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Relations parents-athlètes dans le sport chez les jeunes : Un examen du soutien parental réceptif

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Summary

Drawing on Feeney and Collins' (2015) model of thriving through relationships, the purpose of the present thesis was to increase understanding of how different features of the parent-athlete relationships might influence athletes' psychosocial outcomes. Specifically, this thesis moved forward the understanding of parent-athlete relationships in youth sport by focussing and examining the responsiveness (i.e., does the support provider understand, validate, and care for; Reis, Clark, & Holmes, 2004) within parent-athlete relationships. The use of this construct and model provided a suitable framework to increase the understanding of how different features of the parent-athlete relationship influenced short- and longer-term psychosocial outcomes among athletes.

Study One demonstrated the value and parsimony of Reis et al.'s (2004, 2015) construct of responsiveness and highlighted the unique influence of provided parental responsive support and athletes' perception of such support on their perceived self-efficacy, self-esteem, and thriving (i.e., positive affect, vitality, life satisfaction and health quality). Study Two demonstrated the positive outcomes associated with players' perceptions of their mother's and father's responsiveness on their self-esteem, sport anxiety, and thriving in youth sport. Study Three further demonstrated that athletes' perceptions of their mother's/father's validation, mediated by perceived athletes' self-efficacy to accomplish their goals, influenced their goal accomplishment and sport anxiety three months later. The results of Study Three also showed that athletes' perceptions of their mother's/father's understanding, mediated by athletes' self-esteem, influenced athletes' thriving and sport anxiety three months later. Finally Study Four demonstrated consistency in young athletes' perceptions of their mother's and father's responsiveness across time, situations, and context. Athletes' perceptions of their parent's responsiveness were linked with positive psychosocial outcomes (i.e. self-perceptions, thriving) because the consistency of parental responsiveness allowed these positive outcomes to gradually accumulate with time and to result in long-term thriving for young athletes (Feeney & Collins, 2015).

Overall, the results of this thesis demonstrated that parents can provide responsive support to their children in the context of youth sport participation. When the support is responsively provided by parents and/or perceived by athletes as responsive to their needs it was positively related with athletes' self-perceptions (i.e., self-efficacy, self-esteem). Athletes' self-perceptions subsequently mediated the relationship between the provision/perception of responsive support and generalised/long-term positive outcomes (i.e. goal accomplishment, positive affect, life satisfaction, vitality, health quality).

Publications

Articles (peer reviewed)

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Chapter 1

Introduction

Participation in sport can provide multiple benefits to children and adolescents. Through engagement in sport, young people have opportunities to develop physically, psychologically, emotionally, socially, and intellectually (Fraser-Thomas, Côté, & Deakin, 2005). For instance, children have the chance to develop assets including positive self-perceptions, social skills, resilience, and emotional competences (Johnston, Harwood, & Minniti, 2013). However, sport participation can also lead to the experience of adversity, with inherent risks of injuries, pressure to win, anxiety, poor sportsmanship, aggression, drop out, or overtraining (Fraser-Thomas, Côté, & Daekin, 2008; Howells & Fletcher, 2015). Consequently, youth sport is a context in which both life opportunities and life adversity can be experienced (Carr, 2013).

The different sport experiences children have are largely influenced by those around them, particularly their parents (Fraser-Thomas & Côté, 2009; Fraser-Thomas et al., 2005). Until approximately 12-13 years of age, parents are considered to be the most important social influence in young athletes' lives (Côté, 1999; Wylleman & Lavallee, 2004) and continue to remain a salient influence throughout their whole sporting career (Horn & Horn, 2007; Knight, 2017). Through their involvement and the provision of social support, parents can positively or negatively shape young athletes' sport experiences (Knight, Berrow, & Harwood, 2017; Sheridan, Coffee, & Lavallee, 2014). For instance, parents can support young athletes by introducing them to sport, committing time and money to enable participation, and providing emotional support at and beyond competitions (e.g., Baxter-Jones & Maffulli, 2003; Dunn, Dorsch, King, & Rothlisberger, 2016; Gould, Lauer, Rolo, Jannes, & Pennisi, 2008). The provision of such support can positively influence young athletes' motivation, participation in elite sport, and overall athletic development (Sheridan et al., 2014). In contrast, certain parental behaviours can have a negative influence on children's long-term sporting engagement and psychosocial development (Sheridan et al., 2014). For example, if parents over-emphasise winning, hold unrealistic expectations, or criticise their child after performances, it can lead to feelings of pressure and stress (e.g., Lauer, Gould, Roman, & Pierce, 2010b, 2010a), which can result in conflict with parents, negative affect, a lack of enjoyment, and/or an

increased anxiety (e.g., Kanters, Bocarro, & Casper, 2008; O'Rourke, Smith, Smoll, & Cumming, 2011).

Research has demonstrated that parental involvement and behaviours in sport are diverse and dynamic (e.g., Côté & Hay, 2002; Fredricks & Eccles, 2004). However, the complex association between specific parental behaviours and athletes' outcomes is not yet fully understood (Charbonneau & Camiré, 2019; Dunn et al., 2016; Knight, Berrow, et al., 2017). There are numerous potential factors that may influence this association (e.g., stage of athletes' development, perceptions of support and pressure, athletes' preferences), but one particularly important factor may be the relationship that exists between a parent and their child (e.g., Clarke, Harwood, & Cushion, 2016). It has been suggested that the quality of the parent-athlete relationship might alter athletes' perceptions of parental support (Dorsch, Smith, & Dotterer, 2016) and also influence athletes' wellbeing and growth (Knight, Harwood, & Gould, 2017). Thus, when seeking to better understanding the impact parents have on their children's sporting experiences and development, it seems pertinent to pay particular attention to the relationship that exists between a parent and their child.

Although there are numerous theoretical approaches that may be useful when seeking to better understand the parent-athlete relationship (e.g., family system theory, parenting styles, attachment theory), Feeney and Collins' (2015) thriving through relationships model appears to be particularly well-suited. Building on attachment theory (Bowlby, 1973, 1982, 1988), this model integrates insights from social psychology and studies on romantic relationships (e.g., Feeney, 2007; Lemay & Neal, 2014), motivational theories (Elliot & Hulleman, 2017; Marsh, Martin, Yeung, & Craven, 2018; Ryan & Deci, 2017), and specifically focuses on how individuals may thrive, growth and flourish through their relationships with close-others (Feeney & Collins, 2015). Drawing on Feeney and Collins' (2015) model of thriving through relationships, the purpose of the present thesis was to increase understanding of how different features of the parent-athlete relationships might influence athletes' psychosocial outcomes.

1.1 Structure of the Thesis

To address the aim, this thesis comprises seven chapters. Following this first introductory chapter, Chapter 2 provides a comprehensive review of literature on parental involvement in sport. The review provides an overview of parent roles and

influence in youth sport, before examining specific theories and research pertaining to parent-athlete relationships. Second, the review proposes a step forward in understanding of the parental support based on Reis, Clark, and Holmes (2004), and Reis and Gable's (2015) work pertaining to responsiveness. Drawing from social psychology literature, Feeney and Collins' (2015) thriving through relationships model is subsequently proposed as a pertinent and integrative model through which we could consider parent-athlete relationships in sport.

Using Reis and colleagues' (2004; 2015) construct of responsiveness and based on Feeney and Collins' (2015) thriving through relationship model, Study One (Chapter 3) examined the influence of responsive support provided by parents, and athletes' perceptions of responsive support from their parents, had on athletes' perceived self-efficacy, self-esteem, and thriving (i.e., positive affect, vitality, life satisfaction, and health quality). The study involved 41 athletes and their most involved parent in sport. The results showed that after a specific interaction, both the responsive support provided by parents, and athletes' perceptions of responsive support from their parents were positively related to athletes' perceived self-efficacy to reach their goals. The responsive support provided from parents and athletes' perceptions of the support they received were both positively related to athletes' self-esteem, although the relationships were mediated by athletes' perceived self-efficacy to reach their goals. Further, athletes' perceptions of support from their parents was positively related with thriving, although mediated in series by their perceived self-efficacy and self-esteem. Overall, the study showed that parental responsiveness (received and perceived) in specific situations led to immediate and specific outcomes for young athletes.

Based on results of Study One, the purpose of the Study Two (Chapter 4) was to examine the influence general perceptions of parent responsiveness subsequently had on athletes' general self-esteem, affect, vitality, life satisfaction, and sport anxiety. Data were collected from 124 young male British rugby players who completed a series of online self-report questionnaires measuring their perceived parents' responsiveness, self-esteem, sport anxiety, and various factors of thriving (i.e., affect, vitality, life satisfaction). The results showed that players' perceptions of their mother's and father's responsiveness were positively related with their self-esteem, positive affect, vitality, and life satisfaction, and negatively related with their sport anxiety. The study also showed different influences of participants' perception

of their mother's and father's responsiveness, with perceived father responsiveness superseding the influence of perceived mother responsiveness on players' self-esteem. Overall, this study demonstrated the positive association between rugby players' perceptions of their mother's and father's responsiveness on their self-esteem, sport anxiety, and thriving in youth sport.

Building on the findings of the Study Two, the purpose of the Study Three (Chapter 5) was to examine the long-term influences of two components of perceived parental responsiveness, namely perceived parental validation and understanding, on athletes' goal accomplishment, sport anxiety, and thriving. This study was a semi-longitudinal study, with data collected twice over three months. The results showed that the understanding and the validation component of perceived parental responsiveness influenced athletes' psychosocial outcomes throughout two independent pathways (via self-esteem and self-efficacy respectively) and resulted in different long-term outcomes. Athletes' perceived mother and father validation was positively related to their self-efficacy to reach their goals, and subsequently positively influenced athletes' goals accomplishment and sport anxiety three month later. Athletes' perceived mother and father understanding was positively related to their general self-esteem, and subsequently positively influenced thriving, and negatively influenced sport anxiety three month later. Altogether, this study indicated that athletes' perceptions of their mother's and father's understanding and validation influenced their long-term outcomes (i.e., goal accomplishment, sports anxiety, and thriving) mediated by self-efficacy and self-esteem.

The final study (Chapter 6) sought to examine the influence of climbers' perceptions of their mother's and father's responsiveness through time, context, and situation on their self-esteem, performance accomplishment, and thriving (i.e., affect and life satisfaction). The study comprised twelve athletes who were involved in competitive climbing. They completed self-reported questionnaires measuring their mother's and father's responsiveness, self-esteem, affect, and vitality on a weekly basis for 11 weeks. This study demonstrated consistency in young climbers' perceptions of their mother's and father's responsiveness across time, situations, and context. Climbers' perception of their parents' responsiveness was linked with positive psychosocial outcomes (i.e. self-perceptions, thriving). Climbers' perceived mother and father responsiveness increased after competitions, demonstrating that

parents were able to provide appropriate support for their child in competitions, and optimise their child's experiences in sport.

Eventually, the general discussion (Chapter 7) integrated the findings from the literature review and the four studies of this thesis. This chapter clarified what is responsiveness, why it is important to account for the responsiveness in parent-athlete relationships, and how responsiveness can be assessed. This chapter further discussed the features of parent-athletes relationships in youth sport within Feeney and Collins' (2015) model of thriving through relationships. This chapter also provided applied implications for parents, coaches, and sport organisations, and future research directions.

Overall, this thesis moved forward the understanding of parent-athlete relationships in youth sport by focussing and examining their responsiveness (i.e., does the support provider understand, validate, and care for; Reis et al., 2004) within Feeney and Collins' (2015) model of thriving through relationships. The uses of such construct and model provided a suitable framework to increase the understanding of how different features of the parent-athlete relationships influenced short- and longer-term psychosocial outcomes among athletes.

Chapter 2

Literature review

Research has provided extensive evidence that the highest quality youth sport environments are ones that facilitate intentional psychological growth, and lead to happier and better performing athletes (Knight, Harwood, et al., 2017). Within such environments, parents play a pivotal role (Holt & Knight, 2014), with their involvement and support influencing whether young athletes have positive psychosocial experiences in sport and achieve their potential (Harwood & Knight, 2015). The overall purpose of this chapter is to provide a comprehensive review of literature pertaining to parental involvement in sport. Specifically, this chapter will begin by providing an overview of the roles parents fulfil in the lives of their young athletes followed by a brief review of the various influences parents can have on children's sporting experiences. Based on the review of these theories, this chapter provide a rationale for considering Reis, Clark, and Holmes' (2004) construct of responsiveness to further enhance our understanding of parent-athlete relationships. Finally, drawing from social psychology literature, a specific model for examining parent-athlete relationships is proposed.

2.1 Roles of Parents in Sport

Parental roles in sport are usually grouped in three main categories: interpreter, provider, and role model (Eccles & Harold, 1991; Fredricks & Eccles, 2004). The interpreter role refers to the ways in which parents help children to interpret or make sense of their sporting experiences; such as, the value children place on sport participation or their perceived likelihood of success (Fredricks & Eccles, 2004). Parents may help children interpret their sporting experiences through their feedback or discussions before, during or after training and competitions (Elliott & Drummond, 2015; Knight, Little, Harwood, & Goodger, 2016; Tamminen, Poucher, & Povilaitis, 2017). For instance, whether parents reward (i.e., provide positive feedback, give treats or gifts) children for effort, performance, or winning after a competition will influence how children interpret these different behaviours or outcomes and subsequently perceive them as important when they are participating in sport. By influencing children's interpretation of their experiences, parents will, in turn, effect children's expectations of success, their self-perceptions (i.e., perceived competence), and the value and emotions (i.e., enjoyment) they associate with sport participation (Fredricks & Eccles, 2004).

The provider role incorporates parents' behaviours that enable, support, and encourage children's involvement and participation in sport. Within sport, parents fulfil the provider role in numerous ways, such as by encouraging their children to participate in sport (Brustad, 1992, 1993), providing transport to training and competitions (cf., Elliott & Drummond, 2016, 2015; Tamminen et al., 2017), and signing children up for different sports. Further, parents facilitate opportunities by purchasing equipment and financially supporting their children's sport involvement (Baxter-Jones & Maffulli, 2003; Dunn et al., 2016; Kay, 2000). Parents provision, and encouragement of sporting opportunities not only enables children to participate in sport, but also indicates that parents' value sport participation. Subsequently, through their provider behaviours, parents increase the likelihood that children will be interested in participating and continue their engagement in sport (Fredricks & Eccles, 2004).

Finally, parents may also influence children's experience as role models, particularly by taking part in sport or physical activity themselves (Fredricks & Eccles, 2004). That is, when parents participate in sport or physical activity their children will witness these behaviours and may subsequently copy them and participate themselves. However, a cautious interpretation of the literature pertaining to parents as role models is required because the majority of the research has focused on parents' engagement in physical activity influencing children's physical activity participation, rather than sport per se (e.g., Bois, Sarrazin, Brustad, Chanal, & Trouilloud, 2005; Brustad, 1996).

The specific ways in which parents fulfil the above roles and subsequently influence children's sporting experiences will change as a function of athletes' personal and sport development (Bloom, 1985; Côté, 1999; Wylleman & Lavallee, 2004) For instance, during the initial stages of sport participation (i.e., Sampling Stage, Côté, 1999; Initiation stage, Bloom, 1985; Wylleman & Lavallee, 2004), which usually occurs between the ages of six and 13 years, parents play a key role in providing opportunities for children to participate in sport. Particularly, parents play an important role in emphasising play, fun, enjoyment, and excitement and are considered to be the main source of support for their children. In the second stage (i.e., Specialisation Stage, Côté, 1999; Development stage, Bloom, 1985; Wylleman & Lavallee, 2004), which usually occurs between the ages of 13 and 15 years, parental involvement increases. Specifically, parents demonstrate a growing interest

in their child's sport and invest more time and money into their participation. However, parents also emphasise the balance between school and sport achievements. Finally, during the third phase (i.e., Investment Stage, Côté, 1999; Stage of Perfection, Bloom, 1985; Mastery Stage, Wylleman & Lavallee, 2004), which usually occurs from the age of 15 years onwards, the child-athlete's sport journey becomes central to family life, with parents showing great interest in sport, providing advice regarding their children's career in sport, and helping their children to effectively manage difficulties and setbacks.

2.2 Parental Influences on Children's Sporting Experiences

As highlighted above, parents' roles and involvement in sport are diverse and dynamic. The ways in which parents fulfil their roles, that is the behaviours they display and the comments they make, subsequently effect their children's psychosocial experiences and development, as well as their ongoing engagement, performance, and development in sport (Sheridan et al., 2014). Research has shown that parents behaviours such as offering sport opportunities (e.g., Gould, Lauer, Rolo, Jannes, & Pennisi, 2006; Lauer et al., 2010b; Ross, Mallett, & Parkes, 2015), providing financial and instrumental support (Dunn et al., 2016; Ross et al., 2015), or demonstrating unconditional love and emotional support (Gould et al., 2006; Ross et al., 2015) might positively influence their children's experiences in sport. For instance, such behaviours have been associated with increasing children's motivation, enjoyment, or influencing their continuous sport participation (Atkins, Johnson, Force, & Petrie, 2013; Baxter-Jones & Maffulli, 2003; O'Rourke, Smith, Smoll, & Cumming, 2014; Scanlan & Lewthwaite, 1986; Ullrich-French & Smith, 2006, 2009).

However, parents might also negatively influence children's experiences, which can lead to children reporting increases in anxiety and stress, greater risk of burnout or dropout, poor sportsmanship, or reduced motivation (Fraser-Thomas et al., 2008; Hartley & Coffee, 2019; Kaye, Frith, & Vosloo, 2014; Sapieja, Dunn, & Holt, 2011). Such negative outcomes appear to arise when parents pressure children to play and/or to excel in sport (Fraser-Thomas & Côté, 2009; Fraser-Thomas et al., 2008; Gould et al., 2006), when sport is valued more than other developmental domains such as school or family life (Fraser-Thomas et al., 2008; Gould et al., 2008), when support provision is conditional to children's sporting performances or

outcomes (Chan et al., 2019; Ross et al., 2015), or when parents criticise children's performances (Gould et al., 2006; Ross et al., 2015).

Despite the purported links between certain parental behaviours and athlete outcomes, the specific relationships between these may not be as clear or evident as suggested (Keegan, Harwood, Spray, & Lavallee, 2014). Rather, there are numerous factors that may affect how parents' behaviours or involvement influence children. For instance, research has shown that rather than the actual provision of parental support or pressure influencing children's sporting experiences, it is actually children's *perceptions* of support or pressure that are important (Stein, Raedeke, & Glenn, 1999). That is, the extent to which athletes perceive their parents' behaviours as supportive or pressuring, regardless of what is actually being provided by parents, will influence psychosocial outcomes and sporting performance (e.g., Babkes & Weiss, 1999).

In addition to athletes' perceptions of parental behaviours and involvement, research has also emphasised the importance of acknowledging athletes' preferences for parental involvement, especially at competitions (Harwood & Knight, 2015). Generally athletes indicate that they prefer their parents to be supportive during competitions, however, the specific manners in which they want this support to be displayed may vary depending on the timing and the competition situation (e.g., if the child is winning, losing, playing well) (Knight, Boden, & Holt, 2010; Knight & Holt, 2014; Omli & Wiese-Bjornstal, 2011). Athletes' preferences for their parents' behaviours, and thus their interpretation of them as positive/appropriate or negative/inappropriate, may also depends on the timing, location, perceived importance of the competition, and athletes' perception of their performances compared to the actual outcome (Knight & Holt, 2014).

