538**	.484**	.509*

Note. ** Correlation is significant at the 0.01 level (2-tailed).

An examination of discriminant validity was undertaken using the PHQ-9 and CIDS total score and its six factors. The results showed that the CIDS and the PHQ-9 were not significantly correlated $r = -.031$, $p = .646$, showing support for the discriminant validity of the CIDS. As seen in Table 6.8, the five factors of the CIDS were also not significantly correlated with the PHQ-9. There was only one factor (socio-personal development) that had a statistically significant correlation, $p = .008$; however, the correlation was weak $r = -.179$.

Table 6.8

Correlation Between the PHQ-9 and Six Factors of the CIDS

Variable	M	SD	1
1. PHQ-9	11.68	3.18	—
2. Socio-personal Development	44.39	4.55	−.179**
3. Social Recognition	23.14	3.78	−.037
4. Life Coaching	17.43	2.35	.013
5. Coach Learning	8.46	1.36	.063
6. Coach Success	15.46	2.61	.132
7. Coach Motivation	13.34	1.96	.017

Test-Retest Reliability

An examination of test-rest reliability of the CIDS was undertaken. Pearson's correlation for the total of the CIDS showed acceptable reliability (Wheelan, 2014), as reported in Table 6.9. As can be seen in the table, the test-retest reliability of the life coaching factor was acceptable at $r > .07$, whereas the reliability of socio-personal development, social recognition, coach learning and coach success was questionable at $r < .07$, and the coach motivation was poor at $r < .06$.

Table 6.9

Correlation Coefficients for Test-Retest Reliability

Variable	Time 1		Time 2		r	*p*
	M	SD	M	SD		
1. CIDS	116.29	11.44	116.09	12.06	.731**	<.001
2. Socio-personal Development	43.64	4.25	43.66	4.08	.632**	<.001
3. Social Recognition	17.01	3.68	16.89	3.80	.639**	<.001
4. Life Coaching	17.01	2.51	16.89	2.59	.730**	<.001
5. Coach Learning	8.43	1.43	8.48	1.37	.641**	<.001
6. Coach Success	15.48	2.47	15.47	2.60**	.637**	<.001
7. Coach Motivation	13.25	2.17	12.56	1.76	.591**	<.001

Discussion

The purpose of the current study was to assess the psychometric properties of the CIDS, including its convergent validity, discriminant validity and test-retest reliability and examine its factor structure. Given that grounded theory was applied in the first study to explore themes and subthemes of determinants of coach identity development and generate a scale, EFA was applied in this study to explore the factor structure of the scale. The results suggested a six-factor structure. The study's findings demonstrated that the CIDS has good internal consistency (George & Mallery, 2003) and acceptable test-retest reliability (Wheelan, 2014). The CIDS also showed a high positive association with the CIPS and was not correlated with the PHQ-9, supporting convergent and discriminant validity. Thus, the results in this study show preliminary support for a valid and reliable coach identity development scale.

While the internal consistency of socio-personal development, social recognition, life coaching and coach success was acceptable, the internal consistency of coach learning and coach motivation was poor. Notably, the factors with good consistency consisted of four or more items, while coach learning and coach motivation consisted of two and three items, respectively. While the poor internal consistency could be due to the low numbers of items in each factor (Taber, 2017), it is worth noting that coach learning, with only two items, had better internal consistency compared to coach motivation with three items. This could be due to a negatively worded item in the coach motivation group, as reversals in item polarity may confuse participants, especially when completing a long survey (Chyung et al., 2018; Dalal & Carter, 2015; De Vellis, 2003).

Despite acceptable internal consistency over the overall scale, the unsatisfactory internal consistency for two factors could be an issue for future use of the scale. More

research on the subscales with unsatisfactory internal consistency needs to be undertaken to understand how the current items could be revised if certain items should be removed or if additional new items might enhance internal consistency. Future research could conduct CFA in another sample to verify the factor structure and shed light on the consistency issue.

While the findings supported the convergent validity of the total CIDS, one factor did not correlate with the CIPS and its two subscales. Although five factors were significantly correlated with the CIPS and its two subscales, the degree of correlations differed. While the three factors of socio-personal development, life coaching and coach motivation showed strong correlations, social recognition and coach learning factors illustrated medium to low correlations, and coach success was not significantly correlated. This could be attributed to the variables measured in these two scales. The subscales of the CIPS—centrality and evaluative emotions—measure coaches' feelings and experience as well as the importance of the centrality of the coaching role. Given that socio-personal development, life coaching and coach motivation are primarily related to coaches' thoughts and feelings related to personal aspects of coaching, perhaps unsurprisingly, this study found a strong correlation of these three subscales with the CIPS. However, the CIPS does not assess additional aspects of coach identity that the CIDS measures, such as social aspects and coach development/learning. Thus, this may account for a medium to low correlation between coach learning and social recognition and the two subscales of the CIPS. Additionally, the CIPS does not measure any aspects of coach success; this could explain there being no correlation between the coach success factor and the CIPS and its two subscales. In comparison, the subscales of the CIDS measure coaches' feelings and experiences and assess additional aspects of identity, including social aspects, coach success and coach development/learning.

The findings on the test-retest reliability of the total CIDS showed adequate reliability. While the overall scale test-retest reliability was acceptable, out of six factors,

only the life coaching factor had acceptable reliability. The reliability of four of the factors was questionable, and reliability was poor for coach motivation. One possible explanation is that the recruitment occurred at different stages of the COVID-19 lockdown, as coaches were from many countries and lockdown happened at different times in different places. Given that COVID-19 restrictions had various impacts on the ability to engage in coaching and sport, perhaps the timing that the participants completed the survey meant that the study found that five of the subfactors of coach identity declined over time due to temporary suspension of coaches' careers, current changes in actual coaching behaviour and ability to coach, which might have resulted in actual changes in coach identity; hence, the test-retest reliability of five factors is low. This is likely to be especially notable for motivation. That could be related to the unstable nature of motivation since motivation is dependent on the context and situations; when the context changes, so does motivation (Turner & Patrick, 2008). Additionally, given that the initial sample was larger than the sample in the retest (216 vs. 150), attrition might have decreased reliability estimates in this study (Polit, 2014). Further research is warranted to examine the test-retest reliability after the pandemic when life has returned to normal around the world.

Similarly, future examination of the test-retest reliability of the five factors with questionable and poor reliability is recommended. Future research could consider the items in future versions of the CIDS and see how they could be improved to increase test-retest reliability.

A comparison of some psychometric properties of the CIDS and other relevant scales is worth noting. Given that only a three-factor structure of the CIMS has been shown in CFA (Francis, 2012), the CIPS was identified as the only relevant, validated scale within the coach identity domain. This scale contains two subscales: 'evaluative emotions' and 'centrality'. The scale has been shown the reliability of (centrality $\alpha = .92$; $\omega = .84$; and evaluative

emotions α = .81; ω = .90), and acceptable internal consistency for the overall scale .72. (Pope & Hall, 2014a, 2014b). Even though both the CIPS subscales had acceptable internal consistency, only four subscales of the CIDS had acceptable internal consistency, and two subscales indicated poor internal consistency. While the overall internal consistency and reliability of both scales were acceptable, the differences between the subscales of the two scales are noticeable. Additionally, while the CIDS has acceptable test-rest reliability for the scale, the test-rest reliability of the CIPS remains unclear. Furthermore, CFA on the CIPS confirms the two-model factor structure of this scale; however, it was beyond the scope of this research to conduct CFA. Moreover, the findings indicate that the CIDS has convergent and discriminant validity. Similar to the CIPS, a positive and significant correlation was founded in assessing the convergent validity of the CIDS. However, the CIPS showed partial support for discriminant validity, whereas this study's findings showed full support for the discriminant validity of the CIDS. Thus, it seems that while the overall internal consistency of both scales is acceptable, the CIDS might have better discriminate validity and acceptable test-rest reliability.

After examining the factor structure and identifying the satisfactory reliability and validity for the overall scale, the last phase was interpretations of each factor. The socio-personal development factor draws on items related to the personal and social aspects of a coaching career. The personal aspects directly linked to the personal aspects of coaches' roles were coaches career development and coach motivation. The social aspects were related to relationships and interactions that coaches had with different people within the context of coaching. As such, this factor was distinct since it contained items related to personal, social and career dimensions of coach identity. Such a grouping of items with different coaching contexts is unsurprising, given that strong communication skills, excellent aspiration, a good social connection, coach development and high working motivation are vital for effective

coaching (Côté & Sedgwick, 2003; Mallett & Coulter, 2016). This factor reveals the complex features of coaching discussed by many authors (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006). Effective coaching depends on individual and group interactions. For coaches to succeed in their practice, they have to interact regularly with their athletes and other professionals. As such, coaches need to develop their knowledge to establish a good relationship with their athletes and others. This can enable coaches to overcome the challenges of coaching athletes and help them achieve their goals (Mallett & Coulter, 2016).

The social recognition factor in this study was related to the social dimensions of coach identity, and the items related to social recognition had a higher loading than the other items. However, this group consists of a combination of items that pertained to coach recognition, athletes' development, coach relationship with parents and the presence of the coaches in the media and social media. It can be argued that media and social media has led to coach recognition since they play a key role in social recognition and identity in general (Dwivedi & Pandey, 2013; Morley & Robins, 1995; Renner, 2019). Furthermore, athletes' development reflects coach success, which can lead to recognition of experts and recognition by the public (Purdy & Potrac, 2016). Additionally, based on the findings in the first study, coaches' relationships with parents result in public recognition. According, given that all the items in this group reflect social aspects of coaching and their influence on coach recognition, this factor was labelled 'social recognition'. This result adds to the previous research in coach identity by providing an in-depth insight into various social aspects influencing coach identity development within the scope of coaching. This study's results are consistent with other studies noting that social recognition carries extra meaning and strengthens identity formation and development (Chalip, 1978; Donnelly et al., 2001; Massengale, 1974; Purdy &Potrac, 2016).

The ‘life coaching’ factor draws on items that measure ‘life centred around coaching’ and ‘teaching life skills’. While three items were pertinent to teaching life skills and were categorised under this group in the second study, one item was initially related to centring life around coaching and was grouped under coaching lifestyle. Given that the findings from the first study indicated that centring life around coaching contributes to coach identity through the role of the coach in the personal development of athletes beyond the boundaries of sport, this item was interpreted to be related to the role of the coach as being life coach through centring life around coaching. It is noteworthy that this factor structure maps onto Côté et al.’s (2010) coaching model as well as existing research in positive youth development and coach effectiveness (Coakley, 2011; Côté & Gilbert, 2009; Vella & Gilbert, 2014; Vella et al., 2011; Vierimaa, Bruner,& Côté, 2018) in which coaches focus on the development of athletes in the 4Cs (confidence, competence, connection and character/caring) on and off the field.

The ‘coach learning’ factor contained items that are pertinent to the coach development through learning and experience. The items on factor four were grouped in coach learning and high-performance coaching initially in the second study, both related to career dimensions. It is worth noting that while Item 17, ‘The more I learn about coaching the more I identify myself as a coach’, was initially grouped with the coach learning subtheme in the second study, Item 19, ‘The more I learn from other expert coaches the more I see myself as a coach’, was initially grouped in high-performance sports coaching subtheme. Using the literature in coach education, it was identified that Item 19 also is related to coach learning, as workplace interactions and cooperation with experts in high-performance coach settings lead to informal learning (Greenberg & Culver, 2019; Rynne & Mallett, 2012, 2014; Waters et al., 2019). This factor structure maps onto Werthner and Trudel’s (2006) coach learning model. In this model, coaches learn through mediated learning situations such as formal coach

educations, unmediated learning situations (including discussion with other coaches) and internal learning situations by reflecting on practical coaching experience. Thus, the CIDS measures coaches' learning through unmediated and internal learning avenues. It is worth noting that the prior scales in coach identity (Pope et al., 2014; Purdy & Potrac, 2016) did not measure coach learning as one of the factors that could play a role in coach identity. Thus, this study's measure expands prior scales that assess coach identity but also can be used to explore the maintenance and enhancement of knowledge in identity.

The 'coach success' factor group included items related to athletes' success and athletes' development. However, two items in this group were initially grouped under high-performance coaching subtheme (Item 21: 'Coaching athletes to get the best out of them for competitions gives me a sense of being an effective coach') and income (Item 28: 'When coaching comes with income, it can contribute to my sense of being a coach') in Study 2. Using the literature in sports coaching (Horn, 2008; Mallett & Coulter, 2016), it was argued that coaching athletes to help them to perform at their best for competitions can lead to athletes' development and potentially athletes' successful performance outcomes at competitions, which both are identified as the measures of coach success (Bloom et al., 2016). In regard to income, it was concluded that it is perceived as one of the elements of job success (Galambos & Silbereisen, 1987). Accordingly, when coaching comes with income, it can be perceived as a part of coach success. The prior scales in coach identity did not assess coach success; thus, this measure expands on prior scales that assess coach identity but also explore coach success in identity.

The 'coach motivation factor' was related to the items initially grouped under the coach motivation subtheme to assess coach passion and commitment. However, one item that was related to a coach being passionate about helping athletes to achieve their goals loaded on the socio-personal development factor. This could be because the item was more related to

personal, social and career aspects of a coaching career. Given that the findings from the first study indicated that network connections, as well as the interaction and relationships that coaches have with athletes and other people within the scope of their career, drove coaches' passion and commitment to their career, it appears that this factor matches SDT (Deci & Ryan, 1985, 2000).

According to SIT, motivation is underpinned by the satisfaction of three basic psychological needs: autonomy, competence and relatedness. In Study 1, coaches reported that coaching motivates them because they have autonomy at their workplace and have a choice to build up connections and relationships with athletes and others, which brings a sense of belonging or social connectedness. Indeed, it appears that autonomy and connection drove coaches' passion and commitment within the social structure of their careers. Similar to prior research, this study's findings support that coaches' passion contributes to the maintenance and development of coach identity (Pope et al., 2014). Prior research on coach motivation has focused on the influence of coach passion on athletes' psychological health and athletes' relationship with the coach (Bennie & O'Connor, 2012; Jowett, 2017; Lafrenière et al., 2011; McGee &DeFreese, 2019; Poczwardowski et al., 2002; Santos et al., 2018). However, little is known about coach motivation and how it can influence coaches, including their sense of being a coach.

Overall, the CIDS contains 28 items and six subscales of socio-personal development, social recognition, life coaching, coach learning, coach success and coach motivation. Furthermore, the factor structure in this study suggested that the subthemes of the environmental dimensions of coach identity loaded on coach recognition and coach success. Thus, the measure focuses on coach identity development within personal, social and career dimensions.

While the CIDS has six factors, the eight items of the CIPS load onto two factors of evaluative emotions (three items) and centrality (five items). The CIPS does not measure athletes' development and teaching life skills, which was the common subtheme in the qualitative exploration of Study 1 and Pope et al. (2014). The CIPS measures coaches' feelings and the centrality of coaching in their lives and identity, but it does not assess coach identity from a broader perspective, which considers personal, social and career aspects within coaches' careers. While the CIPS is a suitable scale to examine the prominence of coaches' identity through their feelings and emotions related to their career, the CIDS is a suitable scale to examine coach identity through the factors that could play a role in the maintenance and development of coaches' identity within their career. Thus, each of these scales measures coach identity, albeit with different functional uses. Researchers are encouraged to utilise the CIDS to explore the influence of the personal, social and career aspects of coaches' careers on the maintenance and development of coach identity.

Limitations

There were a number of limitations in the present study. One of the limitations of this study was the low internal consistency and test-retest reliability of some subscales of the CIDS. It was beyond the capacity of this thesis to conduct CFA to verify factor structure and shed light on the low internal consistency issue. Moreover, given that the current research explored only coaches from English-speaking backgrounds, the scale could not be examined within different sports and cultural contexts in non-English-speaking countries.

Another limitation of this study was the low response rate of coaches from team sports. While an attempt was made to recruit equal numbers of coaches from both team and individual sports, the majority of participants in this study were from individual sports. This occurred as the email addresses of coaches from team sports were not often available on the sporting clubs' websites; thus, coaches were only accessible through club managers. As such,

the findings may not be generalised to team sports. Additionally, while an attempt was made to recruit coaches with different levels of expertise and experience, the majority of coaches in this study were senior coaches with experience in coaching athletes at national and international levels. Therefore, the generalisability of these results are more relevant to elite coaches.

Lastly, one of the limitations of this study lies in the influence of the COVID-19 pandemic on this study's data. The recruitment occurred at different stages of lockdown since coaches were from many countries and lockdown happened at different times in different places. Given COVID 19 and its influences on external factors and the temporary suspension of coaches' careers, actual coaching behaviour and ability to coach may have changed between T1 and T2. Hence, there might have been actual changes in coach identity affecting the results of test-retest reliability. This limitation means the measure would benefit from further validation in the future to assess test-retest reliability.

Directions for Future Research

Regarding psychometric properties, additional research should be conducted to ensure that the CIDS is a valid and reliable measure. The present research used EFA to explore the number of factors in the CIDS. Future research could conduct CFA in another sample to verify the factor structure and shed light on the low internal consistency issue within the majority of the CIDS' subscales. Moreover, given the low test-rest reliability of some subscales of the CIDS, further research to re-examine them in another sample would be valuable.

Given that most coaches in this study were from individual sports, future research needs to include variance testing with coaches from team sports and obtain norms across a range of coaches and career stages. Moreover, future research could translate the scale into other languages; thus, the finding from this research could be expanded by exploring the

validity and reliability of the scale in other countries to see if similar validity and reliability occur within different sport and cultural contexts.

Implications

This study was among the first to examine the validity and reliability of an instrument that measures the maintenance and strength of coach identity. Given that there is minimal research on coach identity, this survey can serve as a tool for scholars to measure coach identity under different circumstances or within different stages of coaches' careers. In particular, sporting clubs and organisations can apply the CIDS to track the process of identity development of coaches throughout their careers from novice to senior levels that can lead to recognising what might be required for coaches' career development to facilitate the journey of coach identity development. Furthermore, researchers can apply the CIDS to track identity development over time and look into how coaches' identities develop throughout their careers through the influence of various factors. Using this scale, researchers can also measure coaches' identity in different circumstances, such as during the off-season or the competition phase of the annual training cycle. By identifying how identity may change over time and under different circumstances, researchers can be aware of the factors that may influence coaches' self-beliefs and thoughts and establish appropriate strategies for coach career development and coach retention.

Several studies have found that the knowledge and skills required for career development do not match the information offered and taught in coaching courses (Dickson, 2001; Trudel & Gilbert, 2006; Vargus-Tonsing, 2007; Dawson & Phillips, 2013). Given that the CIDS measures coach identity related to various aspects of coaching, the scale can help sports organisations be aware of the extent to which their coach education system is beneficial and practical. Running a pre-and post-test before exposing coaches to any formal or informal coach education could be a way to explore the effects of the different coach

learning systems and the extent of their benefits in the development of coach identity in a practical coaching context.

Conclusions

This study contributed to the currently limited literature regarding coach identity by exploring the psychometric properties of a new scale for measuring coach identity development. This study showed support for acceptable internal consistency for the overall scale and four subscales, yet low internal consistency for two factors. The findings also provided support for convergent validity and discriminant validity. Furthermore, reliability for the whole scale was adequate. Additionally, the findings showed that coach identity development consists of six factors indicating the multidimensional nature of coach identity, which is consistent with the complex and multidimensional nature of coaching (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006). Thus, the scale is suitable to measure coaches' identity from a broad context within the scope of coaching. Although much more research must be conducted to ensure that the CIDS is a valid and reliable measure, researchers can be confident that the CIDS is an appropriate measure. As such, researchers are encouraged to employ this instrument to further understand the process of coach identity development from a broader context within the scope of the coaching domain.