Further, research has indicated that children can perceive the behaviours of their parents as supportive (such as being present and vocal at competitions), but if they are not presented in the "right ways" negative outcomes, such as feelings of embarrassment, may also arise (Knight, Neely, & Holt, 2011). Similarly, parents' attendance at competitions and practices may appear to be supportive and identified as supportive by athletes, but it can still lead to some athletes feeling they are being pressured and controlled (Charbonneau & Camiré, 2019). Finally, athletes can perceive that their parents are providing necessary tangible support such as time, energy, effort, and money to enable them to participate in sport, but as a result of

their investment, athletes may feel pressurised to perform (even if this is never mentioned by parents themselves) (Lauer et al., 2010b).

Consequently, seemingly 'positive' or 'appropriate' parental behaviours do not necessarily lead to positive outcomes for all children and equally 'negative' or 'inappropriate' parental behaviours do not always result in detrimental outcomes (Knight, Berrow, et al., 2017). In fact, there is an ever growing body of evidence that the same parental behaviours can lead to positive and/or detrimental outcomes for young athletes (Dorsch et al., 2016; Fraser-Thomas & Côté, 2009; Gould et al., 2008). Clearly, the association between parents' behaviours and athlete outcomes is complex and warrants further examination (Knight, Berrow, et al., 2017). Specifically, the factors that may influence parental behaviours and involvement on different child outcomes require further consideration. One such mediating factor is the relationship that exists between a parent and their child (Brown, Arnold, Reid, & Roberts, 2018; Clarke et al., 2016; Dorsch et al., 2016).

2.3 Theoretical Approaches to Parent-Child Relationships in Sport

Although certain behaviours appear to be related with certain child outcomes, the association between parents' behaviours and athlete outcomes is complex and warrants further examination (Knight, Berrow, et al., 2017). Specifically, the factors that may influence how or why certain parental behaviours result in different child outcomes may benefit from greater consideration (Chan et al., 2019). One such factor is the relationship that exists between a parent and their child (Brown et al., 2018; Clarke et al., 2016; Dorsch et al., 2016). Research suggests that (a) the parent-athlete relationship might underpin perceptions of parental support (Dorsch et al., 2016); (b) it is central to athletes' well-being and development in sport (Knight, Harwood, et al., 2017), and; (c) that the quality of the relationship directly influence's athletes' experiences (Brown et al., 2018; Carr, 2013; Clarke et al., 2016; Dorsch et al., 2016). Thus, when seeking to develop a better understanding of how parents may influence children's sporting experiences and psychosocial development leading to optimal well-being (i.e., life satisfaction, positive self-regard, mastery/efficacy, positive interpersonal relationships, health quality; Feeney & Collins, 2015), examining the parent-child relationship seems pertinent.

Recognising the influence that parents can have on children's development, their involvement, behaviours, and influence is considered or included within numerous theories and models within sport psychology, including family system

theory (Bowen, 1985; Minuchin, 1974), the bioecological model (Bronfenbrenner, 2005), motivational theories Eccles et al., 1983; Elliot, 1999; Harter, 1978; Ryan & Deci, 2017), parenting styles (Baumrind, 1971a; Grolnick, 2003), and attachment theory (Bowlby, 1973, 1982, 1984, 1988). When drawing on such theories, however, the relationship between the parent and the athlete is often not explicitly examined. Rather, particular aspects of the parents' involvement or behaviours are considered and within this it is assumed that the relationship is being examined. Such an approach can consequently make it difficult to understand the exact ways in which the relationship, rather than just the behaviours of the parent, are influencing athletes' outcomes.

To develop a better understanding of parent-athlete relationships, it is first necessary to clearly and explicitly define what they are so that they can be appropriately operationalised and studied (Ribes-Iñesta, 2003). Unfortunately, within current sport psychology research, the parent-athlete relationship is often not defined, which can make it difficult to integrate outcomes and find convergences between studies. Based on the work of Kelley et al. (1983), a relationship comprises causally and mutually interconnected thoughts, behaviours, and emotions between two individuals. A relationship is defined as close when individuals exert frequent, strong, and varied effects on each other over a long period of time (Kelley et al., 1983). Considering parent-athlete relationships as close relationships, the present review further draws on the widely accepted work of Kenny and Cook (2005; 1996; 1999) to specify and define parent-athlete relationships. Kenny and Cook (1999) proposed that when considering the core component of relationships, it is key to recognise interactions, and in particular the interdependency between partners (i.e., a parent and a child). In the present review, based on the actor–partner interdependence model (APIM; Kenny, 1996), a parent-athlete relationship is defined as an interdependent dyadic relationship that integrates the influences of the athlete (i.e., actor effect), the influences of the parent (i.e., partner effect), and a unique interaction that is created between them (Cook & Kenny, 2005; Kenny & Kashy, 2013). Parents and athletes are considered as distinguishable members of dyads because one member of the dyad (e.g., the parent) cannot be replaced with the other (e.g., the athlete), and because their role processes and outcomes are different (Kenny & Kashy, 2013). Consequently, the parent and the athlete can be considered

to be interdependent, and the measurement of potential outcomes accounting for both the parent and the athlete influence in their relationship.

The following sections briefly explain the various theories that have considered parental involvement or influence in sport, examine the predictions and hypotheses they offer, and how research using these theories have helped to develop our understanding of how relational parent-athlete processes could influence athletes' psychosocial outcomes. Selected studies are utilised the provide examples of how these theories have been applied, while also identifying methodological limitations and gaps in the literature

2.3.1 Family system theory. Early interest into parent-athlete relationships in youth sport was situated within family system theory (e.g., Hellstedt, 1987, 1990). In family system theory, parent-athlete relationships can be considered based on the concept of boundaries (Minuchin, 1974). A boundary is described as an area of emotional and behavioural individuation between family members that goes from enmeshment (i.e., little psychological separation between two people) to disengagement (i.e., emotional and psychological connections are distant; Minuchin, 1974). Additionally, family system theory considers the construct of triangulation, which refers to the idea that triangles are the smallest stable relationship units, and that a two-person interpersonal system is untenable if there is a conflict or confusion between them (Bowen, 1985). In such cases, a third person (e.g., another parent or coach) will be involved to stabilise the system (Bowen, 1985).

2.3.1.1 Examples of research in sport. In 1987, Hellstedt proposed a typology of parental influence in youth sport based on family system theory. Within Hellstedt's paper, boundaries in parent-athlete relationships are presented as a model of under-involved (i.e., lack of emotional, financial, or functional investment from parents in their children's activities), moderately involved (i.e., firm parental direction but with flexibility to allow the athlete to take part in the decision-making process), and overinvolved (i.e., excessive amount of parental involvement in the athletic career of their children) relationships. Based on a non-linear "∩" association, under-involved and overinvolved parents are considered as more dysfunctional. Moderately involved parents, meanwhile, are deemed to produce more functional outcomes with regards to their child's sport participation and development.

Hellstedt (1987) also incorporated triangulation within his paper, detailing specific strategies coaches should utilise to work with parents and athletes based on

the types of interpersonal involvement in their relationship. For instance, Hellstedt proposed that with overinvolved parents, coaches should avoid open conflict and maintain a working alliance with parents in order to stay involved in the parent/athlete/coach triangle. In contrast, with under-involved parents, Hellstedt suggested that coaches would benefit from engaging parents in meetings or inviting them to competitions to increase the involvement of parents within the coach-athlete relationship. When published Hellstedt's paper drew important attention to parental involvement in sport and consequently has been very influential in the field (Holt & Knight, 2014).

Beyond Hellstedt's (1987) paper, family system theory has been proposed as an appropriate approach for sport psychology practitioners to use when working with young athletes (Dorsch, 2017; Holt & Knight, 2014). Particularly, Hellstedt (2005) has continued to encourage consideration of family system theory to remind practitioners of the key influence family has upon athletes' development and performance. Similarly, Dorsch (2017) has recognised that family system theory is one way to organise and make sense of young athletes' experiences while accounting for the combined influences of all family members within their lives.

2.3.1.2 **Using family system theory to understand parent-athlete relationships**. Family systems theory can be a useful approach to draw on when conducting research with athletes to learn more about their family and relationships or when working with young athletes and their parents (Dorsch, 2017). However, the constructs in family system theory are a general heuristic that, due to a lack of clear operationalisation, can be difficult to implement into research (Clarke et al., 2016). Particularly, it may be difficult to uncover some of the nuances within parent-athlete relationships that may influence children's psychosocial and sporting development (Holt & Knight, 2014). For instance, Hellstedt's work drew attention to the amount of parental involvement that may be appropriate within parent-athlete relationships. However, in recent years, it has been argued that rather than focusing on the *amount* of parental involvement (e.g., over or under involved parents), it is actually the *type* of involvement that is of greater importance (Holt & Knight, 2014; Stein et al., 1999). This argument is based on a recognition that perceptions of parental involvement are dependent upon the unique relationship between parents and their children (Knight, Berrow, et al., 2017) and that some parents may be highly involved in ways that work for their child and as such have a positive impact on their child's

sporting development (Holt, Tamminen, Black, Mandigo, & Fox, 2009; Wolfenden & Holt, 2005).

Yet, family system psychology has been, and continues to be, very useful in highlighting the need to consider the influence of parents and the broader family within youth sport (Holt & Knight, 2014). Family system theory emphasises the importance of considering family and sport issues as permeable entities influencing each other (Dorsch, 2017). In line with recent calls for better integration of parents into sport organisations (Harwood et al., 2019), Hellstedt (2005) suggested that families, and especially parents, should not be side-lined by sport organisations as they are an indispensable source of support for young athletes. Hellstedt (2005) further recognised that there is a fine line between parental support and pressure, and that what some athletes may perceive as encouraging or supportive, may also feel like a lack of freedom and perceived as a pressurising for others. Overall, family system psychology adds to our understanding of parent-athlete relationships by acknowledging the complexity and the central role of the relationships in influencing athletes' experiences and development in sport (Dorsch, 2017; Hellstedt, 2005).

2.3.2 Bioecological model. The bioecological model proposes that human development, especially in early life, takes place through processes of progressively more complex and bi-directional interactions between the evolving human (e.g., young athlete) and the persons (e.g., parents), objects, and symbols in their immediate environment (Bronfenbrenner, 1974, 1975, 1994, 1996, 2005). Bronfenbrenner's bioecological model considers the ecological environment in which the evolving human progresses as a set of nested structures comprising the microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bronfenbrenner & Morris, 2007).

The microsystem includes the direct and face-to-face interaction of the developing person with their immediate environment (Bronfenbrenner, 1994). It is within the microsystem (e.g., family) that the proximal processes (i.e., continuous form of interactions between parents and athletes) take place to produce and sustain development (Bronfenbrenner, 1994). The mesosystem accounts for the links and processes between two or more settings containing the evolving human (e.g., the relations between home and the sports club). The exosystem comprises the links and processes between two or more settings, at least one of which does not contain the evolving human (e.g., relations between the sports club and the federation). Finally,

the macrosystem is the overarching pattern of micro-, meso-, and exosystem characteristics (e.g., culture, material resources, belief system), and the chronosystem refers to the changes and consistencies over time in the characteristics of the person and in the environment in which that person lives (Bronfenbrenner, 1994).

The structures of the bioecological model are operationalised as the Process-Person-Context-Time (PPCT) model, which facilitates the simultaneous investigation of various environmental levels for research (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2007). In the PPCT model, the *processes* are considered as progressively more complex interactions within the immediate environment (i.e., microsystem), a well as interrelationships between levels; the *persons* are the biopsychosocial characteristics of individuals; the *context*s are the sets of micro-, meso-, exo-, and macro- nested structures; and *time* is the chronosystem that influence the development at the individual level, and the historical events that occur during an individual's life course (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2007).

2.3.2.1 Examples of research in sport. Recognising that parents and athletes are influenced by various relational, personal, and sport-specific factors, numerous sport studies have drawn on the bioecological model, specifically the PPCT configuration (Dorsch et al., 2015, 2016; Holt et al., 2008). Drawing on Bronfenbrenner's (2005) PPCT model, Dorsch et al. (2015) documented the increasingly complex interactions that parents experience in youth sport. For instance, involvement in sport provided opportunities for parent and children to spend quality time together and share experiences, which in turn positively influenced the parent-athlete relationship. Nevertheless, in line with other research (Knight & Holt, 2013), the authors highlighted the need to further examine the processes that underscore the formation and maintenance of parent-child relationships in youth sport.

In 2016, Dorsch et al. again drew on the PPCT model to examine the individual (i.e., positive and negative emotions), relationship (i.e., warmth and conflict), and context factors (i.e., motivational climate) associated with parent involvement (i.e., support and pressure) in youth sport. Specifically, this study portrayed parent-athlete relationships as proximal processes of continuous interactions that induce subjective and simultaneous perceptions of warmth and conflict. Based on Darling and Steinberg (1993) work, Dorsch et al. (2016) described warmth as the tendency to be supportive, affectionate, and sensitive in the relationships; while conflict is the

struggle with power and agency in the relationship. Data analysis using canonical loadings indicated that athletes' reports of warmth, positive affect, and perception of a mastery climate were positively associated with their perception of support from parents, while their perception of conflict, negative affect, and perception of an ego climate were positively associated with perception of pressure. Further, aligned with previous research highlighting the differences in perceptions between parents and athletes regarding parental behaviours (Babkes & Weiss, 1999), Dorsch et al. (2016) found a modest correspondence among mothers', fathers', and athletes' agreements on warmth and conflict in the parent-athlete relationships.

2.3.2.2 **Using the bioecological model to understand parent-athlete relationships**. A core feature of the PPCT model is that the persons are at its centre, with a specific focus on the proximal and developmental processes influencing the persons (Darling, 2007). Studies using the PPCT model can account for the proximal processes at stake within parent-athlete relationships, and show how they are influenced both by the context and by the developing individuals (Darling, 2007; Tudge et al., 2009). By doing so, Bronfenbrenner's (2005) PPCT model enhances our understanding of the processes within parent-athlete relationships because it ensures that they are considered at various levels of understanding such as the person, the context (i.e., sport clubs, parent job, social and cultural ideologies), and their development over time.

To date, Bronfenbrenner's (2005) PPCT model has been mostly used to understand the microsystems within parent-athlete relationships with less consideration for the contextual influences of the meso-, exo-, and macrosystems (Harwood et al., 2019). One of the reasons for this restricted use is that due to its complexity, it can be challenging to effectively utilise or consider all levels of Bronfenbrenner's (2005) PPCT model in research (Tudge et al., 2009). Nevertheless, available research provides evidence that parents' attitudes and behaviours are influenced by specific circumstances within the microsystems as well as by the wider context (Holt et al., 2008).

Recently, however, it has been suggested that greater consideration of factors within the macrosystem would be beneficial within studies of parental involvement (Harwood et al., 2019). Particularly, the PPCT model may be useful for considering how the specifics of various sport environments may influence the processes within the parent-athlete relationship. This is because the PPCT model posits that different

environments will have different affordances and will lead to different responses for individuals. In this model, the greatest effects of promotive processes are expected in environments with greater resources, and for individuals that have the greatest ability to take advantage of those resources (Darling, 2007).

Overall, studies using the PPCT framework show that sport can be a context that helps to develop the relationships through proximal process interactions. The PPCT model facilitates insights into the complex and bi-directional interactions that take place between parents and their children in the context of organised youth sport.

2.3.3 Motivational theories. Parents have numerous opportunities to communicate beliefs and expectations to their children, and as a consequence can impact on a variety of children's psychosocial outcomes, including motivation (Babkes & Weiss, 1999; Brustad, 1992). Consequently, parental influences on young athletes are considered in a number of motivation-related theories including competence motivation theory (Harter, 1978), expectancy-value theory (Eccles et al., 1983), self-determination theory (Deci & Ryan, 1985), and achievement-goal theory (Nicholls, 1984). While each of these theories has a specific hypothesis and outcome focus, when examining parents' influences, researchers have often drawn on a number of these theories within one study (Atkins et al., 2013; Babkes & Weiss, 1999; O'Rourke et al., 2013; Ullrich-French & Smith, 2006). Thus, research drawing on these theories is examined together. However, each of the motivational theories is described individually in order to highlight the unique information that they provide to aid our understanding of parent-athlete relationships.

2.3.3.1. Competence motivation theory. Harter's (1978) competence motivation theory suggests that all individuals are motivated to be competent in achievement domain (e.g., sport). To satisfy their desire for competence, individuals attempt to master and succeed in their achievement domain. When such attempts are successful, individuals experience positive affect, which in turn can maintain or enhance their competence motivation (Harter, 1978). Specifically, Harter (1978) posits that children who receive continuous feedback from significant others (e.g., parents) for their attempts and progress in an achievement domain (e.g., sport) will gradually internalise a self-reward system, and build their self-perception of competence in this domain (Harter, 1978). Subsequently, children who perceive themselves as competent and having control in a particular domain (i.e., sport) will be more intrinsically motivated to pursue optimal challenges (Harter, 1978; Klint &

Weiss, 1987). In sum, Harter's competence motivation theory proposes that, through their continuous relationships with their child, parents can have a significant influence on athletes' perceptions of competence, as well as their intrinsic motivation and persistence in sport.

2.3.3.2 Expectancy-value theory. Expectancy-value theory posits that the two most important predictors of choice behaviours (e.g., sport participation) are individual's expectations for success and task value (i.e., interest, importance, utility, and cost; Eccles et al., 1983, 1984). This means that, children who think they are good in sport, believe they are likely to succeed, and enjoy participating, will be more likely to participate, persist, and perform compared to children with less favourable perceptions of their athletic ability or sport's values (Fredricks & Eccles, 2004). According to expectancy-value theory, socialisers such as parents, teachers, and peers influence children's motivation through their behaviours and beliefs (Eccles et al., 1983).

An extended version of expectancy-value theory emphasises how parents shape their children's beliefs, values, goals, and performance through their own beliefs and behaviours (Eccles, Wigfield, & Schiefele, 1998; Fredricks & Eccles, 2004). Parents' general beliefs (i.e., gender-role stereotypes, values) are shaped by broad contextual influences and demographic factors such as education, employment status, or cultural traditions (Eccles et al., 1983, 1998). Parents' beliefs and behaviours can also change based on the characteristics of their children (i.e., age, gender, general aptitude and interest, and prior performances; Eccles & Harold, 1991; Eccles & Harold, 1993) (i.e., age, gender, general aptitude and interest, and prior performances; Eccles & Harold, 1991; Eccles & Harold, 1993). Within sport contexts, parents will adapt their beliefs about their children's abilities based on their perceptions of their child's abilities, expectations for their child's achievement, or their perception of their child's interest in sport (Eccles & Harold, 1993). Overall, the development and application of expectancy-value theory has identified the influence that parents' and family characteristics, children's characteristics, and parents' general and sport specific beliefs have on children's motivation to engage in sport.

2.3.3.3 Self-determination theory. Self-determination theory (SDT; Ryan & Deci, 2017) assumes that individuals are active organisms with an innate tendency for growth, to master new challenges, and integrate new experiences into a coherent sense of the self. These natural developmental tendencies do not operate

automatically but need to be socially nurtured and supported. As such, the social and contextual environment (including parents) are considered to be key influences in facilitating (or thwarting) the development and maintenance of activities that foster psychological growth. Specifically, SDT suggests that being in an environment in which three basic psychological needs are fulfilled is essential for optimal functioning.

The basic needs are autonomy (i.e., behaviours are perceived as self-governed), competence (i.e., perceived mastery of behaviours), and relatedness (i.e., perceived sense of belonging). The satisfaction of basic needs (e.g., by parents) influences the extent to which individual behaviours and actions are internalised and perceived as self-determined, consequently influencing an individual's development and wellness. For instance, parents can reinforce the basic psychological needs of their children by discussing what they have learned after successes and failure, or by discussing the relevance and benefits of why they are doing such activities (Duda et al., 2017).
In contrast, if an individual's basics needs are thwarted (e.g., by parents), they will be more prone to be extrinsically motivated or amotivated, and will be more susceptible to experience non-optimal functioning and ill-being (Ryan & Deci, 2017). For instance, parents can thwart the basic psychological needs of their children by using rewards and reinforcements (e.g., praise, treats) after successes aiming to motivate their children (Duda et al., 2017). The uses of such rewards can be perceived as controlling behaviours leading to the perception of pressure and to extrinsic introjected regulation (Assor et al., 2004; Deci & Ryan, 1985).