Chapter 7: Overall Discussion

Introduction

This research aimed to explore the notion of the development of coach identity throughout coaches' careers to add to the existing literature. Research in coach identity has been limited because previous studies have been restricted to either a single coach being interviewed (Purdy & Potrac, 2016) or the exploration narrowed to prominence and emotions coaches attribute to their role as a coach (Pope et al., 2014). This study builds on prior studies by identifying additional aspects that play a role in the maintenance and enhancement of coaches' identity within their careers. The factors that contribute to the development of coach identity was explored from a broader context of coaching by interviewing seven expert coaches from a range of team and individual sports. Additionally, this thesis aimed to develop and validate a coach identity development scale, which will allow for future quantitative examinations of coach identity. The CIDS was developed based on the determinants of coach identity obtained from the first study as the framework. This chapter summarises and synthesises the main findings from this research, discusses the limitations of this research and future directions and explores the implications for coaching practice and coach identity research.

Summary and Synthesis of Main Findings

One psychological aspect of coaching that has received limited research attention to date is coach identity. Coach identity is 'the degree to which an individual identifies with the coaching role' (Francis, 2012. p.7). Coach identity can provide an insight into why coaches act in the manner they do and why they persevere in their role (Pope et al., 2014). Coach identity can also provide insight into coaches' careers, experiences and working lives (Purdy & Potrac, 2016). Research in coach identity has been limited because previous studies have been restricted to either a single coach being interviewed (Purdy & Potrac, 2016) or the

exploration narrowed to prominence and emotions coaches attribute to their role as a coach (Pope et al., 2014). Indeed, the limitation of the research in this field is that identity has been conceptualised with a relatively narrow view of coaches, and it has not necessarily been considered within the broader context and scope of coaches' lives and careers. Thus, given that there was not a specified theory about determinants of coach identity development within extant coach identity literature, this thesis applied a grounded theory to explore this phenomenon. The identified themes and subthemes became the basis of a hypothesis about determinants of coach identity development and showed support for role identity theory. Using the data from grounded theory, a scale was developed, and its factor structure was assessed through EFA.

The focus of the first study in this thesis was to use a broader perspective to explore the factors that play a role in the maintenance and development of coach identity throughout their careers. The semi-structured interviews with seven expert coaches focused on questions that encouraged participants to talk about their a) career as a coach, including their journey from athlete to coach, and b) how their identity changed over time, including factors that helped them to gain a stronger self-belief as a coach. It was evident throughout the interviews that coach identity develops through personal, social, career and environmental dimensions. This finding suggests that coach identity is multidimensional, reflecting the complex and multidimensional nature of coaching discussed by many authors (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006).

Chapter 5 focused on developing a coach identity scale using the determinants of coach identity obtained from Study 1 as the guide. The coach identity scale development procedures were guided by the work of De Vellis (2003). Following item generation, the initial items were reviewed by experts assessing the extent to which each item was relevant to the area of coach identity development being assessed. The valid items were retained, and

some items were modified according to the panel feedback. After obtaining the scale's content validity (S-CVI), a pre-test was conducted prior to distributing the survey among the research participants. The final version of the survey contained 28 items with item and scale content validity.

Validation of a new scale is needed to ascertain reliability and validity and the extent to which the scale is suitable for future research (Furr & Bacharach, 2014). Therefore, the focus of the last phase of this study, Chapter 6, was to assess the psychometric properties of the CIDS, including the construct validity, convergent and discriminant validity, test-retest reliability and factor structure. To this end, the CIDS was completed by 216 coaches, with 150 coaches completing the measure at a second time point (two weeks later). Data analysis indicated that the CIDS has a six-factor structure, with adequate internal consistency and test-retest reliability for the total scale. The findings also provided support for convergent and discriminant validity.

General Discussion

This section provides a general discussion on the qualitative part of this thesis (Study 1) by outlining how the data fit with identity theories. Additionally, this section compares the qualitative (Study 1) and quantitative results (Study 3) and the underlying reasons for the different structures suggested in Study 3.

Identity Theories

The interest in the concept of identity is based on the importance of understanding individuals engaged in social interactions embedded within society. Identity theories define the person in particular roles in society, as members of specific groups and as people with specific characteristics. There are different identity theories such as role identity, social identity, organisational identity, gender identity, Erikson's theory of identity, ego identity and ethnic identity. Given that previous research in sports, specifically in the field of identity, has

mainly used role identity and social identity theories (Campo et al., 2019; Fardilha & Allen, 2020; Pope et al., 2014; Stephan & Brewer, 2007), out of all existing theories, the concept of these two theories and how the study data may fit with these theories is outlined below. Further, given that some questions were derived from Erikson's (1950, 1968) identity development theory, this theory is also covered here.

According to role theory, an individuals' identity is understood to be the extent to which a person identifies with a given role. Mead's general perspective of the self is that the self is the combination of the social and personal structure of identities (Mead, 1934). Role identity theorists (McCall & Simmons, 1978; Stryker, 1980) claimed that identity is partially made by the social structure and partly by the individual, and when taken together, they represent the person. That is, an individual's own identification with a role, in combination with how others view their roles, shape identity. Within the context of coaching, the findings of Study 1 indicated that the personal, social, career and environmental dimensions of coach identity development shaped the individual and the social structure of identity and together contributed to the maintenance and development of coaches' identity (McCall & Simmons, 1978; Stryker, 1980).

Within the personal dimensions, the three components of coach motivation, coaching lifestyle and being a life coach played a role in coaches' identification with their role within the social structure of coaching. This study's findings showed that coaches' motivation is bound to their passion and commitment to coaching. Coaches' commitment is tied to the social network of the coach and their influential role on the importance of athletes, teams and sport organisations. This commitment can influence the salience of coaching roles and their identity as a coach (McCall & Simmons, 1978; Stryker, 1980). Additionally, centring life around coaching and being a life coach to influence the personal life and growth of athletes can form coach identity prominence (McCall & Simmons, 1978; Purdy & Potrac, 2016).

Thus, enacting coaching roles and behaviours beyond the boundaries of the sport is likely to enhance the salience of coach identity and can result in the development of self-identification with the coaching role beyond the boundaries of sport (Stryker, 1968; Stryker & Serpe, 1983). This may result in coaches' self-views and reflecting on their significant role within the social structure of a coaching career, which can shape and develop coach identity (McCall & Simmons, 1978; Stryker, 1980).

Within the social dimensions of determinants of coach identity, social relationships and social recognition were identified to play a role in coach identity. The findings highlighted that the development of coach identity through social dimensions was aligned with role identity theory. According to this social-psychological concept, a person's self (identity) grows through interpersonal interactions and the perception of others in society (Stryker, 1980). As a result of interaction with a specific set of others, a group identity can emerge. This implies involvement with others in the group and an attempt to fulfil the expected roles within the group. This theory also specifies that people imagine not only how they appear to others but also the judgment of that appearance, and then develop a self-identity through the perceived appraisal of others (i.e., identity verification). This study's findings suggest that social interactions and relationships of a coach with different groups and attempting to fulfil the coaching roles within each group develops a group identity pertinent to each group, resulting in the development of coaches' self-identity and identification with the role (Burke & Stets, 2009). Further recognition that coaches receive through their interactions with different groups help them to realise that others see them in the same way they see themselves, which may result in identity verification, as outlined by Burke and Stets (2009). This identity verification appeared to facilitate the development of coaches' self-identity and identification with the coaching role.

The career factors that played a role in coach identity and the development of coach identity were coach development, coach success and high-performance coaching. The findings indicated that coach identity development through career dimensions showed support for role identity theory. According to this theory, resources are one of the key concepts of identity theory, which are defined as anything that enhance or sustain interaction and connection in a system, including verifying people's identities (Stets & Serpe, 2013). What is essential in this concept is not what is considered a resource but rather what people do that is resourceful in verifying their identity and beliefs about self, such as worthiness and competence that facilities identity verification (Stets & Cast, 2007). For this study's findings, it appeared that coach development occurs through coach learning and education, which are resources that help coaches enhance coaching knowledge and practice. As a result, coaches may have a better influence and interaction with athletes and others within the social structure of coaching. This, in turn, may lead to the verification of coaches' identity by influencing their beliefs about themselves regarding their competency and worthiness (Stets & Cast, 2007). Furthermore, the identification with the coaching role was identified to be associated with the social interaction and the success of athletes as well as the coach's leadership position, especially in the high-performance coach setting, which form the self and social structure of coaches' identity (Burke & Stets, 2009).

The findings indicated that environmental factors, including income and media and social media, play a role in developing the social and personal structure of the identification with a coaching role. Viewed from the perspective of role identity, income has been recognised as a resource that allows coaches to enhance the centrality of the role through presenting themselves solely as a coach, which can highlight the identification with the role and shapes the personal structure of coach identity (McCall & Simmons, 1978). Additionally, this resource also allows coaches to focus on developing coaching knowledge and practice

and have a greater influence on athletes and others within the social structure of coaching. This could lead to the reinforcement of coaches' identity by influencing their beliefs about themselves regarding their competency and worthiness (Stets & Cast, 2007). Furthermore, this study's findings indicated that media and social media have educated the public about sporting culture and coaching roles and have led to increased respect of coaches. The further respect for coaches gained through public education via the media may further function to validate coaches' identity from the public. Social media as a resource help coaches develop beliefs about themselves related to their competency by shaping the perceived appraisal of others in society, resulting in identity verification (Burke & Stets, 2009). Thus, it was argued that exposure to media and social media may also have led to social recognition and identity verification, which further contributes to the enhancement of identification with the coaching role.