Therefore, by nurturing or thwarting athletes' basic psychological needs of competence, autonomy, and relatedness, parents can influence the quality of athletes' motivation.
autonomy, and relatedness, parents can influence the quality of athletes' motivation.
2.3.3.4 Achievement goal theory. Achievement goal theory (AGT; Nicholls, 1984, 1989) proposes that in achievement situations (e.g., sport) individuals are motivated to demonstrate their competences, or to avoid demonstrating lack of competence. AGT primarily distinguishes two ways for doing so; task/mastery goals, when individuals seek to demonstrate their competences through personal improvement, enjoyment, effort, and learning from mistakes in a self-referenced manner, and ego goals, when individuals seek to demonstrate their competences through winning, being better than others, and avoiding mistakes relative to others (Elliot & Hulleman,

2017; Nicholls, 1984). In this perspective, perceived ability is considered as an important moderator between individuals' goal orientation and positive/adaptive or negative/maladaptive sets of processes and outcomes (Elliott & Dweck, 1988; Nicholls, 1989); with task/mastery goals potentially leading to positive patterns and outcomes (e.g., seeking challenges, positive affect) for individuals with both high and low perceived ability, whereas ego goals leading to negative patterns and outcomes (e.g., avoiding challenges, negative affect, anxiety) for individuals with low perceived ability (Dweck, 1986; Dweck & Leggett, 1988; Elliot & Hulleman, 2018; Elliott & Dweck, 1988).

These two meanings of competence (task/mastery or ego) can be applied at different levels of analysis: the level of dispositional characteristics (i.e., goal orientation), the situational and contextual level (i.e., the motivational climate), and the state level (i.e., goal involvement) (Ames, 1992; Ntoumanis & Biddle, 2000). An environment (e.g., initiated by parents) that focuses upon self-referenced improvement, effort, and considers mistakes as valuable experiences for learning is a task-involving climate and encourages the adoption of task goals (Ames, 1992; Dweck, 1986; Dweck & Leggett, 1988; Elliot & Hulleman, 2018). A task-involving motivational climate that values and praises the processes leading to success indicates to individuals that their abilities are malleable, improvable, and controllable (i.e., growth mindset), leading to adaptive and positive psychosocial outcomes (e.g., higher persistence when facing difficulties, challenge-seeking regardless of perceived ability) (Dweck & Leggett, 1988; Elliott & Dweck, 1988; Haimovitz & Dweck, 2017). In contrast, an environment that values winning and social comparison is labelled as an ego-involving climate and encourages the adoption of ego goals (Ames, 1992; Dweck, 1986; Dweck & Leggett, 1988; Elliot & Hulleman, 2018). Such an environment may indicate to individuals that their abilities are fixed entities that cannot be improved nor controlled (i.e., fixed mindset), leading to maladaptive psychosocial outcomes (e.g., low persistence, lower task enjoyment) (Dweck, 1986; Dweck & Leggett, 1988; Haimovitz & Dweck, 2017; Mueller & Dweck, 1998). Overall, AGT proposes that the interaction between athletes' goal orientation and parent-initiated motivational climate could influence young athletes' goal involvement, and a range of subsequent psychosocial outcomes (Harwood, Keegan, Smith, & Raine, 2015).

2.3.3.5 Examples of research in sport. Motivational theories have been widely used to examine parental behaviours and athletes' motivational and psychological

outcomes. For instance, Babkes and Weiss (1999) identified that young athletes who perceived their mothers' and fathers' attitudes and behaviours as more supportive, had higher perceptions of competence, intrinsic motivation, and sport enjoyment. But this study also showed a non-significant association between parents' self-reported attitudes and behaviours and athletes' motivation, enjoyment, and perceived competence. Thus, the study provides evidence of a discrepancy between children's perception and parents' self-reported attitudes and behaviours towards their children's sport participation, resulting in the authors concluding that children's perception of parents' attitudes and behaviours are more important contributors to their self-perceptions, affects, and motivation than parent-reported attitudes and behaviours.

Likewise, Ullrich-French and Smith (2006) assessed the links between athletes' perception of their relationship with parents (the relationship here being considered as the provision of multiple types of social support) and motivational outcomes. The results showed that if athletes had more positive perceptions of their relationships with their parents it was associated with more positive motivational outcomes such as enjoyment, perceived competence, and self-determined motivation as well as lower stress. This study also provided evidence of the additive and cumulative impact of the perception of social relationships, with higher enjoyment and perceived competence when athletes had multiple positive perception of relationships with close others (i.e., mother, father, peers). In a follow-up study, Ullrich-French and Smith (2009) further showed that athletes' perceptions of their relationships with close-others (e.g., parents) predicted their sport continuation regardless of the strength of motivational variables (i.e., affect, perceived competence, and self-determined motivation).

Other research examples drawing on achievement goal theory (Nicholls, 1984, 1989) come, for instance, from O'Rourke, Smith, Smoll, and Cumming (2013). These authors showed that athletes' perception of a parent-initiated task-involving climate predicted positive effects on young athletes' motivation by fostering autonomous regulation and thus intrinsic motivation. Similarly, Atkins, Johnson, Force, and Petrie (2013) showed that athletes' perception of parental task-involving motivational climate positively influenced their sport competence, self-esteem, and sport enjoyment. The results of this study also showed that athletes' perception of the parent-initiated motivational climate influenced their intention of sport continuation

through their sport enjoyment. Further research by Atkins, Johnson, Force, and Petrie (2015) showed that athletes' perception of a parent-initiated task-climate influenced athletes' task orientation, which in turn influenced athletes' perceived competence, self-esteem, and enjoyment.

2.3.3.6 **Using motivational theories to understand parent-athlete relationships.** Motivational theories aid our understanding of parent-athlete relationships by differentiating the influences of numerous features of the relationship on athletes' self-perceptions, enjoyment, and motivation in sport. Such features include, for instance, parents' beliefs about their children's competences, parents' expectations for their children's successes in sport, parents' reports of their own behaviours (e.g., what say they do), and parents' actual behaviours (e.g., what they do). Motivational theories also provide suitable frameworks to compare these parental influences with how they are perceived, and how they influence athletes' psychosocial outcomes (e.g., motivation) by taking into account athletes' perceptions of their parents' beliefs, or athletes' perceptions of their parents' attitudes and behaviours. Research provides evidence that parents' reports of their encouragement (Brustad, 1993), along withs athletes' perceptions of their parents encouragement (Brustad, 1996) were both related with athletes' perceived physical competence. Research also shows that mothers' perception of their child's physical ability was influenced both by the child's actual physical ability and their child's perceived physical competence (Bois et al., 2002). Mothers' perception of their child's ability and children's perceptions of their physical competence subsequently influenced children's perceived competence one year later (Bois et al., 2002).

Altogether, studies on parent-athlete relationships underpinned by motivational theories show a lack of association between parents' reported behaviours and athletes' perceptions of such behaviours (Babkes & Weiss, 1999). These studies also show a lack of association between athletes' perceptions of their own physical competence and their parents' perception of their physical competence (Bois et al., 2002). Yet, despite a lack of associations, all the aforementioned elements contribute to athletes' motivation and self-perceptions. This is why, Keegan, Harwood, Spray, and Lavallee (2014) concluded, based on a series of qualitative studies, that it is almost impossible to establish any direct correspondence between the behaviours from social agents (e.g., parents) and the direct effects on athlete's motivation. The authors suggested that the association between the behaviours of the social agent and

their influence on motivation is moderated by numerous contextual, intrapersonal, and interpersonal factors (Keegan et al., 2014).

Despite difficulties in finding direct correspondences between parents' behaviours and athletes' motivation, Keegan et al. (2010) proposed that the only consistent theme linked with increased athletes motivation was the theme of parents *positivity*, including positive influences from positive feedback, positive affect, encouragement, or collaboration/support (Keegan et al., 2010). Consequently, motivational theories and related studies increase our understanding of parent-athlete relationships by showing that high parental beliefs about their children's competences, and high expectations for their children's successes in sport, together with their positive support and attitudes, may influence athletes' self-perceptions, motivation, and enjoyment in sport.

2.3.4 Parenting styles. Parenting styles reflect parents' global attitudes and values. The most well-known typology of parenting styles was developed by Baumrind (Baumrind, 1971a, 1971b, 1978), who differentiated parenting styles based on a parent's degree of control or authority over their child. In this typology, three types of parenting style are specified; authoritarian, permissive, and authoritative. An authoritarian parenting style places value on obedience, seeks to keep their child in a subordinate role, and restricts autonomy (Baumrind, 1971a). A parent adopting a permissive style accepts their child's wishes but is not an active agent in shaping their child's future behaviour (Baumrind, 1971a). A parent adopting an authoritative style places value on autonomy and self-will of their child but can exert firm control when necessary (Baumrind, 1971b, 1978). This typology was subsequently extended into a bi-dimensional construct based on demandingness (parental control) and responsiveness, which takes into account the continuous changes required by parents to adapt to their child's capacities and current states (Baumrind, 1991; Maccoby, 1992). Four parenting styles resulted from this bi-directional typology namely: authoritarian (i.e., demanding and unresponsive), authoritative (i.e., demanding and responsive), indulgent (i.e., not demanding and responsive), and rejecting/neglecting (i.e., not demanding and not responsive).

More recently, Grolnick (2003) proposed a three-dimensional construct of parenting styles based upon self-determination theory (Ryan & Deci, 2017) and Darling and Steinberg's (1993) definition of parenting style as, "a constellation of attitudes toward the child that are communicated to the child and that, taken together,

create an emotional climate in which the parent's behaviors are expressed" (p.488). The three dimensions of Grolnick's (2003) parenting styles are autonomy-support, involvement, and structure. Autonomy-support describes the value placed on a child's active participation and independent problem solving; involvement is the extent to which a parent is interested and takes an active part in their child's life, and; structure is the extent to which parents provide clear and consistent guidelines, expectations, and rules for their child's behaviours.

2.3.4.1 Examples of research in sport. Baumrind's typology has been examined in only a few studies in sport (Holt et al., 2009; Juntumaa, Keskivaara, & Punamäki, 2005; Sapieja et al., 2011). One study in ice hockey showed that players from authoritative families had a higher level of mastery-orientation and satisfaction in playing (Juntumaa et al., 2005). In contrast, players with parents who adopted an authoritarian style showed more norm breaking behaviours. In another study involving male youth football players (Sapieja et al., 2011), so called "healthy" perfectionist (i.e., high performance standards with low concern about failing to reach these standards) and non-perfectionist (i.e., low performance standards) players had significantly higher perceptions of maternal and paternal authoritativeness than unhealthy perfectionists (i.e., high performance standards with high concern about failing to reach these standards). Together, these studies indicate that, when compared to an authoritarian parenting style, an authoritative style will positively influence young athletes' psychological outcomes and behaviours.

Meanwhile, Grolnick's (2003) parenting styles have also been qualitatively studied in the youth-sport context. For instance, Holt et al. (2009) examined parenting styles and associated parenting practices during a whole season in youth soccer. Autonomy-supportive parents were more likely to read their child's moods (e.g., understand what the child wants and feels), engage in bi-directional open communication, demonstrated reciprocal influences between children and parents, and showed higher consistency between parental practices. In contrast, controlling parents engaged in controlling practices (e.g., forcing the child to train), were not able to read their child's mood (e.g., do not understand what their child feels or wants), had closed unidirectional communication with their child (e.g. parents telling and explaining without considering their child's input), and no reciprocal influences between parents and children. Holt et al. (2009) also encountered a third type of parenting style showing high involvement, presence of autonomy-support, and

control. The authors defined this style as a mixed parenting style, characterised by inconsistencies between parenting practices and across situations.

Extending Holt et al's. (2009) findings, Knight and Holt (2014) developed a grounded theory of parental involvement in youth tennis seeking to identify the parenting practices and context that could lead to optimal parental involvement in sport. This grounded theory incorporates some characteristics of parenting styles that are associated with positive involvement in youth sport such as a high level of emotional support, or opportunities for children to take control over their tennis involvement (Knight & Holt, 2014). These aspects are captured by the Grolnick's (2003) autonomy-supportive parenting style, and by the authoritative parenting styles (Baumrind, 1978; Maccoby, 1992). But this grounded theory also went further as Knight and Holt (2014) proposed that the generation of an understanding emotional climate was one key aspect to optimise parental involvement in sport. An understanding emotional climate is conceptualised as an environment in which young athletes perceived that their parents understand, or are striving to understand, the experiences that young athletes have (Knight & Holt, 2014).

2.3.4.2 **Using parenting styles to understand parent-athlete relationships.** Parenting style accounts for the overall emotional climate that parents create, and it is within this climate that parent-athlete relationships exist. Thus, the very nature of parenting style research is to consider the broader context of parenting, rather than the intricacies of parent-athlete relationships. Parenting style research has provided some very important insights into sport parenting, notably, that the quality of parental support (such as being responsive to a child's needs) and the generation of an understanding emotional climate can help to explain why and how the provided parental support could be individually and contextually perceived by athletes either as positive or negative (Knight & Holt, 2014). Further, the consistency of parenting styles across time and situations has emerged as a potential factor that might impact the quality of parent-athlete relationships (Holt et al., 2009).

Overall, research on parenting styles and practices in youth sport align with and further inform the theme of *positivity* developed by Keegan et al. (2010) by showing that parent-athlete relationships characterised by autonomy-support and responsive support, along with parents that strive to understand their child are the most likely to lead to positive outcomes for their children in sport.

2.3.5 Attachment theory. Over the last decade, Bowlby's attachment theory has increasingly received attention from scholars within sport to understand topics including motivation, social relationships, models of coping, and group processes (Carr, 2009a, 2009b, 2013; Carr & Fitzpatrick, 2011; Felton & Jowett, 2013, 2017). Attachment theory (Bowlby, 1973, 1982, 1984, 1988) proposes that individuals are biologically predisposed to form selective bonds and enter into social interaction with proximal caring figures such as parents. From birth, this process of social interaction gradually develops in response to children's attachment behaviours, such as seeking proximity or attracting attention with smiles or cries to gradually build an attachment relationship between the child and the caregiver.

In attachment theory, a secure attachment is built when an attachment figure (e.g., mother or father) reflects functions such as proximity-maintenance (i.e., a desire to be close to the attachment figure), safe-haven (i.e., the attachment figure is seen as protective from threats), and secure base (i.e., the attachment figure is considered as a base from where exploration can start; Bowlby, 1988; Carr, 2013). The proximity maintenance with the caregiver is essential for the continuation and restoration of safety; it includes the patterns of cognition, affect, and behaviour prompted from caregivers' responsiveness and sensitivity to the innate child desire for proximity (Bowlby, 1973).

When the attachment bonds between a parent and a child are secure, the parent is sensitive, responsive, and available to address their children's needs (Bowlby, 1988). Repeated experiences of care and attachment during childhood and adolescence gradually develop a system of cognition, affect, and behaviour known as the internal working model (Carr, 2009b; Duchesne & Larose, 2007). A secure internal working model allows children to judge their self-worth and to assess the attachment figure as a source of comfort that is available in case of distress (Carr, 2009b; Duchesne & Larose, 2007). This secure attachment in turn promotes basic psychological needs for competence, autonomy, and relatedness (Carr, 2013; La Guardia, Ryan, Couchman, & Deci, 2000). In contrast, an insecure attachment is characterised by unresponsive care, inconsistent responses, or lack of availability from proximal caring figures (Bowlby, 1973). It can result in an insecure internal working model, such as the young person developing a negative representation of themselves and the world, and assume that attachment figures will reject them or provide inconsistent responses (Duchesne & Larose, 2007).

2.3.5.1 Examples of research in sport. Attachment characteristics between parents and athletes have been studied by Felton and Jowett (2013) who examined how attachment security with parents, mediated by basic psychological need satisfaction, influenced athletes' performance self-concept and psychological and subjective wellbeing. Their results showed that insecure attachment styles were negatively related to basic need satisfaction with parents. These results support the idea that the quality of attachment relationships not only influence athletes' motivation and performance, but also athletes' wellbeing (Felton & Jowett, 2013).

Felton and Jowett (2017) explored this further in a recent longitudinal study that assessed how changes in an athlete's perception of attachment characteristics could influence their basic psychological needs, performance self-concept, and wellbeing (i.e., self-esteem, negative affect, and vitality). The results showed that increases in insecure attachment styles negatively predicted vitality and self-esteem, and positively predicted negative affect. Similarly, increases in insecure attachment styles predicted reduced psychological need satisfaction with parents. This study demonstrates the potential influence that changes in attachment characteristics can have on athletes' wellbeing, basic psychological needs, and performance self-concept.

Another perspective on attachment relationships in sport showed that a secure attachment with parents could, in the long run, help athletes to develop a secure internal working model (Carr, 2009a). This secure internal working model in turn helped athletes consider their social relationships (e.g., relationships with peers) as more available and positive to them compared to young athletes that have a less secure internal working model (Carr, 2009a). Another study assessed how parental social support (considered here as the "quantity" of the support) and attachment characteristics (considered here as the "quality" of the support) contributed to the construction of athletes' self-esteem (Kang, Jeon, Kwon, & Park, 2015). The results showed that both perceived parental social support and parental attachment had a positive direct effect on athletes' self-esteem. But further analysis revealed that parental attachment fully mediated the relation between perceived parental support and athletes' self-esteem (Kang et al., 2015).

2.3.5.2 **Using attachment theory to understand parent-athlete relationships.** A central feature of attachment theory is the provision of a secure base from which a child or adolescent can explore the world, and a safe haven to

which they can return knowing they will be welcome, nourished, comforted, and reassured if needed (Bowlby, 1988). Providing a secure based includes parents supporting their child's exploration and discoveries, and fostering their autonomy, but also being available, responsive, and providing assistance when necessary (Bowlby, 1988; Feeney, 2004). In sport, the provision of a secure base is of particular interest for athletes facing opportunities of positive development (e.g., being selected for a competition or playing at higher level). On the other side, the provision of a safe haven intends to facilitate problem resolution, alleviate distress, and restore security (Bowlby, 1988; Feeney, 2004). In sport, the provision of a safe haven is of particular interest for athletes facing failures, losses, or simply when tired and hungry after training.

Securely attached relationships work like a cycle of exploration and retreat, with the provision of a secure base that encourages athletes to engage in opportunity, explore and develop. Engaging in exploration, however, can subsequently lead to situations that children/athletes cannot cope with, and thus, the provision of a safe haven is important to further provide comfort, nurturance, and reassurance when they retreat. When restored and appeased, athletes will start exploring again and over time and experience will internalise that their caregiver is available and effective in providing comfort and reassurance (i.e., a safe haven) when necessary (Bowlby, 1988; Feeney, 2004).

In sum, Bowlby's attachment theory increases our understanding of parent-athlete relationships by explaining a cycle of exploration and retreat, and by showing that through their attachment relationships with their parents, athletes can gradually build an internal working model that will subsequently influence how they perceive themselves and others.

2.4 Responsiveness within Parent-Athlete Relationships

As indicated, parent-athlete relationships are related to, and considered within, multiple theories in sport psychology, and there is a substantial body of research drawing on such theories to understand parental influences in sport. There are also numerous convergences between theories and models that can help to improve the understanding of parent-athlete relationships. Specifically, one consideration that may be particularly important for integrating findings and moving this area forwards is an understanding of parental responsiveness.

2.4.1 Parental responsiveness. Based on the review above, we believe that the theme of *positivity* from motivational theories (Keegan et al., 2010), the autonomy-supportive or authoritative parenting styles (Holt et al., 2009), the generation of an understanding emotional climate (Knight & Holt, 2014), or a secure attachment relationship (Carr, 2009a) share many converging elements that can contribute to more enjoyable sport experiences as well as optimal well-being for young athletes. Nevertheless, research shows that the support provided by parents is not necessarily perceived by athletes as supportive, nor will it always have a direct or positive effect on athletes' psychological outcomes (Babkes & Weiss, 1999; Dorsch et al., 2016; Keegan et al., 2010, 2014). These null or even detrimental effects of received support are known as the "paradox of received social support" (Maisel & Gable, 2009). This paradox has led researchers to focus more closely not only on provided support, but also on how the support is perceived as responsive to one's needs and wishes (Maisel & Gable, 2009; Reis et al., 2004; Reis & Gable, 2015). This interest has led Reis and colleagues (2004; 2015) to define and clarify the role of the responsiveness in close relationships.

Responsiveness is a broad construct that describes how people in a relationship (e.g., parent and athlete) attend to and support each other's needs and goals (Reis et al., 2004). This construct has three key components: understanding, which refers to comprehending the partner's (e.g., athlete) core self (e.g., needs, desire, weaknesses); validation, which accounts for respect for or valuing the partner's view of the self, and; caring for, which is associated with expressing affection, warmth, and concern for the partner's wellbeing (Reis et al., 2004; Reis & Gable, 2015).

Responsiveness is a component of securely attached relationships (Feeney, 2004), it is embedded in personalities, goals, and relationship history of interacting persons, and it is revealed in their perception of those interactions (Reis & Gable, 2015). Though, more than simply considering the provided responsiveness, Reis et al.'s (2015) model considers that the relationship between the provided support and their related outcomes is mediated by the perceived responsiveness of the support recipient. Eventually, when the support is responsively provided by the support provider (e.g., parent) and perceived as responsive by the support recipient (e.g., athlete), it contributes to growth and wellbeing of both individuals and their relationships (Reis & Gable, 2015). Specifically, the positive influence of perceived responsiveness (i.e., being validated, understood, and cared for) is a central

component in many modern relationship theories (Dooley, Sweeny, Howell, & Reynolds, 2018; Lemay & Neal, 2014; Selcuk, Gunaydin, Ong, & Almeida, 2016).

Illustrating the value of responsive support in the youth sport context, a phenomenological interpretative study recently explored the dyadic interaction between parents and young elite footballers (Clarke et al., 2016). In this study, players made sense of their parents' behaviours in relation to achieving their personal goals when they felt their aspirations were shared by their parents. Young players valued parental involvement in multiple ways: they felt more secure knowing that parents would be there in case they failed; they also appreciated parents providing interpretation and perceptual assistance, helping them to step back and have a broader perspective on their sport engagement. Additionally, players praised parents who capitalised and supported their progress and efforts, provided feedback to help them to adjust and tune up, and motivated them to persevere and continue pursuing their goals. Although Clarke and colleagues (2016) did not explicitly refer to the responsiveness construct, their results align with the idea that positive outcomes arise when players' perceive their parents understand them as a person, care for them, and validate their person and choices, which are the three core components of responsiveness (Reis & Gable, 2015).

Considering the central influence that parental responsiveness could have on children in sport, researchers have also experimentally manipulated parental responsiveness and availability (i.e., considered here together as part of secure attachment) to evaluate the effects on young children's athletic performance (Stupica, 2016). In their study, Stupica (2016) instructed parents to be either responsive and available (i.e., monitor their child's activities turned to their child and respond appropriately as they would normally do) or unavailable and unresponsive (i.e., do not respond to any of their child's attempts to initiate interaction). The results showed that the children's time to complete the run decreased as parental responsiveness increased, and children's times increased as parental harshness increased. The author interpreted these results based on attachment theory (Bowlby, 1973, 1988), suggesting that a decrease in the performance of children of parents that demonstrated being unavailable and unresponsive may have been due to the activation of the fear system and/or decreased activation of the exploratory system (Stupica, 2016). This study clearly illustrates the importance of considering parental responsiveness and availability when considering young athletes' performances, as

well as demonstrating that parent availability and responsiveness can be modified through experimental manipulation.

Overall, the construct of responsiveness (Reis et al., 2004; Reis & Gable, 2015) could help to link and integrate findings from across the aforementioned theories. For instance, responsiveness is a core component of securely attached relationships, where children perceive their attachment figure as responsive and sensitive to their needs and helpful when necessary (Bowlby, 1988). Responsiveness is also present in the bi-dimensional parenting style typology that consider parents' responsiveness and demandingness (Baumrind, 1991; Maccoby, 1992). The idea of responsiveness can also be indirectly related to studies in youth sport that emphasise the importance of support quality, rather than quantity (Dorsch, 2017; Dorsch et al., 2016). Finally, responsiveness may be related to an understanding emotional climate, which is a key category in Knight and Holt's (2014) theory of optimal parental involvement in junior tennis. Nonetheless, despite its potential to help explain previous research and unite ideas across different theories, the construct of responsiveness has yet to be fully integrated into parent-athlete relationships research. One way in which responsiveness may be explicitly considered within parent-athlete relationship research could be through the use of Feeney and Collins' (2015) thriving through relationships model.

The thriving through relationships model provides an integrative framework that views social support as an interpersonal relationship process (Feeney & Collins, 2015). It proposes that proximal responsive interactions between the support provider (i.e., a parent) and the support recipient (i.e., a child) produce various immediate and specific effects (e.g., increased enjoyment and self-efficacy). These immediate effects accumulate through time and build long-term thriving (e.g., increased positive self-perception and perceived competence). Finally, this model focusses on how, individuals can thrive and flourish through their relationship with close-others in the two life contexts, life opportunity and adversity. Both of these contexts are inherent within high performance sport (Carr, 2013).

2.4.2 Thriving through relationships model. Developed based on their extensive work on romantic couples (Feeney, 2004, 2007; Feeney & Van Vleet, 2010; Lemay et al., 2007), Feeney and Collins (2015) proposed the thriving through relationships model. This model primarily relies on attachment theory (building a safe haven and secure base support) (Bowlby, 1973, 1982, 1984, 1988), but also

links with self-determination theory (Ryan & Deci, 2017) and other motivation-related theories (Harter, 1978; Ntoumanis, 2001), and includes the construct of responsiveness (Reis & Gable, 2015) as central components. Thus, this model draws together many of the ideas that have already been considered within the sport psychology literature when considering parent-athlete relationships but may help to push this area forward by highlighting their combined influence. Moreover, the emphasis upon thriving through relationships aligns with recent interest into wellbeing and thriving in high-performance sport (Brown & Arnold, 2019; Brown et al., 2018).

Feeney and Collins' (2015) model proposes that proximal interactions between the support provider (i.e., a parent) and the support recipient (i.e., a child) produce various immediate and specific effects. Due to their continuing interactions, these immediate effects gradually accumulate through time and build long-term thriving. According to Feeney and Collins (2015), responsive relationships can help people thrive by promoting engagement in opportunities that enable them to enhance their positive well-being by broadening and building resources (Bowlby, 1988; Feeney & Collins, 2015). Responsive support functions (in adversity, or life opportunities) are provided through a constellation of support behaviours (e.g., emotional, esteem, informational or tangible support) that can be used depending on the needs of the recipients. The authors suggest that many of the support behaviours needed to promote thriving are simple to enact such as communicating availability, listening, providing encouragement, not unnecessarily interfering, and communicating about life opportunities. Feeney and Collins also highlight the importance of support quality. Following Reis et al.'s construct of responsiveness (2004; 2015), Feeney and Collins (2015) posit that it is not just whether the support is provided but how it is perceived as responsive that determines the outcome of the support.

For instance, Feeney and Collins (2015) suggest that when individuals encounter life opportunities (e.g., an athlete being selected for a major competition), the responsive support provided by the support provider (e.g., a parent), combined (directly or indirectly) with the perception of the responsiveness of the support by the recipient (e.g., an athlete) can lead to various immediate outcomes (e.g., perceived capability, or self-efficacy). In the long term, the immediate outcomes resulting of responsive interactions gradually accumulate and build long-term thriving (Feeney & Collins, 2015). Feeney (2004, 2007) demonstrated that the provision of responsive

support had a direct influence on support receivers' self-efficacy and explorative behaviours. More recently, in a study applying Feeney and Collins' (2015) model in romantic couples, Tomlinson, Feeney, and Van Vleet (2016) identified that the provided responsive support, and the perception of responsive support, during a limited interaction (e.g., 10-minute conversation about future goals) predicted immediate outcomes in the recipient, such as their perceived capability to reach their goals. These immediate outcomes predicted long-term thriving and goal accomplishment one year later (Tomlinson et al., 2016).

Feeney and Collins (2015) further suggest that when individuals encounter life adversity (e.g., an athlete being injured), the responsive support provided by the support provider (e.g., a parent), combined (directly or indirectly) with the perception of the responsiveness of the support by the recipient (e.g., an athlete) will also lead to immediate outcomes (e.g., reduced anxiety, or decrease in negative outcomes). In the long-term, the immediate outcomes resulting from responsive interactions in adversity will not only restore the support recipient's well-being, but also lead to positive outcomes and thriving (Feeney & Collins, 2015).

Overall, the benefits of using Feeney and Collins' (2015) model for the understanding of parent-athlete relationships are that; (a) it specifically accounts for the positive influences that responsive support can have in the context of life opportunities, and in life adversity; (b) it specifies the responsive support behaviours that promote optimal well-being (i.e., thriving) in such contexts; (c) it details pathways through which the quality and the responsiveness of interactions can lead to various immediate and specific outcomes in term of emotions, self-evaluations, appraisals, and motivation among other outcomes, and; (d) the model depicts how the immediate and specific outcomes resulting from responsive interactions can accumulate with time and eventually help individuals to experience optimal well-being (Feeney & Collins, 2015).

2.4.2.1 Using This Theory to Address Parent-Athlete Relationships. By focussing on specific interactions, accounting simultaneously for the provided and the perceived responsive support, we believe that Feeney and Collins' model can help to integrate hypotheses and questions driven, for instance, by motivational theories, and help to expose the mechanisms through which parents can directly influence athletes' motivation, emotions, perceived capability, self-esteem, self-worth, anxiety, and sport participation (Jowett & Cramer, 2010; Ullrich-French & Smith, 2006, 2009).

As parent-athlete interactions take place within specific locations, times, contexts, and within specific cultures, the thriving through relationship model could also integrates perspectives from Bronfenbrenner's (2005) PPCT model, and consider the permeability between family and sport influences (Hellstedt, 2005).

Building on the theme of *positivity* from motivational theories, or the general emotional climate from parenting style, the thriving through relationships framework can further help to highlight the pathway through which athletes' general perception of the world and themselves can be related to these specific interactions that athletes have continuously with their parents (Felton & Jowett, 2017; Keegan et al., 2014, 2010; Knight & Holt, 2014; O'Rourke et al., 2013).

Longitudinal studies including developmental considerations can be carried out using this model because it accounts for the accumulation of immediate outcomes that eventually build to encourage long-term thriving and broader perceptions of social support availability. This idea aligns with, and can integrate, both Bronfenbrenner's (2005) proximal processes of gradually more complex interactions, Harter's (1978) idea of a gradual internalisation of the influences of significant others, and Bowlby's (1973) internal working model that posits that individual's experiences are gradually build through time, through their interactions with close-others.

Finally, this model of social support is particularly relevant within sport as it considers two independent pathways corresponding to two life situations (life opportunity and life adversity) that parents and athletes will certainly encounter during their sport-related journey (Carr, 2013). Additionally, it can also be linked with recent developments assuming that thriving and well-being in sport are a platform for sustained high level performances (Brown et al., 2018).

2.5 Thesis Aims and Purpose

As detailed through this review, parent-athlete relationships are central to athletes' development and wellbeing (Harwood & Knight, 2015; Knight, Berrow, et al., 2017), but our understanding of the nuances or intricacies of these relationships remains limited. The study of such relationships could be illuminated by focusing on responsiveness (Maisel & Gable, 2009; Reis & Gable, 2015) and drawing on an integrative framework such as the thriving through relationships model (Feeney & Collins, 2015). Consequently, Drawing on Feeney and Collins' (2015) model of thriving through relationship, the purpose of the present thesis is to increase

understanding of how different features of the parent-athlete relationships might influence athletes' psychosocial outcomes. Specifically, this thesis seeks to provide a better understanding of specific relational processes from a parent to child, which subsequently influence child-athletes' psychosocial outcomes.

Four studies were conducted to address this overall aim. Specifically, Study One sought to understand how the responsiveness of specific parent-athlete interactions can lead to immediate outcomes for young athletes. Study Two aimed to examine how athletes' general perceptions of their parent's responsiveness can influence their general self-perception (e.g. self-esteem) and thriving. Study Three further examined the pathways that can explain how athletes' perceptions of their parent's responsiveness can influence long-term psychosocial outcomes. Finally, Study Four investigated the influences of parental responsiveness through time, contexts, and situations on athletes' psychosocial outcomes.

Chapter 3

Effect of Parental Responsiveness on Young Athletes' Psychosocial Outcomes: An Exploratory Study

3.1 Introduction

As detailed in Chapter 2, parents influence their children's sporting careers in multiple ways, not least through their provision of social support (i.e., the provision of aid and assistance through interpersonal exchanges and within the relationship; Beets, Cardinal, & Alderman, 2010). However, it is not simply a matter of whether parents provide support or not that will influence athletes' experiences, it may depend upon the extent to which support is responsive to the athlete's needs and wishes (Reis et al., 2004). The construct of responsiveness describes how individuals attend to and support each other's needs and goals. Reis et al. (2004) posits three key components of responsiveness which are *understanding*, *validation*, and *caring for*. *Understanding* refers to the support provider (e.g., a parent) comprehending the support recipient's (e.g., athlete) core self (e.g., needs, desire, weaknesses); *validation* is respect for, or valuing the support recipient's view of the self; and *caring for* is associated with expressing affection, warmth, and concern for the support recipient's wellbeing (Reis et al., 2004; Reis & Gable, 2015). Responsiveness has enhanced insights into social support and relationships in a range of settings, from minimizing defensive reactions to failure among acquaintances (Caprariello & Reis, 2011) to mediating the relationship between self-disclosure and relationship quality in parent-child relationships (Jiang, Yang, & Wang, 2016).

Previous research has shown that responsive support can result in various positive outcomes such as positively influencing support recipients' self-efficacy (e.g., Feeney, 2004; Lemay & Neal, 2014), self-esteem (e.g., Feeney, 2007; Smith & Reis, 2011), and wellbeing (e.g., Dooley et al., 2018). Responsiveness has also been shown to predict immediate and long-term increases in eudemonic wellbeing a decade later among romantic couples (Selcuk et al., 2016). Overall, it is apparent that responsiveness is a core process that has progressed understanding of how close relationships can promote wellbeing and thriving (Reis & Gable, 2015), it has yet to be examined in relation to parent-athlete relationships or sport settings more broadly.

Applying and understanding responsiveness within sport settings and particularly within the parent-child relationship is important because sport participation can be considered as a context that provides athletes with life

opportunities for positive development and thriving (Carr, 2013; Holt, 2016). In such contexts, high quality relationships and family support have been identified as key facilitators leading to athletes' experiencing personal development and performance benefits (Brown et al., 2018). Given the benefits that responsiveness has been shown to have on thriving and psychosocial outcomes within other relationship types, understanding its influence within parent-athlete relationships seems pertinent. To this end, the purpose of this study was to examine the influence of actual parental responsive support and perceived parental responsive support on athletes' psychosocial outcomes.

3.1.1 Theoretical underpinnings. Feeney and Collins' (2015) model of thriving through relationships was selected as the theoretical model underpinning the study. Feeney and Collins' (2015) model comprises two general pathways that detail how individuals may thrive as a result of their responsive interactions with close-others. Thriving is the desired end-state of the model and comprises five related components of hedonic (e.g., subjective wellbeing), eudemonic (e.g., goal accomplishment), psychological (e.g., positive self-regards), social (e.g., meaningful and deep connections with others), and physical wellbeing (e.g., health, fitness). The two general pathways correspond to the two life contexts of life adversity (e.g., losses, injuries, illnesses) and life opportunities (e.g., sport development, new opportunities). The current study focuses specifically upon the social support behaviours and pathway of thriving through relationships during situations seen as life opportunities.

Feeney and Collins (2015) suggest that when individuals are in situations that are seen as life opportunities, supportive relationships can promote thriving through the provision of responsive support (i.e., relational-catalyst support in Feeney and Collins' model). The provision of responsive support can be displayed throughout implicit and explicit behaviours (e.g., communicating, listening, providing encouragement, not unnecessarily interfering). When individuals encounter life opportunities, the provision of responsive support by the support provider (e.g., a parent), combined (directly or indirectly) with the perception of the responsiveness of the support by the recipient (e.g., an athlete) can lead to various immediate psychosocial outcomes (e.g., perceived capability, or self-efficacy).

Applying Feeney and Collins' model in romantic couples, Tomlinson, Feeney, and Van Vleet (2016) tested the pathway linking the provision and perception

responsive support in life opportunities with positive outcomes. Tomlinson et al (2016) conducted two studies involving 203 married couples (study 1), and 229 heterosexual newlywed couples (study 2). In each study, one member of each couple was designated as the 'support-recipient', while the other was considered as 'the support provider'. Romantic couples were invited to discuss the most important goal that the support-recipient had identified that they would like to accomplish over the next 6 months (study 1), or over the next year (study 2). During the interactions, couples were unobtrusively videotaped, and independent observers (blind to study hypotheses) later rated the extent to which the support-provider enacted responsive behaviours during the discussion. Immediately after the interaction, the designated support-recipient rated the extent to which they had perceived the support-provider was responsive to them. The support-recipient perceived capability to accomplish their goals was also assessed following the discussion. Tomlinson et al. (2016) identified that the provision and perception of responsive support during a limited interaction (e.g., 10-minute conversation about future goals) predicted immediate outcomes in the recipient, such as their perceived capability to reach their goals. Based on these findings, the current study sought to draw on a similar method to examine the parent-athlete relationship.

Immediate outcomes such as perceived self-efficacy or competence are central mediators between interpersonal responsive support processes and long-term thriving (Feeney & Collins, 2015). However, when seeking to apply Feeney and Collins' model, some clarity is required regarding the definitions of, and interactions between, self-efficacy and self-esteem. Unfortunately, within their model, Feeney and Collins do not provide a clear definition of self-esteem. Consequently, recent studies based on Feeney and Collins' model have considered self-esteem as a unidimensional construct rather than adopting the multidimensional perspective that is currently widely accepted (Marsh et al., 2018). Moreover, in their research (e.g., Feeney, 2004; Feeney, Van Vleet, Jakubiak, & Tomlinson, 2017), self-efficacy is measured with a global measure that could lead to be possibly confounded with self-esteem (Maddux, 2009). To prevent this issue arising in the current study, a clarification of the conceptualization of self-efficacy and self-esteem and their role in the responsive support for thriving pathway were made.