While the whole dataset was most consistent with role identity theory, some aspects of that data were consistent with SIT. This theory posits that individuals categorise themselves as belonging to various groups and verify their identity based on their membership and belonging to certain social groups. The salience of social identity is greater in a specific context and can affect behaviour (Tajfel & Turner, 1979). People within a group make social comparisons to evaluate their salient in-groups relative to relevant other groups (Festinger, 1954). The social comparisons, in turn, led to perceptions favouring the in-group over the out-group. According to this theory, individuals greatly desire a positive evaluation of the in-group, which can be affected by media offerings as a crucial source of information. According to the SIT of leadership (Hogg & Van Knippenberg, 2003; Hogg et al., 2012), leaders, especially those who are prototypical, are more influential and effective than other group members. Their effectiveness is amplified because they are perceived to be firmly recognised by the group and are thus trusted to be acting in the group's best interest.

Viewed from SIT, the social relationships that coaches have with different groups within the social structure of coaching may develop a group identity pertinent to each group, resulting in the development of coaches' self-identity. It seems that coaches, as the leaders of each group, are more influential and effective than other members of the groups; thus, they are strongly recognised by the groups and trusted to be acting in the group's best interest. It appears that the salience of this social identity affects coaches' behaviour in the way they centre their life around coaching to support the groups they belong to, thus focusing more on athletes' development and growth on and off the field. This social identity and relations to different groups may affect coach motivation and commitment. Furthermore, the media can play a role in enhancing coaches' identity by offering a social comparison regarding coach skills and expertise. It can also present information about the success of a coach and his or her team, which can bring positive perception and social recognition and enhance coach self-concept, which is determined by social category. However, some aspects of the findings within career and environmental dimensions do not fit with SIT. How coach identity can develop through coach learning, coach experience, application of athletic background, workplace interaction with experts, coaching athletes and its challenges, and income could not be explained through SIT.

Erikson (1950, 1968) stated that human develops in a predetermined order through eight stages of psychological development. Throughout each stage, the person encounters a psychological crisis that could have positive or negative outcomes for personality. In stage five, the adolescent stage, the individual learns the roles they will occupy in society. Erikson (1950) stated that the development of career identity occurs in this stage. During this stage, individuals explore possibilities and begin to shape their identity based on the outcomes of their exploration. Role confusion and identity crisis may occur during this stage. Marcia

(1966) elaborated on Erikson's (1950) work and stated that exploration and commitment should be considered in this identity formation.

When viewed from Erikson's (1950, 1968) development theory, it seems that coach motivation and coach commitment can play a role in the development of coach identity. Coaches may explore coaching through thinking actively about the commitments they have enacted. For coaches to succeed in their practice, they have to interact regularly with their athletes and other professionals. As such, coaches need to develop their knowledge to establish a good relationship with their athletes and others. This can enable coaches to overcome the challenges of coaching athletes and help them achieve their goals (Mallett & Coulter, 2016). Thus, while Erikson's (1950, 1968) development theory supports the career dimensions, coach–athlete relationships and coach motivation, it seems that environmental dimensions and some of the data within social and personal dimensions of coach identity development do not fit with this theory.

Overall, while personal and social dimensions of coach identity development fit with SIT, most of our career and environmental data did not fit this theory. Conversely, career and social dimensions fit within Erikson's (1950, 1968) development theory, but the data on environmental and some of the personal dimensions did not fit with this theory. In comparison, the data within the personal, social, career and environmental dimensions showed support for role identity theory. Thus, out of role identity, social identity and Erikson's (1950, 1968) development theory, this study's data best fit with role identity theory. Therefore, it can be concluded that, like previous research in coach identity (Pope et al., 2014), the data from Study 1 supported role identity theory for conceptualising and understanding coach identity.

Comparison of Qualitative and Quantitative Studies

Comparing the structure of themes and subthemes in Studies 1 and 3, it is worth noting that this structure in Study 1 differs from Study 3. While the scale items were developed based on the thematic map identified in Study 1 with four themes and 10 subthemes, the scale had a six-factor solution in Study 3.

While in the Study 1, the items that were developed from the subthemes of coach–athlete relationships, coach–mentor relationship, interaction with others, learning from sports experts, perception of a full-time job, coach experience through trial and error, application of athletic background, coaching athletes and its challenges and coach passion were found under the personal, social and career dimensions, the factor structure of Study 3 did not support this grouping. This group labelled socio-personal development was unique, as it contained subthemes from personal, social and career dimensions. The items from career and personal dimensions were related to personal aspects of coaches' roles and their personal feelings attached to those personal roles. The social aspects were related to the relationships and interactions that coaches had with different people within the coaching context. This factor reflects the complex features of coaching discussed by many authors (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Rynne et al., 2017; Trudel & Gilbert, 2006). Effective coaching depends on individual and group interactions. For coaches to succeed in their practice, they have to interact regularly with their athletes and other professionals. As such, coaches need to develop their knowledge to establish good relationships. This can enable coaches to overcome the challenges of coaching athletes and help them achieve their goals (Mallett & Coulter, 2016). Thus, it is postulated that a combination of coach learning and experience, coach relationships, coach passion and overcoming challenges to coach athletes effectively are vital for effective coaching (Côté & Sedgwick, 2003; Mallett & Coulter, 2016).

In Study 1, the subthemes of coach motivation, centring life around coaching and being a life coach were found under the theme of personal dimensions of coach identity, whereas the factor of the third study did not fully support this grouping. Although the items related to subthemes of coach motivation loaded on the same factor in the third study, one item that was related to coaches being passionate about helping athletes to achieve their goals loaded on socio-personal development. This could be the item was related to personal, social and career aspects of the coaches' role. The coach motivation factor maps onto SDT (Deci & Ryan, 1985, 2000) as coaches' motivation was driven by having autonomy at their workplace as well as the social connection and relatedness to their athletes and others within their social network.

Furthermore, the items developed from the subthemes of being a life coach (athletes' improvement in life, teaching life skills and coaching through life) and coaching lifestyle (life centred around coaching and perception of a full-time job) loaded on different factors. While the perception of a full-time job loaded on the socio-personal development factor, life centred around coaching was loaded with the items derived from being a life coach, and the new factor was named 'life coaching'. Given that the findings from the first study suggested that coaches centre their lives around coaching to support the personal development of athletes beyond the boundaries of sport thus, it seems that the subtheme of life centred around coaching was related to the role of the coach as being a life coach. Using positive youth development literature where the most important task in coaching is developing athletes (Coakley, 2011; Côté & Gilbert, 2009; Vella & Gilbert, 2014; Vella et al., 2011; Vierimaa et al., 2018), it appears that the role of a coach as being a life coach might be focusing on athletes' personal growth, teaching life skills and support off the field, which may result in positive development in all four types of athletes' outcomes (confidence, competence, connection and character/caring). Thus, the life coach factor structure matches Côté et al.'s

(2010) coaching model in which the role of the coach is considered the development of athletes in the 4Cs (confidence, competence, connection and character/caring) on and off the field.

While in the first study, the subthemes of social relationships and social recognition were identified as subthemes of social dimensions, in the third study, these two subthemes loaded on two distinct factors. The items derived from the subtheme of social relationships mainly loaded on the socio-personal development factor. Conversely, the items related to social recognition remained together and loaded on one factor named social recognition. However, the social recognition factor in the third study also contained a combination of items that pertained to athletes' development and coach relationship with parents. Additionally, it was noteworthy that while the subtheme of media and social media were found to be within the environmental dimensions, the items generated from these subthemes loaded on the social recognition factor. Given that media and social media play a role in social recognition (Dwivedi & Pandey, 2013; Morley & Robins, 1995; Renner, 2019), and athletes' development reflects coach success, which can lead to professional and public coach recognition (Purdy & Potrac, 2016), including recognition from parents; thus, it was concluded that all the items in this factor measure coach recognition.

Concerning career dimensions, the items generated from the subthemes of high-performance coaching, coach development and coach success loaded on various factors in Study 3. The subthemes of coach development, including the application of athletic background and coach experience, loaded on the new factor structure of socio-personal development. Given that these two subthemes are related to personal aspects of a coaching career where coaches use their personal knowledge and experience to develop their coaching career, it was postulated that the subthemes of coach development are related to socio-

personal development factor as this group contains items related to personal, social and career dimensions of coach identity.

Additionally, the items within the subtheme of coach learning were structured with the subtheme of workplace interaction with experts and formed a new factor structure named 'coach learning', including only two items. Given that workplace interactions and cooperation with experts in high-performance coach settings lead to informal learning (Greenberg & Culver, 2019; Rynne & Mallett, 2012, 2014; Waters et al., 2019), it was suggested that workplace interactions with experts is also related to coach learning. Learning through coaching practice as well as the network of the coach with experts in coach learning factor is consistent with Werthner and Trudel's coach learning model (2006), where coaches learn through discussion with other coaches as well as the internal learning that comes through reflection on coaching practice. According to what coaches say, the knowledge and skills required for their career development and in the role do not match the information offered and taught in coaching courses (formal learning) (Dickson, 2001; Trudel & Gilbert, 2006; Vargus-Tonsing, 2007). As such, coaches tend to improve their knowledge more through informal learning (Abraham et al., 2006; Callary et al., 2018; Irwin et al., 2004; Rynne & Mallett, 2014; Stoszkowski & Collins, 2016; Wright et al., 2007). Additionally, Gilbert and Trudel (2001) argued that coaches learn through reflecting on their knowledge and from their practical coaching experience. This process has been considered an important learning tool for coaches (Werthner & Trudel, 2006. 2009), an essential part of coach learning (Callary et al., 2018; Cassidy et al., 2009; Cushion et al., 2003; Gallimore et al., 2014; Gilbert & Trudel, 2001, 2006), and deemed a vital facet of coaching effectiveness (Côté & Gilbert, 2009; Gilbert & Côté, 2013) and coach expertise (Cassidy et al., 2009; Nash & Sproule, 2011; Schempp & McCullick, 2010). Thus, it can be concluded that the items in coach learning assess the main ways that coaches tend to improve their knowledge.

In regard to the subthemes of coach success, the subtheme of athlete development loaded on coach recognition, and the items measuring athletes' success as well as the subtheme of coach income and high-performance coaching loaded on coach success factor. The items measuring athletes' success were related to the role of the coach in the success of athletes at the competitions. The item related to high-performance coaching was pertinent to coaching athletes to get the best out of them for competitions. It appears that coaching athletes to reach their best performance can lead to athletes' development and potentially athletes' successful performance outcomes at competitions, which are identified as measures of coach success (Bloom et al., 2016). Regarding income, given that it is perceived as one of the elements of job success (Galambos & Silbereisen, 1987), it seems that when coaching comes with income, it can be perceived as a part of coach success. Thus, it was suggested that the items derived from high-performance coaching and income are both pertinent to coach success.

Taken as a whole, it is worth noting most of the items that were developed from the subthemes of coach motivation, being a life coach, coach learning, coach success and coach recognition loaded on those factors in the EFA. As such, the initial subthemes from which the items were developed were used as labels for the factors in the third study. Further, the factor structure in Study 3 suggested that the environmental dimensions of coach identity derived from the first study loaded on coach recognition and coach success. Thus, the measure focuses on coach identity development within personal, social and career dimensions.

To date, research in coach identity has been limited. At present, there is limited understanding of correlates of coach identity or predictors of coach identity development. The development of the CIDS can give scholars a useful tool to begin exploring coach identity, especially with a broad definition of coach identity that considers the personal, social and career aspects of a coaching career. Moreover, it is noteworthy that even though

there has been extensive research exploring the benefits and drawbacks of high athletic identity (Cummins & O'Boyle, 2015; Danish et al., 1993; Daniels et al., 2005; Danish, 1983; Horton & Mack, 2000; Werthner & Orlick, 1986), no study has been carried out to explore this phenomenon among coaches. Some of the benefits and drawbacks of high athletic identity are increased focus and commitment (Horton & Mack, 2000), positive effects on performance (Daniels et al., 2005; Danish, 1983; Horton & Mack, 2000; Werthner & Orlick, 1986), limitations in the exploration of external interests, the risk of the limited development of identity and self-concept beyond the sporting context (Cummins & O'Boyle, 2015; Danish et al., 1993; Wylleman & Reints, 2010), and difficulties with retirement from sport and career transition resulting in identity foreclosure and identity crisis (Brewer & Petitpas, 2017). Similarly, Fardilha and Allen (2020) used role identity theories to reflect on the tragic life of a fictional coach in a novel and proposed that while high coach identity can enhance coaches' motivation, energy and commitment, it can have its potential pitfalls if other identities have been disregarded and coach identity is threatened. Although prior research has hypothesised the benefits and drawbacks of high coach identity, no study has been carried out to explore this phenomenon, perhaps because there has been a lack of suitably validated measures. The CIDS can provide an opportunity for scholars to explore the association of high coach identity with other aspects of coaching (e.g., coach performance, coach behaviour and transition outcomes) and its benefits and drawbacks.

Contribution to Coach Identity Literature

This thesis explored coach identity through the lens of coaching within the broad and complex context in which coaches work. Thus, this research has expanded the existing knowledge in coach identity, sports coaching, sport psychology and sociology. To date, there have been only two studies exploring the determinants of coach identity. In one study (Purdy & Potrac, 2016), the determinants were identified by interviewing only one expert coach. Pope

et al. (2014) explored the determinants of coach identity by identifying themes and patterns within their dataset obtained from interviewing eight expert coaches. While some findings from this thesis were consistent with prior research, this research expands beyond the previous studies on coach identity.

Similar to Purdy and Potrac (2016), this study's findings showed that interactions with other coaches, athletes' development and income play a role in the maintenance and development of coach identity. The current research expanded beyond the prior research and demonstrated that other factors such as coach motivation, coach learning, social recognition, coach socio-personal development and coach success contribute to the strength and development of coach identity. Further, similar to this study, Pope et al. (2014) first explored the determinants of coach identity and then developed the CIPS (Pope & Hall, 2014a). The findings from this investigation, however, differ from their research. Pope et al. (2014), in the exploration of determinants of coach identity, proposed that coach identity encompasses coach meanings and coach prominence and is more influenced by cognitive and emotional aspects such as coaches' coaching expectations. In comparison, exploration of determinants of coach identity in the first study showed that coach identity develops through personal, social, career and environmental dimensions that relate to different aspects of the coaching domain. It is worth noting that the qualitative findings in this research and Pope et al. (2014) indicated that passion plays a role in coach identity; however, this research expands the prior study by showing that coach passion and coach commitment together influence coach motivation and that motivation contributes to coach identity development.

Additionally, similar to Pope et al. (2014), this research showed that teaching life skills and athlete's improvement in life both contribute to the development of coaches' identity. Thus, it was concluded that the subtheme of being a life coach in the first study matches with the subtheme of ultimate coaching purpose in Pope et al.'s study (2014) with

three lower subthemes of athletes' development, personal growth and life skills. It seems that this was the only common subtheme identified within both studies. While Pope et al. (2014) narrowed their investigation to the role identity theory, in this research, the determinants of coach identity were explored from a broad scope of coaching, which allowed the identification of a variety of the themes and subthemes within the context of coaching domain.

Comparing the CIDS with two other existing scales, it appears that they do not assess additional aspects of coach identity that the CIDS can measure. While the CIMS measures self-identity, social identity and strength and exclusivity of the coaching role, this scale lacks a measure of personal and social dimensions of coaches' careers from a broader context. Additionally, this scale lacks a measure of the career aspects of coach identity. Moreover, given that this scale was not developed on coaching populations and its validity and reliability are unclear, it appears the utility of the CIMS can be problematic for future research (Furr & Bacharach, 2014; Polit et al., 2007). Conversely, similar to the CIPS (Pope & Hall, 2014a), the CIDS (the second study) was developed directly from the core qualitative results from the first study. Given that most of the themes and subthemes of this study contrasted with those of Pope et al. (2014), it is unsurprising that the CIPS and the CIDS contain different subscales. The subscales of the CIPS focus only on prominence and emotions coaches attribute to their role as a coach (Pope et al., 2014). This scale does not measure additional aspects of coach identity that the CIDS measures, such as social aspects, socio-personal development, coach success and coach development/learning. As such, it appears that these two scales measure coach identity from different lenses. While the CIPS measures coach identity through the lens of coaches' feelings and the prominence of their coaching career in their lives, the CIDS measures coach identity development through the lens of personal, social and career aspects within coaches' careers. Accordingly, each of these

scales has a different functional use, and scholars should consider the purpose of each scale and their research goals when selecting the appropriate measure.

Contribution to Sports Coaching Literature

Exploration of coach identity development in the current thesis adds to the existing sports coaching literature. The results of this research support prior research on coach success, indicating that coaches perceive athletes' or team success as the measure of coach success and that success in competitions can be a strong motivation for coaches (Horn, 2008; Mallett & Coulter, 2016). This study has implications for the extensive literature on coach success and indicated that income is deemed to define coach success. Despite extensive research that has been carried out on coach success (Côté & Gilbert, 2007; Flanagan, 2003; Horn, 2008; Mallett & Coulter, 2016), far less attention has been paid to how coach success may influence coach identity.

Prior research on coach motivation has focused on the influence of coach passion on athletes' psychological health as well as athletes' relationship with the coach (Bennie & O'Connor, 2012; Jowett, 2017; Lafrenière et al., 2011; McGee &DeFreese, 2019; Poczwardowski et al., 2002; Santos et al., 2018). However, there is little known about coach motivation and how it can influence coaches, including their sense of being a coach. This thesis indicated that coach motivation plays a role in the development of coach identity. More research is warranted to explore the factors influencing coaches' motivation and their psychological health and identity development.

Research has shown that coaches interact with a variety of people, including athletes (Davis et al., 2018; Jowett, 2017; McGee &DeFreese, 2019; Santos et al., 2018), mentors (Banwell et al., 2019, 2020), parents (Smoll et al., 2011), administrators (Potrac & Jones, 2009; Dawson & Phillips, 2013), assistant coaches (Jones et al., 2009) and others such as health and medical professionals and sport scientists (Waters et al., 2019; Côté &Gilbert,

2009). This study's findings expanded the existing literature and indicate that these relationships are built over time, resulting in greater recognition and acknowledgement. This recognition reinforces coach identification with their role as a coach and their affinity with other coaches resulting in the further development of coach identity (Purdy & Potrac, 2016). These results seem consistent with other studies noting that social recognition carries extra meaning and strengthens identity formation and development (Chalip, 1978; Donnelly, Young, Yiannakis & Melnick, 2001; Massengale, 1974). It is noteworthy that establishing relationships with athletes, mentors and other coaches falls under socio-personal development, which can indicate that those relationships are related to personal aspects of coaching, and it is left to coaches to work on these relationships when it comes to developing their coaching career. Interestingly, coaches perceived their relationship with parents as a means that contributed to their social recognition. Further research is required to investigate methods of establishing and improving coaches' relationships with different groups within their coaching domain and the resultant impact on identity development.

The results of this research also add to the extant literature on coach education and coach development (Abraham et al., 2006; Callary et al., 2018; Irwin et al., 2004; Wright et al., 2007). While the studies in this field have mainly focused on various coach learning methods (Douglas et al., 2018; Greenberg & Culver, 2019; Werthner & Trudel, 2006. 2009) and their impact on coaching effectiveness (Côté & Gilbert, 2009; Gilbert & Côté, 2013), as well as coach expertise (Cassidy et al., 2009; Nash & Sproule, 2011; Schempp & McCullick, 2010), the current thesis has enhanced the understanding of the influence of coach learning and coach education on the development of coach identity. More research is required to establish the connection between different avenues of coach learning (formal and informal) with coach identity development.