In line with Bandura's (1997) definition, self-efficacy was deemed to be an individual's belief in their capabilities to produce a given attainment. Thus, self-

efficacy was viewed as specific and prospective, and an indicator of what individuals perceive they would be able to accomplish in a particular context. As such, self-efficacy was anticipated to act as an immediate outcome after a specific interaction. In contrast, self-esteem was conceptualised as a broader construct situated at the apex of individual' hierarchy of self-perceptions, that is largely based on evaluating past-accomplishments and the general sense an individual has about their self. Thus, self-esteem was seen to more strongly predict global (rather than specific) outcomes (Marsh et al., 2018). Based on this theoretical standpoint, it was anticipated that after a specific interaction in a positive context (e.g., life opportunities), the provision of responsive support would lead to an immediate increase in the support recipient's self-efficacy (Feeney & Collins, 2015). The support recipient's self-efficacy (which is specific and prospective), would subsequently influence general self-esteem (Marsh et al., 2018). Eventually, it was anticipated that higher levels of general self-esteem would predict higher levels of thriving (Feeney & Collins, 2015; Marsh et al., 2018).

3.1.2 Hypotheses. Based on Feeney and Collins' (2015) thriving through relationship model, three hypotheses were proposed:

- Hypothesis 1: After a specific interaction, parents' provision of responsive support and athletes' perceived parental responsiveness (PPR) would be positively related to athletes' perceived self-efficacy to reach their goals. Based on Tomlinson et al. (2016), it was anticipated that the relationship between parents' provision of responsive support and self-efficacy would be fully mediated through athletes' PPR.
- Hypothesis 2: Athletes' perceived self-efficacy to reach their goals would be positively related to their general self-esteem.
- Hypothesis 3: Athletes' self-esteem would subsequently be related with the general thriving components of positive affect, vitality, life satisfaction, and health quality.

3.2 Method

3.2.1 Participants. An a priori power analysis using G*Power (Faul, 2014) was used to determine the minimal sample based on key variables (i.e., responsive support and PPR) from Tomlinson et al. (2016) with the following inputs: $r = 0.30$, $\alpha = 0.05$, power $(1-\beta) = 0.80$. A minimum of 39 dyads were deemed necessary (Faul, 2014). In total, 41 parent-athlete dyads participated.

The 41 athletes were all French speaking, living in Belgium, aged between 12 and 14 years (M = 13.13, SD = 0.90) and participating in individual sports. This age range was selected for four reasons: (a) athletes were deemed to be cognitively capable of answering the questions (Harter, 2012); (b) participants would be able to produce self-determined goals (McCarthy, Jones, Harwood, & Davenport, 2010); (c) parents are a large influence in their lives (Wylleman & Rosier, 2016), and; (d) athletes were in the specialisation phase of sport development (Côté, 1999) and as such were committed to regular training and competition. Athletes involved in individual sports were selected to ensure they would discuss their own rather than team goals. Athletes were from athletics (n = 14), sport climbing (n = 12), tennis (n = 7), gymnastics (n = 4), and swimming (n = 4). They trained on average 3.03 times/week (SD = 0.72) and had been involved in sport for an average of 7.33 years (SD = 2.30).

The parent who self-identified as the most involved in their child's sport (to ensure they had a good understanding of the sport environment; Knight & Holt, 2014) was the second member of the dyad. In total, 24 mothers and 17 fathers participated in the study, with a mean age of 44.83 years (SD = 5.20). Eight parents were single parents (19.51%). Parents had on average 2.39 children (SD = 0.86). Parents' highest level of education was: professional qualification (n = 8), secondary education (n = 6), undergraduate/bachelor's degree (n = 11), Master's degree (n = 13), and PhD (n = 8). Six of the parents had no sport experience (14.63%); all other parents were involved in sport in some form.

3.2.2 Procedure. Following receipt of ethical approval, sports coaches, managers, and committee members from individual sport clubs were contacted to identify if they were happy for the researcher to attend and speak to potential participants about the study. If interested, the researcher arranged a time to attend a training session to speak to potential participants (considered as dyads) about the study. Dyads that met the inclusion criteria were given an information sheet and asked to contact the researcher if they were interested in the study. A time to carry out the data collection was then scheduled.

When participants arrived for the study, they were reminded of the purpose and procedure, and signed the consent/assent form. Then, the athlete and his/her parent were invited into a semi-private room at their sport club. The room was equipped with chairs, a table, and a discrete audio/video recording system. The researcher

asked the young athlete to spend 10 minutes setting three important sport-related goals for the next year and discussing these goals with his/her parent. The parent-athlete interaction was unobtrusively videotaped while the researcher sat in a different room. Following the goal setting activity, the athlete completed a series of questionnaires assessing their perceptions of parental responsiveness, self-efficacy, self-esteem, and thriving factors of affects, vitality, life satisfaction, and health quality. The completion of the questionnaires took approximately 20 minutes and during this time, parents were asked to respond to general demographic questions.

3.2.3 Measures. Questionnaires either available in French or translated from English into French using a back translation procedure as recommended by Hambleton and Zenisky (2010) were used in the present study. For each questionnaire, internal consistency and construct validity were assessed with Omega $_{\text{total}}$ (ω_t ; Revelle & Zinbarg, 2009) and confirmatory factorial analysis (CFA). Support for the goodness of fit between the model and the observed data were considered when; (a) comparative fit index (CFI) and Tucker Lewis index (TLI) values were close to .95 or greater, and; (b) root mean square error of approximation (RMSEA) values were close to .06 or below, and standardized root mean square residual (SRMR) values were close to .08 or below (Brown, 2015). Further analysis considered parameter estimates (e.g., factor loadings, error variances, factor variances) such as standardised residuals (Brown, 2015) and the content of each problematic item (e.g., weak factor loading, cross-loading) to ensure that its deletion would not affect the theoretical meaning of a construct (Carpenter, 2018).

3.2.3.1 Perceived parental responsiveness. Athletes' perceptions of parental responsiveness (PPR) was assessed though the perceived partner responsiveness questionnaire (Tomlinson et al., 2016). This questionnaire comprises nine items and responses were provided on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). Slight modifications to the original scale were made in order to refer to the athlete's parent rather than a romantic partner. The CFA analysis showed that three items had a low factor loading. Based on the rules indicated above, these items were discarded leaving six items that demonstrated a sufficient factor loading and good internal consistency (i.e., $\omega_t = 0.83$). The six remaining items were: When you shared your goals, your parent was (a) *affectionate*, (b) *helpful/ supportive*, (c) *comforting /reassuring*, (d) *giving of assistance*, (e) *encouraging*, and (f) *sensitive/responsive*. The CFA with robust errors showed a good fit to the data: χ^2 (9)

= 9.66, p = 0.38, CFI = 0.97, TLI = 0.96, RMSEA = 0.04, SRMR = 0.06. These six items were averaged into a single score of PPR with higher scores representing stronger perceptions of parental responsiveness.

3.2.3.2 Perceived self-efficacy. A perceived self-efficacy scale was specifically built for the purpose of this study. Following Bandura's (2006) recommendations, the measure of self-efficacy was designed to reflects athletes' perceived capability to execute the goals they had set with their parents, and included the perceive level of difficulty of the tasks. For each of the three goals the athletes discussed with their parent, they were asked to indicate on a 5-point Likert scale anchored by 1 (*not at all*) and 5 (*extremely*) the extent to which they perceived, (a) the goal was important for them (i.e., *importance*), (b) they felt capable to accomplish this goal (i.e., *capability*), (c) if they were capable of continuous efforts to reach this goal (i.e., *effort*), (d) if they will pursue the goal continuously (i.e., *pursuit*), and (e) if this goal was difficult to reach (i.e., *difficulty*). The computation of self-efficacy scores followed the well-known methodology developed by Kiresuk and Sherman (1968) to aggregate scores from various type of goals that are important to the individual. Therefore, for each of the three goals that athletes had set, perceived capability, effort, and pursuit were weighted by importance and difficulty (Turner-Stokes, 2009). The following equations were used to do so:

$$Self - efficacy_i = \sqrt{W_i * X_i}$$

With (1):

$$W_i = \sqrt{Importance_i * Difficulty_i}$$

And (2):

$$X_i = (Capability_i + Effort_i + Pursuit_i)/3$$

The CFA with robust errors was just identified (0 *df*) with three items of self-efficacy that demonstrated a sufficient factor loading (0.46–0.76) and fair internal consistency (ω_t = 0.62). An average score of perceived self-efficacy was computed with higher scores representing stronger perceptions of self-efficacy (Bandura, 2006).

3.2.3.3 Global self-esteem. The five items from the short version of the Physical Self-Description Questionnaire (Marsh, Richards, Johnson, Roche, & Tremayne, 1994) assessing self-esteem were used. The athletes indicated the extent to which, during the last month in their everyday life, they had a lot to be proud of,

they did well, or things turned out well; and if they were no good or if nothing they did ever seemed to turn out right (reverse items). Their responses were provided on a 5-point Likert scale anchored by 1 (*strongly disagree*) and 5 (*strongly agree*). One item had a low factor loading (i.e., item 3; .03), but it was decided to keep this item as it was central to the construct (Carpenter, 2018). Nonetheless, the scale showed a good internal consistency (i.e., $\omega_t = 0.71$). The CFA with robust errors showed a good fit to the data: χ^2 (4) = 3.93, $p = 0.41$, CFI = 1.00, TLI = 1.03, RMSEA = 0.00, SRMR = 0.06. The five items were averaged to create a global score of self-esteem with higher scores indicating higher levels of self-esteem.

3.2.3.4 Affect. Positive and negative affect were assessed using the 10-item Positive and Negative Affect scale for Children (PANAS-C; Ebesutani et al., 2012). Athletes rated on a 5-point Likert scale from 1 *(not at all*) to 5 (*extremely*) the extent to which they, at the moment, felt *joyful, miserable, cheerful, mad, happy, afraid, lively, scared, proud, and sad*. In this study, the CFA analysis showed a good fit to the data for positive affects (PA): χ^2 (5) = 3.08, $p = 0.68$, CFI = 1.00, TLI = 1.12, RMSEA = 0.00, SRMR = 0.04. The PA items also demonstrated a good internal reliability (i.e., $\omega_t = 0.80$). However, the five-negative affect (NA) items lacked variance and the following CFA resulted in a poor fit to the data. Consequently, the decision was made to only retain the PA scale for further analyses. The five PA items were averaged to create a global score of positive affects with higher scores indicating higher levels of positive affect.

3.2.3.5 Subjective vitality. Athletes rated, on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*), the extent to which, during the last month in their everyday life, they felt full of excitement, they had high spirit, they looked forward to each day, they felt alert and awake, and if they had a lot of energy (Ryan & Frederick, 1997). The five items demonstrated a good internal reliability (i.e., $\omega_t = 0.84$). The CFA with robust errors showed a good fit to the data: χ^2 (5) = 2.08, $p = 0.83$, CFI = 1.00, TLI = 1.11, RMSEA = 0.00, SRMR = 0.03. The five items were averaged to create a global score of vitality with higher scores indicating higher levels of vitality.

3.2.3.6 Life satisfaction. Life satisfaction was assessed using the single item of Cantril Ladder of self-rated life satisfaction (Cantril, 1965). This ladder ranged from 0 (*I have the worst possible life for me at the moment*) to 10 (*I have the best possible life for me at the moment*).

3.2.3.7 Physical wellbeing. Health quality was assessed using a single item scale from 1 (*my health is poor*) to 4 (*my health is excellent*) (Benjamins, Hummer, Eberstein, & Nam, 2004).

3.2.4 Video coding procedure. The provision of responsive support comprises implicit and explicit behaviours that are not necessarily perceived by the support provider themselves (Feeney & Collins, 2015). Consequently, behavioural video-coding to assess the provided responsive support was required. This methodology has been regularly used to assess the provision of responsive support (e.g., Feeney et al., 2017; Lemay & Neal, 2014). Video recordings were used to develop a behavioural coding system assessing the responsive support provided by parents. The behavioural coding system was developed using Aslpand and Gardner's (2003) recommendations for observational measures.

Based on Tomlinson et al.'s (2016) study, nine behaviours were proposed for coding responsive support behaviours, but changes were needed to reflect the parent-athlete interactions and to take into account the sport context. Thus, an extensive pilot study with six parent-athlete dyads was carried out to generate a coding manual and to develop the final responsive support coding system. The pilot study was conducted in the same manner as the overall study and the dyads presented similar characteristics as the dyads recruited in the final sample. The recordings of the dyad goal-setting activities were initially independently coded by the researcher and two supervisors using Tomlinson et al.'s (2016) items of responsive support. The coders then shared their results and discussed the difficulties and clarifications needed in the coding manual in order to increase the coding consistency.

The nine responsive support parental behaviours were: (1) *warmth and positive affect* (e.g., the parent demonstrates a positive tone); (2) *listening and attentive* (e.g., when the child speaks, the parent does not interrupt); (3) *confidence in the child's ability* (e.g., the parent values the child's ability to manage the goals and related requirements autonomously); (4) *support for the child's goals* (e.g., agreement to the child's goals); (5) *responsive emotional support* (e.g., the parent understands or strives to understand, validate, and care for the child's goal); (6) *responsive instrumental support* (e.g., the parent proposes planning, organising based on child's requirements); (7) *goal reflection* (e.g., the parent reflects and nurtures the child's desire); (8) *proximity-seeking behaviours* (e.g., oriented to the child); and (9)

sensitive / responsive caregiving (e.g., general feeling of whether the parent is responsive and sensitive to the child's needs and wishes).

Subsequently, three independent coders, blind to the study hypotheses, were trained based on the pilot videos. The coders were asked to assess the extent to which parents showed support for their child's sport goals. These behaviours were coded on visual analogue scales ranging from "*Not at all*" to "*A great deal*." The order of the videos for coding was randomised between coders. The coders were asked to watch the videos twice, in a quiet environment with headphone and without pauses. Directly after watching the videos, they were asked to score the parents' behaviours on the nine responsive support items on the visual analogue scale. The coders were asked to highlight the key behaviours they had taken into account when scoring each item.

The inter-rater reliability (IRR) of the coding was evaluated with a fully-crossed design (all coders coded all videos) and scores computed using intra-class correlation (ICC) that is a commonly-used statistic for ordinal and interval variables with two or more coders (Hallgren, 2012). Based on Hallgren's (2012) recommendations on IRR, all variables were standardised before analysis. The intra-class correlation were: (1) *warmth and positive affect* = 0.72; (2) *listening and attentive* = 0.48; (3) *confidence in the child's ability* = 0.50; (4) *support for the child's goals* = 0.76; (5) *responsive emotional support* = 0.66; (6*) responsive instrumental support* = 0.74; (7) *goal reflection* = 0.57; (8) *proximity-seeking behaviours* = 0.52; and (9) *sensitive/responsive caregiving* = 0.60. Item 6 was reported as problematic by coders as the instrumental support was only relevant for 19 parents (out of 41). Thus, item 6 was removed from further analyses. The eight remaining items demonstrated a good internal reliability (ω_t = 0.95). A CFA with robust errors showed that a one factor model with eight items demonstrated a good fit to the data: χ^2 (17) = 19.75, p = 0.28, CFI = 0.96, TLI = 0.95, RMSEA = 0.06, SRMR = 0.05. The eight items were averaged into a single variable of responsive support with higher score indicating higher levels of parental responsive support.

3.2.5 Data analysis All data were analysed with R-statistics (R Core Team, 2018). The full script of analyses, video coding procedures, and results are provided in Appendix A. Since most variables were negatively skewed and non-normally distributed (see Table 3.1) the decision was made to use the non-parametric Spearman rank-order correlation as preliminary analysis. Robust statistical methods

were also preferred in further analysis. Due to the nature of the data and the hypotheses, the main analysis consisted of mediation analyses that were performed based on recommendations from Yzerbyt, Muller, Batailler, and Judd (2018), and accounted for the full paths of direct and indirect effects.

3.3 Results

3.3.1 Preliminary analyses. During the 10-minute interaction, athletes and parents freely set and discussed a variety of goals pertaining to athletes' aims to increase their sport participation (22.95%), competitive outcomes (20.49%), self-referenced performances (18.85%), specialisation into their main sport (6.56%), management of emotions and affect (6.56%), task/mastery goals (5.74%), parental involvement in sport (5.74%), health (3.28%) enjoyment in sport (2.46%), relationships with peers (3.28%) and with their coach (1.64%), sport/life balance (1.64%), and finally school (0.82%).

Demographic information such as athletes' gender, parents' gender, parents' education, family structure, and type of sport was entered in preliminary analysis and did not demonstrate any relationship with the predictor or outcome variables. Thus, the decision was made not to use them in subsequent analysis. All correlations (see Table 3.1) were in the expected directions. Athletes' age was used as a control variable in the following analyses.

The four components of thriving (e.g., positive affect, vitality, health quality, and life satisfaction) were positively correlated (see Table 3.1), r = [0.32-0.48], and the account of these components as a higher order factor of thriving is theoretically relevant (Feeney & Collins, 2015). Thus, using a CFA, a one factor model of thriving created from merging the scales was conducted. The CFA demonstrated a good fit to the data: χ^2 (50) = 43.16, p = 0.74, CFI = 1.00, TLI = 1.14, RMSEA = 0.0, SRMR = 0.08. The four components significantly loaded on the higher order factor of thriving: positive affect (β = 0.71), vitality (β = 0.87), life satisfaction (β = 0.73), and health quality (β = 0.61). All standardised residuals were between -2 and 2, and the scale demonstrated a good internal reliability (i.e., ω_t = 0.72). Thus, the scores of positive affect, vitality, health quality, and life satisfaction were averaged as a new variable, *thriving* (M = 4.12, SD = 0.52), with higher scores representing higher levels of thriving. Spearman correlations (Table 3.1) showed that the thriving component was positively correlated with athletes' self-efficacy (r = .30) and self-esteem (r = .58), and negatively correlated with athletes age (r = -.30).

Table 3.1

Spearman correlations, variable means, standard deviations, and skewness of the continuous variables

Variable	Mean	*SD*	Skewness	1	2	3	4	5	6	7	8	9
1. PPR	4.02	0.76	-0.81									
2. Responsive support	0.00	0.63	-0.25	.04								
3. Self-Efficacy	3.42	0.75	-0.21	**.40****	**.31***							
4. Self-Esteem	4.14	0.50	-1.21	-.06	.25	**.36***						
5. Positive Affects	3.86	0.72	-0.39	.22	.26	.14	**.41***					
6. Vitality	4.06	0.67	-0.13	.03	-.06	**.38***	**.70****	**.40***				
7. Health Quality	3.54	0.78	-1.97	.24	.20	.23	.25	**.32***	**.36***			
8. Life Satisfaction	8.27	0.98	-0.23	.27	.12	.16	**.40***	**.38***	**.48***	**.47***		
9. Thriving	4.12	0.52	-0.63	.24	.15	**.30***	**.58****	**.73****	**.74****	**.72****	**.71****	
10. Age Athlete	13.14	0.91	0.22	.17	-.19	-.21	**-.48****	**-.43***	-.20	-.13	-.11	**-.30***

Note. PPR = Perceived Parental Responsiveness; Thriving is a higher order factor gathering positive affect, vitality, health quality, and life satisfaction. * $p < .05$; ** $p < .001$.

3.3.2 Main findings. The first hypothesis stated that parental responsive support and athletes' PPR would be positively related to athletes' immediate perceived self-efficacy to reach their goals. The second hypothesis stated that athletes' perceived self-efficacy to reach their goals would be positively associated with their general feeling of self-esteem. The rank-ordered correlation between PPR and responsive support was not significantly different from zero, $r = .04$, *ns*. However, descriptive analysis showed a positive correlation between responsive support ($r = .31$) and PPR ($r = .40$) with self-efficacy. Spearman correlations also showed that athletes' self-efficacy was positively correlated with their general self-esteem ($r = .36$). Consequently, a mediation analysis was deemed appropriate to test the first and second hypothesis together for the variables that demonstrated a positive correlation (Hayes, 2018). The first mediation tested the relationship between athletes' PPR and parental responsive support on athletes' self-esteem, mediated by athletes' perceived self-efficacy to reach their goals.

The results of the first mediation showed that: (a) Athletes' PPR ($\beta = .51$) and parental responsive support ($\beta = .26$) were positively related with athletes' self-efficacy, and (b) athletes' self-efficacy was in turn positively related with athletes' self-esteem ($\beta = .39$). The mediation showed that the effect of athletes' PPR and parents' responsive support on athletes' self-esteem were fully mediated through athletes' self-efficacy, $r^2 = 0.34$, $p = 0.01$ (see Table 3.2). Athletes' age was only directly and negatively related to athletes' self-esteem ($\beta = -.34$).

Table 3.2

Indirect mediation effect of PPR and responsive support through self-efficacy.

X	**M1**	**Y**	**indirect effect**	***se***	**90% CI indirect effect (lower and upper)**
PPR	Self-Efficacy	Self-Esteem	0.20	0.11	[0.05 : 0.37]
Responsive support	Self-Efficacy	Self-Esteem	0.21	0.09	[0.00 : 0.27]

Note. PPR = Perceived Parental Responsiveness. X = predictors; M1 = mediator; Y = dependent variable. These values represent standardized path coefficient. 90% CI indirect effect = the 90% confidence interval with lower and upper bounds for indirect effects.

The third hypothesis stated that athletes' self-esteem would be related with the general thriving components of positive affect, vitality, life satisfaction, and health quality. Based on the preliminary analysis and results of the first mediation, it was decided to pursue a serial mediation, testing the relationship between athletes' PPR and parental responsive support on athletes' thriving, mediated in series by perceived self-efficacy and self-esteem. Athletes' age was entered as a control variable for self-esteem in the equation.

Athletes' general self-esteem was significantly associated with athletes' thriving. The results of the serial mediation showed that the influence of athletes' PPR on thriving was fully mediated through athletes' perceived self-efficacy and self-esteem (see Table 3.3), $r^2 = 0.42$, $p < 0.001$. Athletes' PPR ($\beta = .49$) and parents' responsive support ($\beta = .30$) were positively related to athletes' self-efficacy, which in turn was positively related with ($\beta = .37$) self-esteem, and then positively related ($\beta = .64$) with thriving. Athletes' age was directly and negatively related to athletes' self-esteem ($\beta = -.39$).

Table 3.3

Summary table of indirect mediation effect of PPR and responsive support through self-efficacy and self-esteem.

X	**M1**	**M2**	**Y**	**indirect effect**	***se***	**90% CI indirect effect (lower and upper)**
PPR	Self-Efficacy	Self-Esteem	Thriving	0.12	0.06	[0.01 : 0.21]
Responsive support	Self-Efficacy	Self-Esteem	Thriving	0.07	0.05	[-0.08 : 0.22]

Note. PPR = Perceived Parental Responsiveness. X = predictors; M1 = mediator 1; M2 = mediator 2; Y = dependent variable. These values represent standardized path coefficient. 90% CI indirect effect = the 90% confidence interval with lower and upper bounds for indirect effects.

3.4 Discussion

Based on Feeney and Collins' (2015) model of thriving through relationships, the purpose of this study was to examine the influence of parents' responsive support and athletes' PPR on a variety of athletes' psychosocial outcomes. The first hypothesis stated that parental responsive support and athletes' PPR would be positively related to athletes' immediate perception of self-efficacy to reach their goals (Feeney et al., 2017; Lemay & Neal, 2014). The second hypothesis stated that athletes' perceived self-efficacy to reach their goals would be positively associated with their general feeling of self-esteem (Bandura, 1997; Marsh et al., 2018). The third hypothesis stated that athletes' self-esteem would be related with the general thriving components of positive affect, vitality, life satisfaction, and health quality. The results supported the first hypothesis as both parental responsive support and athletes' PPR significantly contributed to athletes' immediate perceptions of self-efficacy. If athletes perceived their parents understood them, valued their person, and cared for them (i.e., the three components of perceived responsiveness; Reis & Gable, 2015), they reported higher perceptions of self-efficacy to reach their goals. The results also supported the second hypothesis as athletes' perceived self-efficacy to reach their goals was positively associated with their general feeling of self-esteem. Finally, the results supported the third hypothesis by indicating that athletes' perceptions of self-esteem were significantly and positively related to a general indicator of thriving comprising positive affect, vitality, life satisfaction, and health quality. Overall, the results of the study showed that after a 10-minute interaction, both parental responsive support and athletes' PPR, mediated by athletes' self-efficacy, were positively related to athlete's self-esteem. Further, athletes' PPR was positively related with thriving, while mediated in series by self-efficacy and self-esteem.

These results provide a possible theoretical explanation to findings reported in previous qualitative studies in sport which have indicated that when parental support was perceived as appropriate by young athletes, it positively influenced their sport involvement, motivation, and perceptions of competence (e.g., Knight et al., 2011). Similarly, these results may also help to explain why athletes valued their fathers' involvement when they had the feeling their father cared for them (Clarke et al., 2016). Further, by demonstrating the importance of responsive parental support, the results reinforce the idea that optimal parental involvement in sport is dependent

upon or influenced by parent's understanding of their child's experience and the development of an understanding emotional climate (Harwood & Knight, 2015; Knight & Holt, 2014). Thus, it may be suggested that optimal parental involvement in sport could be contingent upon the broader construct of responsive support, which includes the provision of responsive social support (Feeney & Collins, 2015). The results of this study also align with the growing idea that contextual facilitators such as high-quality relationships allow athletes to experience thriving in sport (Brown et al., 2018).

Surprisingly, the results showed that parental responsive support was not significantly related with athletes' PPR. This finding reinforces and extends previous research that has indicated that actual parental behaviours are not necessarily perceived by athletes, nor result in positive influences (e.g., Babkes & Weiss, 1999; Dorsch et al., 2016; Leff & Hoyle, 1995). However, the lack of relationship between parental responsive support and athletes' PPR in the present study could be potentially explained if athletes had referred to their general perception of their parents' responsiveness rather than their specific perception of parental responsiveness during the 10-minutes interaction. Although the instruction asked athletes to report their PPR during the 10-minute interaction, it is possible that the athletes provided a more global response corresponding to the overall parental responsiveness.

In an attempt to understand the lack of relationship between parental responsive support and athletes' PPR, exploratory analyses were carried out with a transformation of responsive support based on the median scores in a two-factor categorical variable (low, high) that provided new insights. The median scores of PPR were not significantly different depending on the level of parental responsive support, low responsive support (Median = 4.30), vs. high responsive support (Median = 4.00), $W = 205$, $p = 0.90$. However, a non-parametric Siegel-Tuckey test showed a significant reduction in the variance in athletes' PPR for the parents that demonstrated a high level of responsive support, $p = 0.01$. Parents that were categorized as providing a high-level of responsive support were perceived by athletes more consistently, with a significant reduction of the variance in athletes' PPR. That is, when parents demonstrate a high level of responsive support, it leads to athletes developing homogeneous perceptions of their parents' behaviours, but when

parents demonstrate a low level of responsive support, athletes' perceptions of such support increased in variability.

These exploratory results can be interpreted in accordance with arguments suggesting that perceptions of partners' responsive support are the result of both accurately detecting supportive behaviours and the perceivers' cognitive biases (Lemay & Neal, 2014). For instance, it is possible that athletes perceived that their parents' behaviours were more responsive because of the high value they placed on their relationship with them (Lemay & Neal, 2014). It is also possible that athletes with parents demonstrating a high level of responsive support are more accurate in their perception of support because they have gradually internalised the benefits of such responsive support through their continuous interactions with their parents (Bowlby, 1988). In contrast, athletes with parents demonstrating a low level of responsive support may be unaware of what is required for their parents to be responsive to their needs, leading to more variable responses on their level of PPR.

3.4.1 Limitations and future research directions. The results of this study should be considered within the limitations. The study was a cross-sectional explorative study with a relatively small number of participants. The exploratory nature arose due to the numerous advances that were required at a theoretical level (i.e., implementing a new theoretical framework in sport sciences) and at a methodological level (i.e., development of a video-coding procedure) for this study. These novelties led to the selection of a parsimonious design for the data collection, which is why a cross-sectional design with purposefully chosen participants was deemed appropriate. Participants were purposefully sampled from individual sports clubs and may not be representative of the general population nor the sport population. For instance, the high educational level of parents that participated in the study should be acknowledged and might influence the generalisability of the results. Bearing in mind these limitations, this study enhances understanding of parent-athlete relationships at a theoretical and methodological level. At a theoretical level, to the best of our knowledge, this study is the first to have used Feeney and Collins (2015) thriving through relationship model and Reis and Gable's (2015) construct of responsiveness in sport. This study not only showed the value of this model and construct, but also provided unique results demonstrating the influence of responsive support and PPR on young athletes' sport and personal development. At a methodological level, this study developed a video-based behavioural coding system

to assess parental responsive support that is adapted to parent-athletes interaction in sport. Finally, the results highlight new areas for future studies on parent-athlete interactions. Together, the use of a strong theoretical framework combined with advanced data collection methods provide unique evidence showing that responsive interactions between parents and athletes can lead to an increase in athletes' self-perception and thriving.

The results of this study highlight numerous assumptions for further research. For instance, future research can aim to examine the extent to which athletes can accurately detect (or not) the responsiveness of parental support, and what specific factors influence such perceptions. Also, this study only measured parental responsive support and athletes' PPR in a very specific situation. Further research could extend this by measuring, for instance, athletes' PPR at a more general level. Further research to investigate the role of self-esteem in athletes' thriving may also be warranted. The current study showed that vitality, positive emotion, health quality, and life satisfaction can be merged into a single factor of thriving but not self-esteem. In the current study, athletes' self-esteem was considered as a mediator between responsive support and thriving. This consideration is congruent with the suggestion that athletes' self-esteem can be considered as a higher-order construct that has an influence on various subcomponents of their self-perceptions (Marsh et al., 2018). Finally, other research avenues worth being investigated include (but are not limited to) the specific influences of mothers' and fathers' responsive support and the long-term effects of parental responsive support on athletes' sport and personal development.

3.4.2 Conclusion. This study constituted a first attempt to investigate parent-athlete relationships using Feeney and Collins' (2015) model of thriving through relationships in sport. This model seems well-suited to the sport setting and to examine the mechanisms involved in such relationships. The unique contribution of this study in understanding parent-athlete relationships is that it revealed the positive influence of the responsiveness of parental support on athletes' self-efficacy, self-esteem, and various factors of thriving. The study demonstrated the value and parsimony of Reis and Gable's (2015) construct of responsiveness and highlighted the unique influence of provided parental responsive support and athletes' perception of such support on their perceived self-efficacy, self-esteem, and thriving (i.e., positive affect, vitality, life satisfaction and health quality).

Chapter 4

The influence of perceived parental responsiveness on athletes' self-esteem, trait cognitive sport anxiety, and thriving.

4.1 Introduction

The second study of this thesis aimed to build upon the results of Study One (i.e., Chapter 3). Study One constituted a first attempt to demonstrate the relevance of investigating parent-athlete relationships drawing upon Feeney and Collins' (2015) model of thriving through relationships. The results indicated that such an approach was appropriate. Specifically, replicating the methodology utilised by Tomlinson and colleagues (2016) in romantic couples, Study One showed that after a 10-minute interaction, parents' provision and athletes' perception of responsive support were associated with athletes' thriving, while mediated by athletes' self-efficacy and self-esteem. Additionally, Study One also demonstrated the value of applying Reis and Gable's (2015) construct of responsiveness within sport settings and highlighted the influence of both actual provision of responsive support and the perception of responsive support on a selection of psychosocial outcomes in youth athletes. Nevertheless, Study One only examined the influence of responsive support in one specific situation (i.e., a goal setting task). Further research was deemed necessary to extend these findings beyond a specific situation to understand the influence of parents' responsive support in general, and the influence of such support on a broader range of psychosocial outcomes.

In their model of thriving through relationships, Feeney and Collins' (2015) suggest that a relationship that is responsive in a specific situation would also be continuously responsive through time and situations, resulting in the perception of responsive support being generalised and consequently having a broader influence on the support recipient (e.g., an athlete within the parent-athlete relationship). Such an approach is rooted in attachment theory (Bowlby, 1973, 1988), which suggests that a secure attachment relationship between a parent and a child can help the child to gradually build a secure internal working model characterised by children having a more positive perception of themselves and others (Carr, 2013; Duchesne & Larose, 2007). Thus, based on this model, it is expected that an athlete whom perceives their parents as being responsive in a specific situation (as in Study One) will also perceive their parents as being responsive in general, resulting in the psychosocial outcomes associated with responsive support to spread from specific (e.g. self-

efficacy) to general (e.g. self-esteem). Consequently, it can be theorised that athletes' general perceptions of their parents' responsive support (considered as a component of secure attachment; Feeney, 2004) would be positively related to their self-esteem. However, examination of athletes' general perception of their parents' responsive support was required to examine this suggested link.

Further, based on the well-established relationship between self-esteem and anxiety (Brustad, 1988; Fox & Lindwall, 2014; Smith, Smoll, Cumming, & Grossbard, 2006), it was anticipated that perceived parental responsiveness may also, indirectly, influence athletes' competitive trait anxiety (i.e., individual's tendency to experience stress in competitive situations; Martens, 1977). Specifically, it was anticipated that athletes' self-esteem would mediate the relationship between athletes' perception of their parents' responsive support. Reducing anxiety among young athletes is important because anxiety is related with lower levels of enjoyment (Pekrun, 2018), which is a major determinant of sport dropout (Crane & Temple, 2015). Thus, understanding whether parental responsiveness may, indirectly through self-esteem, help to reduce athlete trait cognitive sport anxiety seems pertinent and warrants investigation. It is important to note that anxiety comprises both the temporary condition of state anxiety, and the more general tendency of a trait anxiety (Marteau & Bekker, 1992; Spielberger, 1983). Moreover, anxiety can be considered both in relation to its direction (facilitative versus debilitative) and its intensity (amount experienced) (Jones 1991, 1995). Studies differentiating between the intensity and direction of competitive anxiety generally support the idea that the same intensity of competitive anxiety may be perceived by some athletes as debilitative, and by other athletes as facilitative to their sport performance leading to different outcomes (Jones, 1991; Jones et al., 1994, 1996; Jones & Swain, 1995; Ntoumanis & Biddle, 2000; Sanchez et al., 2010). Within this study the decision was made to focus solely upon the intensity of trait anxiety, rather than state anxiety or directionality, because the focus of the present study was to provide a better understanding of how parental responsiveness might influence general and enduring psychosocial outcomes and also to limit the length of questionnaires participants were being asked to complete.

Based on the findings from Study One, further examination of the relationship between self-esteem and thriving is also warranted. Study One showed a positive association between athletes' self-esteem and thriving, and self-esteem has been

shown to mediate the relationship between responsive support and many positive outcomes, such as increased wellbeing (Feeney, 2004; Gable & Reis, 2010; Smith & Reis, 2011). Brown and colleagues (2018) have shown that high quality relationships (e.g., between parent and athletes) are contextual facilitators of thriving in sport, which is characterised by a sustained level of performance and dimensions of wellbeing. Considering the likely influence of athletes' perceptions of parental responsiveness on self-esteem, given the findings of previous research, it was anticipated that athletes' self-esteem would mediate the relationship between perceptions of parental responsiveness and thriving. Here again, however, further research was required to verify such a relationship.

Finally, to further enhance our understanding of the influence of parental responsiveness and overcome a limitation of Study One, there was a need to consider the independent impact of mothers and fathers. In Study One the influence of responsive interactions was examined between one parent (i.e., the most involved parent in sport) and their child-athlete. However, research has shown that parental influences on young athletes are not limited to one parent, and that both mothers and fathers (or assimilated) can influence young athletes (e.g., Babkes & Weiss, 1999; Dorsch et al., 2016; Ullrich-French & Smith, 2006). Mothers' and fathers' perceived and actual involvement in their children's sporting lives can also differ (Clarke & Harwood, 2014; Coakley, 2006; Fredricks & Eccles, 2005). Such differences in actual or perceived involvement from mothers and fathers can result in athletes perceiving the parental support from their mothers and fathers differently (Dorsch et al., 2016; Wuerth, Lee, & Alfermann, 2004). Unfortunately, due to only including one parent in Study One such potential differences could not be examined. Nevertheless, based on the available literature it can be assumed that athletes' independent perceptions of the responsiveness of their mothers and fathers may individually or in combination influence athletes' self-perceptions. Thus, examining the influence of mothers and fathers separately is necessary.

To this end, the purpose of this study was to examine the influence of athletes' perceptions of their mother's and father's responsiveness on their self-esteem, sport anxiety, and thriving (i.e., positive affect, vitality, and life satisfaction). To address this purpose, the present study utilised a cross-sectional design with online self-reported questionnaires and explicitly examined athletes' perception of their mother's and father's responsiveness separately.

4.1.1 Hypotheses. Three hypotheses were produced for this study:

- Hypothesis 1: Athletes' perceptions of their mother's and father's responsiveness would be positively related with their self-esteem.
- Hypothesis 2: Athletes' self-esteem would be negatively related with their trait cognitive sport anxiety, and athletes' self-esteem would mediate the relationship between athletes' perceptions of the responsiveness of their mothers and fathers and their trait cognitive sport anxiety.
- Hypothesis 3: Athletes' self-esteem would be positively related with the thriving components of positive affect, vitality, and life satisfaction, and athletes' self-esteem would mediate the relationship between athletes' perceptions of their mother's and father's responsiveness and their positive affect, vitality, and life satisfaction.

4.2 Method

4.2.1 Participants. In total, 124 young male British rugby players participated in the study. The participants were aged between 14 and 16 years, they trained on average 3.16 times/week (SD = 0.93) and had been involved in rugby for an average of 8.18 years (SD = 2.94). All competed at a regional level or higher. The majority (77.05%) of the participants lived with both their mother and father. When participants were asked to state which parent was most involved in their sport, 73.77% selected their father, while 17.21% selected their mother, 5.74% selected both their mother and father as similarly involved, and 3.28% of participants selected their stepfather.

4.2.2 Procedure. A national governing body for rugby was contacted to enquire into the possibility of collecting data from players attending an annual under-16 training camp. Each year, the best 30 players from 14 different rugby academies attend this training camp to develop their rugby skills, play friendly games, and learn about different aspects of sport science. Having obtained approval from the governing body to attend the training camp, institutional ethical approval was sought and received. Following receipt of ethical approval, a letter pertaining to this study was sent to the parents of all players attending the training camp, as well as the coaches from each academy. Parents with children aged under 16 years of age were asked to return an informed consent form to the researcher to indicate they were happy for their son to complete the survey, if their son chose to. Players over the age of 16 years did not require parental consent.

On arrival at the training camp, all players were sent a link to an online survey (hosted on SurveyMonkey) and an information letter, via their academy coach. At the outset of the survey, players were asked to indicate their age. If they were aged below 16 years, they were asked to indicate that they had received parental consent to complete the survey and returned the consent form to the researcher. All players (aged over or under 16 years of age) were then asked to indicate if they agreed to complete the survey before moving onto the start of the survey. Prior to assenting/consenting to participate, players were reminded that their participation was voluntary, that involvement in the study would remain anonymous, and there were no negative consequences associated with participating in the study. The players then completed the online survey, which comprised a series of self-report questionnaires measuring their perceived parents' responsiveness, self-esteem, sport anxiety, and various factors of wellbeing (i.e., affect, vitality, life satisfaction) as well as collecting basic demographic information (e.g., age, years involved in rugby, number of training per week, most involved parent in rugby, family structure). The total survey was designed to take no more than 15 minutes to complete.