As demonstrated above, the literature on sports coaching has addressed different aspects of coaching in the context of career development and suggested that the complex career of coaching consist of various factors whereby they are required for effective coaching and coach career development (Cushion & Jones, 2006; Cushion & Lyle, 2016; Mallett, 2010; Nazar & Heijden, 2012; Rynne et al., 2017; Trudel & Gilbert, 2006; Williams, 2019). This thesis provided new insight into the sports coaching literature by indicating that various personal, social, and career factors within coaches' careers can play a role in the maintenance and development of coach identity.

Contribution to Sport Psychology and Sociology Literature

The empirical literature on coaching has grown in both depth and breadth in the past two decades (Gould & Mallett, 2021), and coaches are becoming more recognised as leaders and developers of athletic talent (Cassidy et al., 2009; Côté et al., 2007); developers of social character in athletes (Potrac et al., 2013; Burton & Raedeke, 2008; Côté et al., 2007); role models for athletes, parents and other coaches (Burton & Raedeke, 2008; Shields & Bredemeier, 1995); mentors to athletes and other coaches (Burton & Raedeke, 2008; Côté et al., 2007; International Council of Coaching Excellence, 2014); and leaders (Burton & Raedeke, 2008; Cummins et al., 2017). Thus, it is evident that coaches have various responsibilities beyond being the technical guide of athletes to improve performance (Dawson & Phillips, 2013). This study's findings extended prior research and show that different roles that coaches play within the personal, social and career dimensions of a coaching career contribute to the development of their coach identity.

There have been recent efforts towards establishing coaching as a profession (Kjær, 2019; Taylor & Garratt, 2008, 2010) and turning the perception of coaching from a leisure activity occupied by passionate volunteers into a professional occupation (Dawson & Phillips, 2013). Research has noted that this transformation can occur through focusing on

increasing coaches' skills (Lyle & Cushion, 2010) and educating them in sociology and social psychology, given that the role of a coach is deemed a leader, manager and developer of people and organisations (Cushion & Lyle, 2016). Considering that coach learning was identified as one of the factors that contribute to coach identity development, it would seem that educating coaches in sociology, social psychology and coaching skills can facilitate coaches' identity development.

Strengths and Limitations

This thesis contains three studies and had various strengths. One of the strengths of this thesis was its methodological approach. As demonstrated by the data, findings from Study 1 formed the core context of the following studies. This supports a sequential mixed-method design in which the second study occurred directly after the first study and the third study occurred after the second study so that the latter phase was completely dependent on the former phase. This mixed-method nature of the project allowed us to first explore determinants of coach identity development, second, generate a pool of items using the data from the first study, and lastly, test these findings through conducting EFA. Additionally, the analysis of both qualitative and quantitative data is presented in great detail. Given the limited extant research presenting a comprehensive process of generating a scale through exploring the variables related to sports coaching, this thesis can also be a beneficial guide for future researchers interested in scale development.

Furthermore, the systematic process by which the determinants of coach identity were explored and the items were developed, incorporating several expert panels, pre-test, recruitment of participants from a variety of sports, and the gender contribution of the samples with more male participants—representing the actual population of coaches in the real world—can be considered a strength when assessed against measures of good practice (Johnston et al., 2003).

The gender distribution of the samples with more male participants, representing the actual population of coaches, can be considered a strength. In the first study, out of seven coaches, six participants were males. In the third study, the majority of participants were males. Future research could valuably examine if gender influences the determinants of coach identity development, as well as further validating the CIDS in a sample of female coaches.

In contrast, while this thesis provided a novel exploration of coach identity development and provided a valid and reliable measure, the thesis has several limitations. Given that coaches with different expertise coach athletes at different levels of participation, such as recreational, club, state, national and international level, may have a different identity or perceptions of their role, the extent that these findings might apply across levels remains an area for future research to examine.

Another limitation is acknowledged in that Study 3 was conducted during the emergence of the COVID-19 pandemic. Given the timing of survey one and survey two, for a proportion of coaches, the two weeks between the surveys coincided with changes in COVID-19 restrictions and sport being banned for a lengthy period. Therefore, changes in coaching routines, workplace and lives may have impacted identity around coaching, which might have impacted assessment of test-retest reliability.

Directions for Future Research

While the present research has highlighted that being a life coach is one of the factors that play a role in the development of coach identity, it was beyond the scope of this study to explore what life skills coaches should teach and which life skills should be emphasised. Future research in this field would be of great help in understanding the scope of being a life coach and its influence on coaches' identity and athletes' development.

This research explored the factors that strengthen the coaches' identity. Given the minimal existing knowledge on this topic, exploring the factors that threaten coach identity

can inform future research and practice for assisting coaches. While it was beyond the scope of this research to investigate the threats to coach identity, participants noted some components related to it. It is recommended that future research address the following barriers: failure in competitions, failure in relationships, changes in life circumstances and becoming a parent, political factors, burnout and financial challenges. To what extent these components can influence coaches' identity may depend on the influence of the determinants that contribute to the strength and development of coach identity; the stronger those determinants are, the less likely the coaching barriers will influence coaches to reconsider their career. To what extent these threats to coach identity affect coaching behaviour, burnout and termination of coaching career would be a useful avenue to explore. Further research needs to be done to establish the threats to coach identity and the extent to which they affect coach identity development, coaching behaviour, coach burnout and dropout. Exploring these factors can inform future research and practice for assisting sporting organisations with coach retention and coach career development.

Moreover, research examining the benefits and drawbacks of high coach identity remains in the nascent stages. Based on previous theories related to athletic identity, Francis (2012) hypothesised that the positive and negative outcomes related to strong athletic identity can also be true for strong coach identity. Thus, it was suggested that coaches with stronger coach identity would present a stronger commitment to coaching, higher levels of emotional states and lower levels of career exploration (Francis, 2012). Although Fardilha and Allen (2020) used role identity theories to put forward the benefits and drawbacks of a strong coach identity through reflecting on the tragic life of a fictional coach in a novel to explore the process of coach identity formation and coach prominence, no study has been carried out to explore this phenomenon. Given that the research in this field is limited, the development of the CIDS means that scholars can start to explore this construct from various aspects.

Exploring strong coach identity and its benefits and drawbacks using the CIDS can be an avenue for future research to examine.

Regarding the CIDS, replicating the survey in other samples considering coaches levels and expertise would be beneficial. Future research could conduct this scale with other coaches and employ CFA to check whether the results would be consistent with this study's findings from EFA. Obtaining normative data around what levels of identity development occurs at different coaching levels might also further an understanding of coach identity. Lastly, perhaps an investigation to discover interventions, such as coach mentorship, that may increase identity would be valuable should high coach identity be found to predict positive outcomes.

The Implications for Practice and Research

This study was among the first to examine determinants of coach identity through the broader lens within the coaching domain and put forward a valid and reliable measure of coach identity development.

According to the Australian Sports Commission (n.d.), many clubs struggle to recruit and retain coaches. This thesis might have implications for sporting clubs and organisations to help them tackle this problem by empowering coaches by assisting them with factors that develop their identity. Furthermore, this study might be a direct benefit to coaches by providing insight into factors that can assist them in developing their identity within their careers. Additionally, the CIDS can help sporting clubs and organisations to assess coaches' identity development and may highlight areas for potential identity growth should coach identity in the future be found to relate to positive outcomes, including coach retention. For example, career development professionals and sport psychologists can evaluate coaches' identity using CIDS to explore the aspects that may need development. Coach identity can be strengthened by applying a mentorship programme to educate coaches on the various factors

of coach identity development as well as the methods that coaches can implement different aspects of determinants of coach identity into their coaching practice. Following a course of the mentorship program, the influence of the program can be examined using CIDS. Similarly, sporting organisations can conduct the same examination on coaches before conducting coach education workshops and develop methods and strategies that can be applied in coaching practice to develop identity.

Given the limited research on coach identity, the CIDS can serve as a useful tool for many scholars to investigate coach identity in different circumstances and explore the association of coach identity development with other variables that may play a role in coach career development.

Conclusion

By applying an inductive approach to explore the determinants of coach identity development, different insights into identity and the contexts in which coaches operate throughout their coaching careers were gained. This thesis demonstrated that coach identity is multidimensional and influenced by the multidimensional aspects of the complex career of coaching. This research developed the CIDS, which was found to be a suitable tool to measure the influence of multidimensional factors on the maintenance and development of coaches' identity within their careers. The determinants of coach identity development and the CIDS can allow for the assessment of the development of coach identity throughout the coaching career. Such knowledge could be vital for exploring the relationship between identity with coaches' behaviour and performance at different levels of sport participants (Purdy & Potrac, 2016), especially in youth sport, as coach behaviour is the most significant determinant of youth development outcomes (Vella & Gilbert, 2014). While the exploration of the determinants of coach identity development has provided us with new insight into broad influential factors playing a role in the maintenance and development of coach identity,

it is hoped that the emergence of the new CIDS can be used to tackle the barriers related to the measurement of coach identity development and allow research in this filed to flourish through providing a path for scholars to explore this phenomenon more.

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Appendices

Appendix A: Information Form for Coaches (First Study)

You are invited to participate

You are invited to participate in a research project entitled 'Exploring the determinants of coach identity throughout coaches' career and the development of a coach identity development scale'.

This project is being conducted by a student researcher Helen Rout as part of a doctoral degree (PhD) at Victoria University under the supervision of Dr Andrew Dawson, from the College of Sport and Exercise Science, Victoria University, and Dr Suzanna Cosh, from the college of psychology, University of New England.

Project explanation

Coaches usually behave in different ways, and these behaviours seem to be bound to their identities. Coach identity is the extent to which coaches identify themselves with this role. This study will investigate the factors that can form and strengthen coach identity and will find out to what extent these factors are related to coach identity and coach behaviours throughout the coaching journey.

The result of this research will increase our understanding of the factors that develop coach identity and also why coaches act in the manner that they do. It will also help us to understand whether changes in coach identity is linked with coach behaviours throughout the coaching journey.

The results of this research can also assist sport organisations in the recruitment and development of coaches.

What will I be asked to do?

You will be asked to participate in a one-on-one semi-structured interview with the student researcher. In the first part of the interview open-ended questions will be asked relating to your professional background, education, coaching and playing experience to explore the factors that have helped you develop your identity as a coach. In the second part of the interview, some closed questions will be asked relating to your coaching journey.

What will I gain from participating?

Your participation will make a significant contribution to understanding the determinants of coach identity, and coach development. Knowing the determinants of coach identity can help you with gaining more commitment to your coaching career. It can also help you to gain a better understanding of your own professional practice.

How will the information I give be used?

Information from this study will be used to inform future research into this area and potentially applied in the coach development program. It will also be presented in a research-based journal article, potential conference presentation and the student researcher's PhD thesis. All published results will be de-identified so no responses will be able to be attributed back to the participant.

What are the potential risks of participating in this project?

There are no major risks associated with this research. However, should you feel uncomfortable you are able to withdraw from this research at any stage. You are under no obligation to answer every question, and your responses will not be collected, if desired.

How will this project be conducted?

The interview audio will be recorded and professionally transcribed at a later date. Once this transcription has been completed, a copy will be sent to the interviewee for a final read through and consent to use the interview data for analysis will be requested. Once consent has been given, the interview data will be coded into major and minor themes and then collated with other coded interview data. This information will then be compared to survey data collected previously and relevant published scientific literature.

Who is conducting the study?

This study is being conducted by Victoria University.

Chief Investigator: Dr Andrew Dawson (T: +61 3 99199465 E: andrew.dawson@vu.edu.au)

Student Researcher: Helen Rout (T: +61 4 26453198 E: Helen.Rout@live.vu.edu.au)

Any queries about your participation in this project may be directed to the Chief Investigator listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix B: Consent Form for Coaches (First Study)

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study entitled
'Exploring the determinants of coach identity throughout coaches' career and the development of a coach identity development scale.'

Aims of the project:

This project aims to investigate the factors that may contribute to the formation and development of coach identity. It also aims to find out the relationship between coach identity and develop a coach identity development scale.

The procedure involves and nature of the project:

You will be asked to participate in a one-on-one semi-structured interview with the student researcher. In the first part of the interview open-ended questions will be asked relating to your professional background, education, coaching and playing experience to explore the factors that have helped you develop your identity as a coach. In the second part of the interview, some closed questions will be asked relating to your coaching journey.

There are no social, physical and psychological harms in this project. All information related to your identity and personal details provided for this project remains anonymous, including where information about this project is published, or present in any public form.

CERTIFICATION BY PARTICIPANT

CERTIFICATION BY SUBJECT

I,_____(Phone No.:) _____

Of

_____

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study: 'Exploring the determinants of coach identity throughout coaches' career and the development of a coach identity development scale' being conducted at Victoria University by Dr Andrew Dawson.

And that I freely consent to participation involving the below-mentioned procedures:

- An in-depth one-on-one interview

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed …….

Date: ……

Any queries about your participation in this project may be directed to the researcher

Dr Andrew Dawson
Director of Learning and Teaching (Strategy and Operations)
College of Sport and Exercise Science
Victoria University, Australia
+61 3 9919 9456

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix C: Semi-Structured Interview Questions

In-depth Semi-structured open-ended questions:

- Tell me about your sport and your role?
- Why did you become a coach?
    - What do you like about coaching?
- When did you feel you truly became a coach?
    - What happened?
- Tell me about your coaching experience and how that has developed so far? (Did your athletic background contribute to your coaching)?
- How often do you think of yourself as a coach and what factors cause you to think like this?
- How is your connection and relationship with people you interact with? (athletes, your coach, mentor, parents, Assistant coach)
    - Do you think the relatedness and connection with your athletes and others can cause you to feel more like a coach?
- To what extent do you feel committed to your role and the sport organisation you are affiliated with?
- What other work/career do you currently do?
    - How does that other work influence your role as a coach?
    - What aspects of your other work do you use in your coaching?
- To what extent do you have autonomy and competence in your coaching career compare to others? Can this Autonomy and competence motivate you and contribute to your identity?
- Would satisfaction/achievement in your non-coaching work affect your commitment to the coaching career?
    - If yes, please describe how
- What factors would cause you to ever reconsider your coaching practice?
    - Please describe in more detail
- Tell me about your lifestyle … What does your life organise around?
- How do you improve your coaching knowledge?
    - What impact does enhance your coaching knowledge have on your coaching identity and coaching practice?
- To what extent is income important for you in your coaching career?
- What is your ultimate goal of coaching?
- To what extent is income important for you in your coaching career?
- What is your ultimate goal of coaching?
- How do you advertise yourself as a coach? How does that impact your conception as a coach?
- How do you feel about your athletes' improvement in sport and life?
- How do your peers and colleagues influence your role?

Appendix D: Information and Consent Form for Coaches (Third Study)

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study entitled
'Exploring the determinants of coach identity throughout a coaching career, And the development of coach identity scale'

Aims of the project:

This project aims to investigate the factors that may contribute to the formation and development of coach identity. It also aims to develop a valid and reliable coach identity scale.

Procedure involves and nature of the project:

You will be asked to consider your identity as a coach and complete three different questionnaires. Following two weeks from the completion of these surveys, you would be asked to only complete one of the surveys again (coach identity development scale) for the second time.

There are no social, physical and psychological harms in this project. All information related to your identity and personal details provided for this project remain anonymous, including where information about this project is published, or present in any public form.

CERTIFICATION BY PARTICIPANT

I,_____(Phone No.:) _____

Of

_____

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study: 'Exploring the determinants of coach identity throughout coaches' career and the development of a coach identity development scale' being conducted at Victoria University by Dr Andrew Dawson and that I freely consent to participation involving the below-mentioned procedures:

- Completing the coach identity prominence questionnaire
- Completing health questionnaire
- Completing the coach identity development scale (twice within a two-week interval)

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardies me in any way.

I have been informed that the information I provide will be kept confidential.

Signed …….

Date: ……

Any queries about your participation in this project may be directed to the researcher

Dr Andrew Dawson
Director of Learning and Teaching (Strategy and Operations)
College of Sport and Exercise Science
Victoria University, Australia
+61 3 9919 9456

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix E: Coach Identity Development Scale (CIDS)

Dear coach,

Please answer the following screening questions

- Are you 18 years old and above? Yes …..No …..
- Have you had any athletes competed at club, state, national or professional level? Yes …. No ….
- Do you have a minimum of one year of experience as a coach? Yes ……. No …….

If the answer to all the above questions is yes, please proceed with answering the survey.

Part 1: Personal information

1. Age: 18–30 … 31–40 …. 41–50 … 51–60…. 61–70 …. 70 and above…
2. Gender: Female …. Male…. Prefer not to say ….
3. Highest education level completed: 4. High School …… Bachelor's degree …… PhD (e.g., Master's, Grad Dip)…. PhD … Other: _____
5. What sport do you coach?
6. Years of coaching experience:……..
7. Years of experience as an athlete :…….
8. Highest level of coaching experience (tick all that apply): Club level …. State level …. National level…. International level……
9. Is most of your time spend coaching as a; a) Head coach…… b) Assistant coach…. c)other, please specify ….
10. Level of athletes you have coached so far (tick all that apply): Recreational …. Club level …. State level …. National level…. International level…… Other , please specify ……
11. Hours of per week involved in coaching (on average):…..
12. Is the income received from coaching: Primary source of income ……. Secondary source of income……. I do not receive any income for coaching ……
13. Which country do you live?.....

Part 2: *Please indicate the extent to which you agree or disagree with each statement*

1. I am very passionate about coaching

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

2. I do not feel strongly committed to my coaching

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

3. Coaching is one of my major commitments in my life

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

4. The more I learn about coaching the more I identify myself as a coach

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

5. My presence in media and social media can reinforce my sense of who I am as a coach

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

6. Overcoming the challenges of coaching gives me a sense of being a good coach

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

7. I see myself as a coach regardless of whether my coaching is voluntary or paid

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

8. The more I learn from expert coaches the more I see myself as a coach

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

9. My life is centred around coaching

   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

10. Coaching my athletes' life skills is as important as coaching their sport skills

    (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

11. Helping my athletes to grow in their personal lives and seeing their development is satisfying

    (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

12. My experience as an athlete influences the way I coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

13. My relationships with the parents of my athletes reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

14. My relationships with athletes are important to me and reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

15. Coaching athletes to get the best out of them for competitions gives me a sense of being an effective coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

16. Recognition of my competencies from athletes reinforces my confidence in being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

17. I am very passionate to help my athletes achieve their goals

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

18. Recognition from the parents of my athletes on my coaching skills reinforces my sense of coaching

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

19. Influencing my athletes' development in sport helps me see myself as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

20. My relationships with my coaching mentors reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

21. My relationships with my assistant coaches reinforce who I am as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

22. Gaining coaching experiences through trial and error contributes to my sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

23. As a coach, it is important for me to teach life skills to my athletes

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

24. Recognition from other coaches on my coaching skills gives me a sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

25. My contribution to the success of my athletes at tournaments reinforces my sense of being a successful coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

26. When coaching comes with income, it can contribute to my sense of being a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

27. Being selected as a state or national coach reinforces my sense of being a successful coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

28. The more I learn from other sport experts (sport scientists, sport psychologists) the more I see myself as a coach

(Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

Appendix F: Coach Identity Prominence Scale (CIPS)

Please indicate the extent to which you agree or disagree with each statement

1. I love my role as a coach
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

2. Coaching gives me a sense of fulfilment
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

3. I find coaching satisfying
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

4. Coaching is central to who I am
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

5. Coaching is part of my personal identity
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

6. Coaching is a big part of my life
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

7. If I could coach, there would be a void in my life
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

8. Coaching is part of who I am
   (Strongly Agree) 1____:___2 ___:___3 ___:___4___:___5 (Strongly disagree)

Appendix G: Patient Health Questionnaire-9

Over the last 2 weeks, how often have you been bothered by any of the following problems?