4.2.3 Measures. For each questionnaire, internal consistency, construct validity, and Confirmatory Factorial Analysis (CFA) were assessed using the same criteria as in Study One (see Chapter 3 for further details).

4.2.3.1 Perceived parental responsiveness. Athletes' perceptions of parental responsiveness were assessed with the twelve item version of the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, Rogge, Maniaci, & Carmichael, 2017). The PPRS assessed the extent to which participants perceived that a particular relationship is responsive to their needs. The PPRS comprises five items for *understanding*, five items for *validation*, and two general items. The five items for the *understanding* subscale are: my mother/father usually, (a) *sees the "real" me*, (b) *"gets the facts right" about me, (c) understands me*, (d) *is on "the same wavelength" with me*, and (e) *knows me well.* The five items for the *validation* subscale are: my mother/father usually, (a) *esteems me, shortcomings and all*, (b) *values and respects the whole package that is the "real" me*, (c) *expresses liking and encouragement for me*, (d) *seems interested in what I am thinking and feeling,* and *(e) values my abilities and opinions.* The two items for the *general* subscale are: my mother/father usually, (a) *really listens to me*, and (b) *is responsive to my needs.* Responses were provided on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*completely true*).

Reis et al. (2017) showed that the PPRS could be used either as a 1-factor model accounting for perceived responsiveness, or as a 2-factor model of perceived *understanding* and *validation*. In the present study, the 1-factor model for athletes' perception of father responsiveness ($\omega_t = 0.95$) and athletes' perception of mother responsiveness ($\omega_t = 0.95$) showed a good internal consistency. The CFA with robust errors 1-factor model for athletes' perceptions of father's and mother's responsiveness showed a good fit to the data: χ^2 (50) = 53.92, $p = 0.33$, CFI = 0.98, TLI = 0.97, RMSEA = 0.03, SRMR = 0.04 for father responsiveness; χ^2 (49) = 59.31, $p = 0.15$, CFI = 0.95, TLI = 0.93, RMSEA = 0.04, SRMR = 0.05 for mother responsiveness. The 2-factor model accounting for athletes' perception of father and mother *understanding* and *validation* also demonstrated a good fit to the data : χ^2 (31) = 33.07, $p = 0.36$, CFI = 0.99, TLI = 0.98, RMSEA = 0.02, SRMR = 0.03 for perceived father *validation* and *understanding*; : χ^2 (32) = 33.65, $p = 0.39$, CFI = 0.99, TLI = 0.98, RMSEA = 0.02, SRMR = 0.03 for perceived mother *validation* and *understanding*.

A model comparison between the 1-factor model (perceived responsiveness) and the 2-factor model (perceived *understanding* and *validation)* showed that the two-factor model did not significantly improve the fit to the data for athletes' perception of their father: $\Delta\chi^2$ (19) = 20.85, *ns,* or their mother: $\Delta\chi^2$ (17) = 25.66, *ns.* Consequently, the twelve items accounting for athletes' perceptions of their father and mother were averaged respectively into single scores of perceived father/mother responsiveness with higher scores representing stronger perceptions of father/mother responsiveness.

4.2.3.2 Self-esteem. As with Study One, the five items from the short version of the Physical Self-Description Questionnaire (Marsh et al., 1994) were used to assess self-esteem (see Chapter 3 for further details). Within the current study, the scale showed a good internal consistency (i.e., $\omega_t = 0.76$) and the CFA with robust errors showed a good fit to the data: χ^2 (4) = 2.68, $p = 0.61$, CFI = 1.00, TLI = 1.08, RMSEA = 0.00, SRMR = 0.03. The five items were averaged to create a global score of self-esteem with higher scores indicating higher levels of self-esteem.

4.2.3.3 Cognitive trait sport anxiety. Athletes' trait cognitive sport anxiety was assessed with five items from the Sport Anxiety Scale - 2 (Smith et al., 2006). Athletes indicated the extent to which they usually felt before or while competing in sport (a) *worry that they not play well*, (b) *worry that they will let others down*, (c)

worry that they will not play at their best, (d) *worry that they will play badly*, and (e) *worry that they will mess up during the game*. Their responses were provided on a 5-point Likert scale anchored by 1 (*not at all*) and 5 (*very much*). The scale showed a good internal consistency (i.e., $\omega_t = 0.91$). The CFA with robust errors revealed a good fit to the data: χ^2 (5) = 3.09, $p = 0.68$, CFI = 1.00, TLI = 1.03, RMSEA = 0.00, SRMR = 0.02. Consequently, the five anxiety items were averaged to create a global score of trait cognitive sport anxiety with higher scores indicating higher levels of trait cognitive sport anxiety.

4.2.3.4 Affect. Replicating Study One, positive and negative affect were assessed using the 10-item Positive and Negative Affect scale for Children (Ebesutani et al., 2012; see Chapter 3 for further details). The 2-factor model indicated that both positive and negative affect dimensions demonstrated good internal reliabilities (i.e., $\omega_t = 0.85$, and $\omega_t = 0.72$). In the CFA analysis, a two-factor model showed a fair fit to the data: χ^2 (29) = 38.88, $p = 0.10$, CFI = 0.94, TLI = 0.90, RMSEA = 0.06, SRMR = 0.08. Nevertheless, further analysis revealed localised areas of strain with three negative items (i.e., *mad, afraid* and*, scared)* showing low loading (i.e., < 0.4), low explained variance (i.e., <0.2), and high residuals (i.e., >3). Consequently, it was decided to retain only the five positive affect items for further analysis. The CFA analysis 1-factor model for the positive affect items demonstrated a good fit to the data: χ^2 (3) = 2.9, $p = 0.40$, CFI = 1.00, TLI = 1.00, RMSEA = 0.00, SRMR = 0.02. Consequently, the five positive affect items were averaged to create a global score of positive affect, with higher scores indicating higher levels of positive affect.

4.2.3.5 Subjective vitality. As in Study One players' subjective vitality was assessed with the 5-item subjective vitality scale (Ryan & Frederick, 1997; see Chapter 3 for further details). The five items demonstrated a good internal reliability (i.e., $\omega_t = 0.85$). The CFA with robust errors showed a good fit to the data: χ^2 (2) = 0.74, $p = 0.7$, CFI = 1.00, TLI = 1.09, RMSEA = 0.00, SRMR = 0.01. The five items were averaged to create a global score of vitality with higher scores indicating higher levels of vitality.

4.2.3.6 Life satisfaction. As in Study One (see Chapter 3 for further details), life satisfaction was assessed using the single item of Cantril Ladder of self-rated life satisfaction (Cantril, 1965). This ladder ranged from 0 (*I have the worst possible life*

for me at the moment) to 10 (*I have the best possible life for me at the moment*). A higher score indicated higher levels of life satisfaction.

4.2.4 Data analysis. All data were analysed with R-statistics (R Core Team, 2018). The full script of analyses, questionnaires used, and comprehensive results are provided in Appendix B. The main analysis consisted of mediation analyses that were performed based on Yzerbyt, Muller, Batailler, and Judd's (2018) recommendations, and accounted for the full paths of direct and indirect effects. The mediation analysis was performed with Structural Equation Modelling (SEM) using 10000 bootstraps (Hayes, Montoya, & Rockwood, 2017). All hypotheses were tested together with one model accounting simultaneously for participants' perception of their mother's and father's responsiveness.

4.3 Results

Athletes' perception of the responsiveness of their mother (M = 5.78, SD = 1.13) versus their father (M = 5.62, SD = 1.23) did not significantly differ (W = 5694.5, p = 0.38) and all correlations were in the expected directions (see Table 4.1).

Table 4.1

Correlation table with confidence intervals, variable means, and standard deviations of the continuous variables

Variables	*M*	*SD*	1	2	3	4	5	6
1. Perceived father responsiveness	5.62	1.23						
2. Perceived mother responsiveness	5.78	1.13	.68** [.56, .77]					
3. Self-Esteem	3.92	0.52	.42** [.25, .57]	.36** [.18, .51]				
4. Trait cognitive sport anxiety	2.28	0.77	-.12 [-.31, .07]	-.23* [-.40, -.04]	-.35** [-.51, -.17]			
5. Life satisfaction	7.95	1.41	.32** [.14, .48]	.36** [.19, .52]	.36** [.19, .52]	-.26** [-.43, -.08]		
6. Positive affect	3.51	0.67	.37** [.19, .52]	.40** [.23, .55]	.36** [.18, .51]	-.31** [-.47, -.12]	.52** [.37, .65]	
7. Vitality	3.38	0.66	.36** [.19, .52]	.32** [.14, .48]	.39** [.21, .54]	-.35** [-.50, -.17]	.51** [.35, .64]	.61** [.47, .72]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

The first hypothesis stated that participants' perceptions of the responsiveness of their mother and father would be positively related with their self-esteem. The mediation analysis (see Figure 4.1) showed that participants' perception of their father's responsiveness was positively related with their self-esteem (β = .351, p = 0.001). However, participants' perception of their mother's responsiveness did not significantly relate with their self-esteem (β = .106, p = 0.292). The variance explained by the model for participants' self-esteem was: r^2 = 0.185.

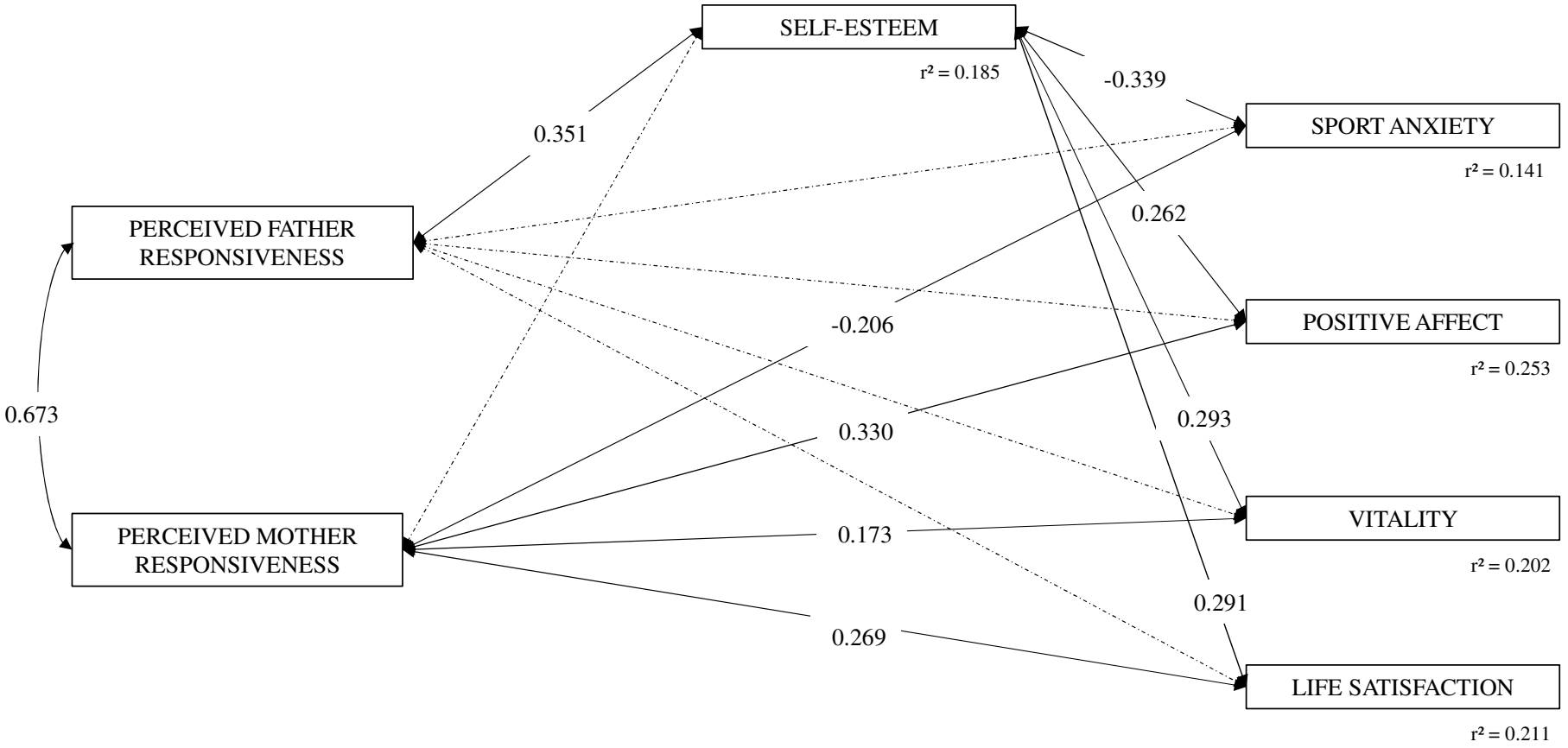
The second hypothesis stated that participants' self-esteem would mediate the relationship between participants' perceptions of the responsiveness of their mother/father and their trait cognitive sport anxiety. The mediation analysis showed that participants' self-esteem was negatively related with their trait cognitive sport anxiety (β = -.339, p = 0.003). Self-esteem mediated the relationship between participants' perception of their father's responsiveness and trait cognitive sport anxiety (β = -.119, p = 0.025). Participants' perception of their mother's responsiveness also directly related with their trait cognitive sport anxiety (β = -.206, p = 0.038). Overall, the variance explained by the model for participants' trait cognitive sport anxiety was: r^2 = 0.141.

The third hypothesis stated that participants' self-esteem would mediate the relationship between participants' perception of the responsiveness of their mother/father and their positive affect, vitality, and life satisfaction. The mediation analysis showed that participants' self-esteem was positively related with their positive affect (β =.262, p = 0.001), vitality (β =.293, p = 0.001) and life satisfaction (β =.291, p = 0.029). Self-esteem mediated the relationship between participants' perception of their father's responsiveness and positive affect (β = .092, p = 0.027). Participants' perception of their mother's responsiveness was directly related with their positive affect (β =.330, p = 0.002). The variance explained by the model for participants' positive affect was: r^2 = 0.253.

Self-esteem also mediated the relationship between participants' perception of their father's responsiveness and vitality (β = .103, p = 0.026), while participants' perception of their mother's responsiveness was directly related with their vitality (β =.173, p = 0.036). The variance explained by the model for participants' vitality was: r^2 = 0.202. Further, self-esteem mediated the relationship between participants' perception of their father's responsiveness and life satisfaction (β = .102, p = 0.087) and participants' perception of their mother's responsiveness was directly related

with their life satisfaction (β =.269, $p = 0.030$). The variance explained by the model for participants' life satisfaction was: $r^2 = 0.211$.

Figure 4.1. Summary figure of the significant effects ($p < 0.05$) of perceived mother and father responsiveness through self-esteem on participants' trait cognitive sport anxiety, positive affect, vitality, and life satisfaction



4.4 Discussion

The purpose of this study was to examine the influence of rugby players' perceptions of their mother's and father's responsiveness on their self-esteem, trait cognitive sport anxiety, and thriving (i.e., positive affect, vitality, and life satisfaction). The results showed that players' perception of the responsiveness of their fathers, mediated by their self-esteem, was negatively related to their trait cognitive sport anxiety and positively related to the thriving components of positive affect, vitality, and life satisfaction. Players' perceptions of the responsiveness of their mothers was directly negatively related to their trait cognitive sport anxiety and directly positively related with thriving (i.e., positive affect, vitality, and life satisfaction). Overall, the results of this study showed the positive outcomes associated with rugby players' perceptions of their mother's and father's responsiveness and extends the results of Study One (see Chapter 3) to more general perceptions and outcomes.

There are many studies that have examined the influences of parents on young athletes by focusing on parental support and parental involvement within sport (see Fredricks & Eccles, 2004; Horn & Horn, 2007; Knight, Berrow, et al., 2017 for summaries). However, if parental influences and support can be related to the sport participation of their children, they are certainly not limited to it. Perceived responsiveness is a construct that assesses the extent to which individuals perceive that individuals within their close relationships (e.g., mother, father) understand them as a person, value their choices and opinions, and care for them (Reis et al., 2004). That means that, in sharing their perceptions of the responsiveness of their mothers and fathers, participants were making reference not only to their parent's responsiveness in rugby but throughout their daily live, such as at home, school, and in relation to social activities. Therefore, the results of the present study provide an indication of how players' perceive the overall responsiveness and support given to them by their mothers and fathers, rather than simply considering parental involvement and support in sport.

Specifically, the results of the present study showed that athletes' perceptions of their mother's and father's responsiveness were positively correlated with their self-esteem. This means the more players perceived that their parents were responsive to them, the more positively they evaluated themselves, demonstrated through increased levels of self-esteem. This finding aligns with studies based upon

attachment theory that have assessed how participants' perceived attachment relationship with their parents (i.e., not limited to sport), and have shown a positive association between a secure attachment and self-esteem (e.g., Gullone & Robinson, 2005; Kang et al., 2015), or a negative relationship between insecure attachment and self-esteem (Felton & Jowett, 2013). Studies in sport that drawing upon attachment theory are theoretically close to the present study, because Feeney and Collins' (2015) model of thriving through relationships (which is the theoretical model used in the present study) builds on the notion of a secure base from attachment theory (Bowlby, 1988). In fact, responsive support is one component of securely attached relationships (availability and helpfulness being the others; Bowlby, 1988). Thus, the similarity in the findings between the current study and previous attachment theories is understandable. However, the particular value of the current finding, compared to similar research using attachment theory, is that the present study demonstrated a positive relationship between the responsiveness component of secure attachment and rugby players' self-esteem. This finding may suggest that perhaps responsiveness is the most important component of attachment theory, however, further research is required to compare the specific influences of availability, responsiveness, and helpfulness on athletes' self-esteem.

The mediation model accounting simultaneously for players' perceptions of their mother's and father's responsiveness demonstrated that perceptions of father responsiveness was significantly related to their self-esteem, but not their perception of mother responsiveness. This does not mean that there was no relationship between players' perception of the responsiveness of their mothers and their self-esteem, but rather the responsiveness of their father superseded the influence of perceived mother responsiveness. As this is, to the authors knowledge, the first study to examine the independent influence of perceived mother and father responsiveness on self-esteem, this is a novel finding. It is a particularly interesting finding because, as mentioned previously, the present study attended to perceptions of responsiveness in general, rather than in sport specific situations. Thus, it would be anticipated that mother and father responsiveness would have the same influence on athletes self-esteem.

However, given the distinction between mothers' and fathers' influence, perhaps the impact of sport does need to be considered and the results explained within the specific context of the current study. Firstly, all the participants were young male rugby players, participating in a traditionally male sport that is

associated with masculine stereotypes such as strength, aggression, and physical contact (Chalabaev, Sarrazin, Fontayne, Boiché, & Clément-Guillotin, 2013). Secondly, sport is also an environment in which fathers can be involved with their sons without challenging their traditional values and gender dominant ideology (cf. Coakley, 2006). Thirdly, players were also all involved in a selective process, they played at a regional/national level, and they were in the specialisation phase of their development aiming to improve their performances and resulting in their sport involvement and athletic identity likely to be important to them (Côté, Baker, & Abernethy, 2007). Within this context, it is not surprising that 73.77% of the participants considered their father as their most involved parent in sport. Consequently, the enlarged influence of rugby players' perception of their father's responsiveness on their self-esteem may have arisen because fathers were seen as central to players' self-worth and self-evaluation (i.e., self-esteem). However, further research is needed to assess the relative influence of athletes' perceptions of their mother's and father's responsiveness in other sports and other contexts to further unpack this potential influence.