(Use '✓' to indicate your answer) **Not at all**

	Not at all	Several days	More than half the days	Nearly everyday
1. Little interest or pleasure in doing things				
2. Feeling down, depressed or hopeless				
3. Trouble falling or staying asleep, or sleeping too much				
4. Feeling tired or having little energy				
5. Poor appetite or overeating				
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down				
7. Trouble concentrating on things, such as reading the newspaper or watching television				
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual				
9. Thoughts that you would be better off dead or of hurting yourself in some way				

Appendix H: Exploratory Factor Analysis for Eight-Factor Solution

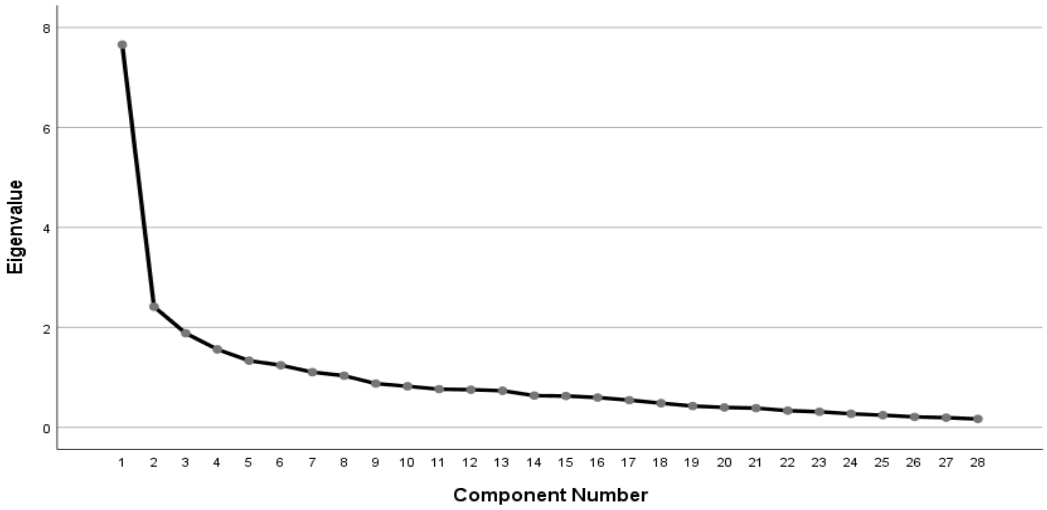
Total Variance Explained for Eight-Factor Solution

Component	Initial Eigenvalues		Cumulative %
	Total	*% of Variance*	
1	7.657	27.345	27.345
2	2.414	8.621	35.966
3	1.883	6.725	42.692
4	1.560	5.571	48.263
5	1.334	4.764	53.027
6	1.243	4.438	57.465
7	1.104	3.942	61.407
8	1.033	3.688	65.094
9	.875	3.126	68.221
10	.822	2.937	71.157
11	.764	2.728	73.885
12	.753	2.690	76.575
13	.732	2.615	79.191
14	.635	2.268	81.459
15	.627	2.239	83.698
16	.596	2.129	85.827
17	.544	1.944	87.771
18	.483	1.726	89.497
19	.426	1.523	91.020
20	.399	1.424	92.444
21	.385	1.375	93.819
22	.333	1.190	95.009
23	.312	1.115	96.124
24	.271	.968	97.092
25	.243	.869	97.960
26	.209	.747	98.707
27	.194	.692	99.399
28	.168	.601	100.000

Factor Loadings for 28 Items with an Eight-Factor Solution

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
14	.754							
15	.753						.429	
26	.576							
22	523						.695	
19	.488							
13		.811						
12		.711						
16	.519	.587					.461	
27		.574						
10		.494						
6			.872					
9			.810					
7			.723					
3				.826				
17				.713				
5				.518				
1				.441			.429	
21					.816			
24					.755			
25					.551			
20						.692		
18						.581		
22		.479				.544		
11						.487		
4							.695	
28					.406		.576	
8							.461	
2								.844

Scree Plot for Eight-Factor Solution



Appendix I: Exploratory Factor Analysis for Seven-Factor Solution

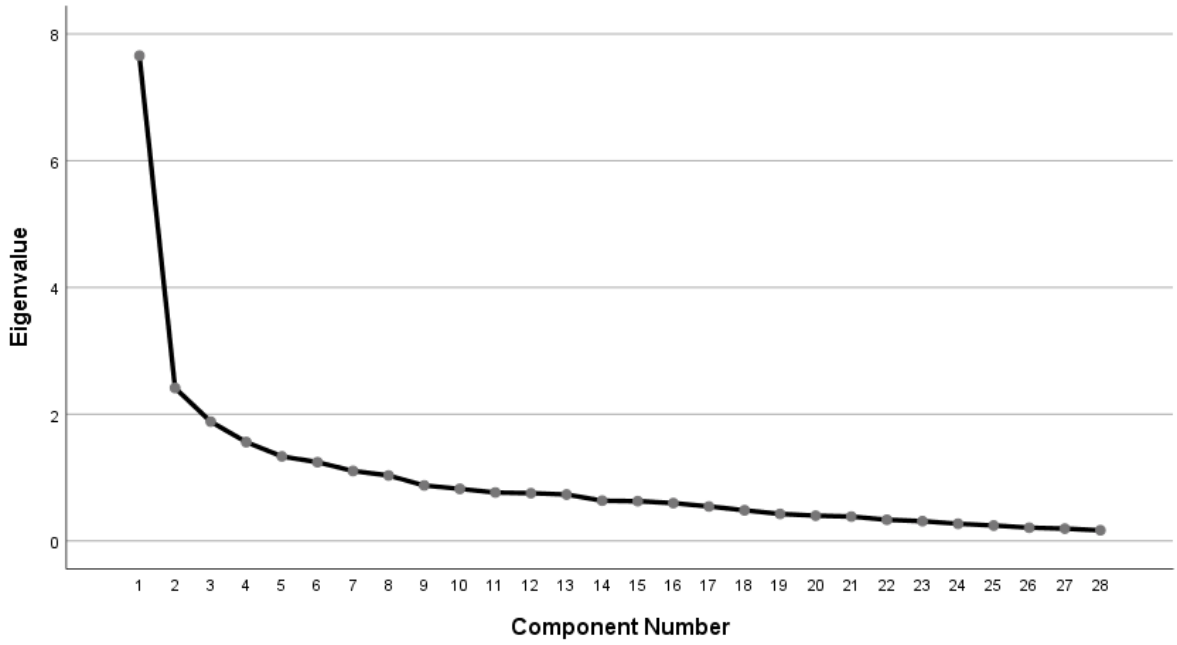
Total Variance Explained for Seven-Factor Solution

Component	Initial Eigenvalues		Cumulative %
	Total	*% of Variance*	
1	7.657	27.345	27.345
2	2.414	8.621	35.966
3	1.883	6.725	42.692
4	1.560	5.571	48.263
5	1.334	4.764	53.027
6	1.243	4.438	57.465
7	1.104	3.942	61.407
8	1.033	3.688	65.094
9	.875	3.126	68.221
10	.822	2.937	71.157
11	.764	2.728	73.885
12	.753	2.690	76.575
13	.732	2.615	79.191
14	.635	2.268	81.459
15	.627	2.239	83.698
16	.596	2.129	85.827
17	.544	1.944	87.771
18	.483	1.726	89.497
19	.426	1.523	91.020
20	.399	1.424	92.444
21	.385	1.375	93.819
22	.333	1.190	95.009
23	.312	1.115	96.124
24	.271	.968	97.092
25	.243	.869	97.960
26	.209	.747	98.707
27	.194	.692	99.399
28	.168	.601	100.000

Factor Loadings for 28 Items with a Seven-Factor Solution

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
14	.749						
15	.746						
26	.553						
23	.507						
19	.486						
13		.828					
12		.696					
22		.575		.401			
16	.514	.573					
27		.583					
10		.520					
6			.896				
9			.813				
7			.717				
8				.632			
11				.597			
4				.553			
18		.423		.506			
1				.447	.412		
3					.818		
17					.715		
5			.408		.490		
21						.757	
24						.751	
28						.585	
9						.584	
2							.832
20				.455			.849

Scree Plot for Seven-Factor Solution



Appendix J: Exploratory Factor Analysis for Five-Factor Solution

Total Variance Explained for Five-Factor Solution

Component	Initial Eigenvalues		Cumulative %
	Total	*% of Variance*	
1	7.657	27.345	27.345
2	2.414	8.621	35.966
3	1.883	6.725	42.692
4	1.560	5.571	48.263
5	1.334	4.764	53.027
6	1.243	4.438	57.465
7	1.104	3.942	61.407
8	1.033	3.688	65.094
9	.875	3.126	68.221
10	.822	2.937	71.157
11	.764	2.728	73.885
12	.753	2.690	76.575
13	.732	2.615	79.191
14	.635	2.268	81.459
15	.627	2.239	83.698
16	.596	2.129	85.827
17	.544	1.944	87.771
18	.483	1.726	89.497
19	.426	1.523	91.020
20	.399	1.424	92.444
21	.385	1.375	93.819
22	.333	1.190	95.009
23	.312	1.115	96.124
24	.271	.968	97.092
25	.243	.869	97.960
26	.209	.747	98.707
27	.194	.692	99.399
28	.168	.601	100.000

Factor Loadings for 28 Items with a Five-Factor Solution

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
16	.787				
13	.662				
14	.537	.433			
12	.537				
27	.571				
15	.511	.447			
19	.431				
11		.735			
22	.457	.563			
4		.555			
26		.550			
18		.541			
8		.531			
23		.488			
10	.449	.469			
20		.426			
6			.861		
9			.817		
7			.701		
3				.807	
17				.633	
1				.571	
5			.408	.480	
2				.419	
21					.779
24					.769
28					.525
25	.413				.473

Scree Plot for Five-Factor Solution