The results of the present study also showed that participants' self-esteem mediated the relationship between participants' perceptions of the responsiveness of their fathers and the thriving components of positive affect, vitality, and life satisfaction. Perceptions of their mother's responsiveness was directly and positively related with thriving. The relationship found between participants' general perceptions of their mother's and father's responsiveness and thriving extends the results of Study One (see Chapter 3), which focused upon the impact of perceived parental responsiveness after a specific parent-athlete interaction. The positive association between perceived responsiveness and thriving found in the present study also aligns with Brown et al.'s (2018) qualitative exploration of thriving in sport, which suggested that high quality relationships are contextual facilitators of thriving in sport, and extends Brown et al.'s (2018) work by specifying perceived responsiveness as a key component of high quality relationships in sport.

The findings of the current study further highlighted that participants' self-esteem mediated the relationship between their perceptions of their father's responsiveness and their trait cognitive sport anxiety, and participants' perception of their mother's responsiveness was directly and negatively related to their trait cognitive sport anxiety. Thus, although having different relationships, both mother

and father responsiveness is negatively related to trait cognitive sport anxiety, with higher levels of perceived responsiveness associated with lower levels of trait cognitive sport anxiety. Demonstrating a negative relationship between perceived mother/father responsiveness and trait cognitive sport anxiety is important because it extends the extensive research indicating that parental involvement can have a negative effect on young athletes by increasing participants' anxiety (e.g., Barber, Sukhi, & White, 1999; Bois, Lalanne, & Delforge, 2009; Collins & Barber, 2005; Kaye et al., 2014; O'Rourke et al., 2011, 2014; Smoll, Smith, & Cumming, 2007) . For instance, studies have indicated that parents can increase their child's anxiety through their directive behaviours and pressure (Bois et al., 2009), through the motivational climate that they are creating (Kaye et al., 2014; O'Rourke et al., 2011), or through their expectancies and beliefs for their children's success in sport (Collins & Barber, 2005). In contrast, there is far more limited evidence pertaining to how parents may help to reduce athletes' anxiety (e.g., Ullrich-French & Smith, 2006). The disproportionate emphasis on parents as a contributor rather than buffer to anxiety, is problematic because it reinforces the stigmatisation of parental involvement in sport. Consequently, the finding that parental responsiveness may lower cognitive sport anxiety is both unique and important. It is unique because this is the first study to demonstrate that perceived mother and father responsiveness are negatively related with trait cognitive sport anxiety. It is important because it further demonstrates the complexity of sport parenting, encouraging us to look beyond the overly simplistic dichotomy of pressure and support resulting in good and bad outcomes (cf. Knight, Berrow, et al., 2017).

Finally, as seen in Study One (see Chapter 3) rugby players' perceptions of their mother's and father's responsiveness are not necessarily related to parent's provision of responsive support. Consequently, the results of the present study contribute to the growing understanding that parental influences in sport should not be oversimplified, and that there are a range of different parental practices and behaviours (and athletes' perceptions) that uniquely contribute to children's experiences and development in sport (Harwood, Knight, Thrower, & Berrow, 2019).

4.4.1 Limitations and future directions. The current findings should be considered within the context and limitations of the study. This study involved young male rugby players aged 14 to 16 years in the UK. The specific features of the sport context, the limited age range of participants, and the fact that the study only

involved male participants may have influenced some of the relationships identified between responsiveness and certain psychosocial outcomes. Further research should consider involving more diverse participants to ensure the generalisability of the findings, for instance by including various sports, male and female participants, varying age groups, and participants from varying levels of sport.

This study was the first to use Reis and colleagues (2017) Perceived Partner Responsiveness Scale (PPRS) with young athletes. The CFA led to two different but similarly acceptable solutions accounting either for perceived responsiveness as a single factor or as a two-factor model of perceived *understanding* and *validation*. These two likely solutions were theoretically relevant and evoked in the psychometric analysis of the scale (Reis, Crasta, et al., 2017). In the present study, the decision was made to retain only the single-factor solution of perceived mother/father responsiveness because the two-factor model did not significantly improve the fit to the data, and because the one-factor solution was more parsimonious. However, further research may be necessary to investigate the possibility that a two-factor solution accounting for perceived *understanding* and *validation* would clarify the results.

The results also showed that participants' perceptions of their mother's responsiveness were not significantly related to their self-esteem when controlling for participants' perceptions of their father's responsiveness. In order to make sense of the reduced influence of perceived mother responsiveness on participants' self-esteem, it should be recognised that participants' perception of the responsiveness of their mothers and fathers positively covaried together. This means that athletes who perceived their mother as being highly responsive also perceived their father as being highly responsive, and vice-versa. Such high levels of covariation in the data may have led to multicollinearity issues in the analysis, resulting in the influence of perceived mother responsiveness being reduced. Steps were taken to minimise multicollinearity issues (e.g., prior to conducting the mediation analysis, linear multiple regressions were run on the data and the Variance Inflation Factor (VIF) checked and not considered to be problematic). All variables were also standardised before being entered into the mediation model to reduce multicollinearity problems (Hayes, 2018; Robinson & Schumacker, 2009), and the results of the mediation analysis were carefully checked post hoc and did not demonstrated any signs of multicollinearity (i.e., inflated standard errors, or erratic results). However,

multicollinearity cannot be entirely discounted. Further research accounting independently for the influence of perceived mother and father responsiveness may be useful to further examine the independent influence of mothers and fathers without concerns regarding multicollinearity.

Finally, this study was cross-sectional and did not take into account the long-term effects of perceived mother/father responsiveness on athletes' thriving. Long-term influences of responsive support on individual thriving are expected based on Feeney and Collins' (2015) model of thriving through relationship because this model proposes a pathway that leads from specific interaction to immediate outcomes, and subsequently indicates that specific outcomes gradually generalise with time and help build long-term thriving. Further research should consider the uses of a longitudinal design to examine this pathway.

4.4.2 Conclusion. The results of the current study showed that participants' perceptions of their mother's and father's responsiveness was positively related with their self-esteem, positive affect, vitality, and life satisfaction, and negatively related with their trait cognitive sport anxiety. The study also showed different influences of participants' perceptions of their mother's and father's responsiveness, with perceived father responsiveness superseding the influence of perceived mother responsiveness on players' self-esteem. Overall, the study uniquely contributes to understanding of parent-athlete relationships by demonstrating the positive outcomes associated with rugby players' perceptions of their mother's and father's responsiveness on their self-esteem, trait cognitive sport anxiety, and thriving in youth sport.

Chapter 5

The long-term influence of perceived parental validation and understanding on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving.

5.1 Introduction

The third study of this thesis sought to build upon the results, and address limitations, identified in studies one and two (i.e., Chapters 3 & 4). Study One and Two demonstrated the value of considering athletes' perceptions of their parent's responsiveness in sport. The results of these two studies showed the immediate effect of perceived parental responsiveness on athletes' self-perception (i.e., self-efficacy and self-esteem) and thriving (e.g., affect, life satisfaction, vitality, health quality), and on athletes' trait cognitive sport anxiety. However, these initial studies were cross-sectional and did not account for the long-term outcomes of perceived parental responsiveness. Given these findings, the first consideration for the current study was to examine the long-term outcomes of perceived parental responsiveness on various psychosocial outcomes namely, self-efficacy, self-esteem, and thriving.

Study One (see Chapter 3) showed that a responsive interaction between a parent and an athlete was positively related with the athlete's perceived self-efficacy to accomplish their goals. Thus, specific responsive interactions were related to specific increases in athletes' perceived self-efficacy. It was subsequently anticipated that as a result of the responsiveness of individuals within the environment (i.e., parents), children's perceived self-efficacy may build over time to influence their overall efficacy beliefs (Bandura, 1997; Maddux, 2009). However, in Study One it was not possible to examine long term outcomes of responsive support on self-efficacy due to a cross-sectional design, which had only one data collection point. Understanding this long-term effect is important because the positive influence of perceived self-efficacy in sport is well documented and typically results in positive outcomes (e.g., Bandura, 2012; Feltz, Short, & Sullivan, 2008; Kane & Marks, 1996; Moritz, Feltz, Fahrbach, & Mack, 2000). Further, perceived self-efficacy is also consistently related with lower levels of sport anxiety (Besharat & Pourbohlool, 2011; Feltz et al., 2008; Martin & Gill, 1991). Given such positive consequences,

understanding how perceived parental responsiveness could be linked with higher levels of perceived self-efficacy is important.

The second study (see Chapter 4) found that athletes' perceptions of their mother's and father's responsiveness were positively related with self-esteem. Athletes' self-esteem subsequently mediated the relationship between perceived parental responsiveness and various components of thriving (i.e., life satisfaction, positive affect, vitality) and trait cognitive sport anxiety. These results aligned with the conceptualisation of self-esteem as a broader construct that is based on the general sense an individual has of themselves, and more strongly predicts global (rather than specific) outcomes (Marsh et al., 2018). However, again, due to the cross-sectional design of Study Two, it was not possible to examine the long-term outcomes associated with athletes' self-esteem. It was anticipated that higher levels of self-esteem could be related with higher levels of thriving and lower levels of anxiety over an extended period of time, but further examination of the proposed relationships were required.

Beyond further examination of self-efficacy and self-esteem, the second focus of the current study was to consider the separate influence of the responsiveness of mothers and fathers on athletes' outcomes. This aim arose because the results of Study Two showed that athletes' perceptions of their mother's and father's responsiveness could result in different outcomes. In Study Two, participants' perceptions of their father's responsiveness superseded their perceptions of their mother's responsiveness on their self-esteem. However, Study Two only involved young male rugby players and rugby is a traditionally male sport, associated with masculine stereotypes such as strength, aggression, and physical contact (Chalabaev et al., 2013). Given this context, it is unclear if the influence of participants' perceptions of their mothers and fathers were a sport-specific finding or would apply across other sports. Additionally, the reduced influence of mothers' responsiveness could have occurred due to high levels of multicollinearity in the data, again requiring further examination.

Finally, the current study also sought to better understand the distinction between perceived *understanding* and *validation* as components of perceived responsiveness. This distinction was identified because, in Study Two (see Chapter

4), the CFA analysis of the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, et al., 2017), a two-factor model accounting for perceived understanding and validation, revealed a good fit to the data. This two-factor model was not used in Study Two because the single-factor model of perceived parental responsiveness was more parsimonious. However, a two-factor model is theoretically relevant because Reis, Lemay, and Finkenauer (2017) differentiated the constructs of understanding from validation explaining that an individual can feel that they are understood but not validated (or vice versa), and consequently experience different outcomes. Consequently, there is the potential that athletes' perceptions of their parent's understanding and validation may result in different outcomes.

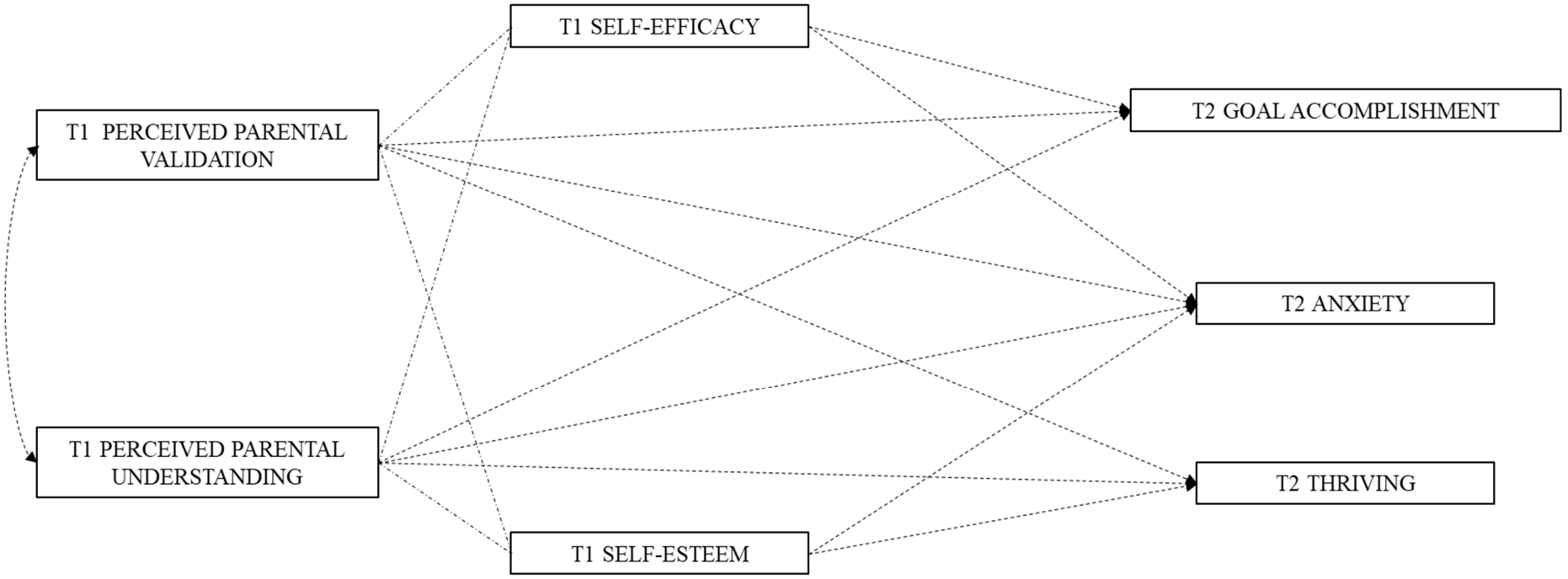
To address the three areas outlined above, the present study aimed to examine the long-term influence of perceived parental validation and understanding on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving. To address this aim, a semi-longitudinal design, comprising two data collection points, separated by a three-month period was used. Based on the recommendations from Study Two, perceived validation and understanding from mothers and fathers were analysed separately.

5.1.1 Hypotheses. Four hypotheses were produced for this study:

- Hypothesis 1: Athletes' initial perceptions of their mother's and father's understanding and validation would be positively related to their perceived self-efficacy to reach their goals, as well as their self-esteem at time one. The specific influences of perceived mother and father understanding and validation were investigated without a priori assumptions.
- Hypothesis 2: Athletes' perceived self-efficacy to reach their goals at time one would positively relate with their goal accomplishment three months later.
- Hypothesis 3: Athletes' self-esteem at time one would be positively related with their thriving three month later.
- Hypothesis 4: Athletes' perceived self-efficacy and self-esteem at time one would be negatively related to trait cognitive sport anxiety three months later.

All relationships were investigated simultaneously as shown in Figure 5.1.

Figure 5.1. Hypothetical model of all direct and indirect effects of initial perceived parental validation and understanding through athletes' initial self-efficacy and self-esteem on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving three months later.



5.2 Method

5.2.1 Participants. The sample size was determined based on Monte Carlo power analysis simulations for mediation models (Schoemann, Boulton, & Short, 2017). Simulations were run for two parallel mediators with the following inputs: 1000 power analysis replications with 5000 Monte Carlo draws per replication, confidence level = 95%, predictor-outcome correlation = 0.35, predictor-mediator correlation = 0.35, mediators-outcome correlation = 0.35, correlations between mediators = 0.2. The results of the simulations showed that the study needed between 140 participants to achieve 82% of power, 95% CI = [0.79 – 0.84], and 200 participants to achieve 94% of power, 95% CI = [0.91 – 0.95]. Based on those simulations, the desired number of participants was initially set at: N = 200. In total, 205 young athletes (154 males and 51 females) at data collection point one (T1) and, 171 out of the 205 participants (131 males and 40 females) at data collection point two (T2) completed the study (i.e., retention rate of 83.41%). The participants ranged from 10 to 15 years (M_{age} = 12.50, *SD* = 1.14) and were involved in rugby (n = 83), basketball (n = 69), and handball (n = 53). Athletes trained on average 2.57 times/week (*SD* = 0.65) and had been involved in sport for an average of 5.39 years (*SD* = 2.35).

5.2.2 Procedure. Following receipt of ethical approval, technical directors of French regional leagues in rugby, handball, and basketball were contacted to help identify clubs and coaches who may be interested in participating in the study. Clubs were subsequently contacted and, if interested, coaches or managers coordinated a time for the researcher to attend a training session and speak to potential participants about the study. Potential participants were given an information sheet and were informed of the schedule of the data collection at their sport club. Athletes who were willing to participate in the study were asked to bring back the consent form signed by their parents on the day of data collection. Data collection occurred at two time points within each club.

At time one (T1), participants were informed of the study procedures and were invited to set three important sport-related goals that they wanted to accomplish over the next three months. Then, they were asked to write these goals on a sheet of paper

and completed a series of questionnaires assessing their perceptions of their parent's responsiveness, along with their own perceived self-efficacy and self-esteem.

The second data collection point (T2) was scheduled three months later, again at the participants' sports clubs. Athletes received a copy of the goals they had written three months earlier and were asked to indicate if they had accomplished their goals. They subsequently completed a series of questionnaires assessing their self-esteem, sport anxiety, and the thriving factors of positive affect, vitality, life satisfaction, and health quality. At each data collection point, the questionnaires took approximately 20 minutes to complete.

5.2.3 Measures. Questionnaires were either available in French or translated from English into French using a back translation procedure as recommended by Hambleton and Zenisky (2010). For each questionnaire, internal consistency, construct validity, and Confirmatory Factorial Analysis (CFA) were assessed using the same criteria in studies one and two (see Chapter 3 and 4 for further details).

5.2.3.1 Perceived parental responsiveness. As with Study Two, athletes' perceptions of parental responsiveness were assessed at T1 with the 12-item version of the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, et al., 2017; see Chapter 4 for further details). The CFA with robust errors 2-factor model for perceptions of mother and father responsiveness showed a good fit to the data: χ^2 (33) = 36.52, p = 0.31, CFI = 0.98, TLI = 0.97, RMSEA = 0.02, SRMR = 0.04, for mother responsiveness; χ^2 (25) = 29.09, p = 0.26, CFI = 0.97, TLI = 0.95, RMSEA = 0.03, SRMR = 0.04 for father responsiveness. The five items for the understanding subscale were averaged into a single score of perceived mother and perceived father understanding, with higher scores representing stronger perceptions of mother or father understanding. The five items for the validation subscale were averaged into a single score of perceived mother versus father validation, with higher scores representing stronger perceptions of mother or father validation. The two remaining general items were dismissed in further analysis.

5.2.3.2 Perceived self-efficacy. A perceived self-efficacy scale developed in Study One was used at T1 (see Chapter 3 for further details). The CFA with robust errors was just identified (0 *df*) with the three goals that demonstrated a sufficient factor loading (0.59–0.73) and fair internal consistency (i.e., ω_t = 0.71). An average

score of perceived self-efficacy for the three goals was subsequently computed with higher scores representing stronger perceptions of self-efficacy.

5.2.3.3 Self-esteem. As with Study One and two, the five items from the short version of the Physical Self-Description Questionnaire (Marsh et al., 1994) assessing self-esteem were used at T1 (see Chapter 3 and 4 for further details). The scale demonstrated a good internal consistency (i.e., ω_t = 0.74 at T1). The CFA with robust errors showed a good fit to the data: χ^2 (4) = 2.38, p = 0.66, CFI = 1.00, TLI = 1.04, RMSEA = 0.00, SRMR = 0.02 at T1. The five items were averaged to create a global score of self-esteem with higher scores indicating higher levels of self-esteem.

5.2.3.4 Goal achievement. At T2 of data collection, for each of the three goals that the athletes had set at T1, athletes were asked to indicate on a 5-point Likert scale, anchored by 1 (*not at all*) and 5 (*extremely*), the extent to which they perceived that; (a) the goal was still important for them (i.e., *importance*); (b) they had achieved this goal (i.e., *achievement*); (c) if they had to make continuous efforts to reach this goal (i.e., *effort*), and; (d) if this goal was difficult to reach (i.e., *difficulty*). For each of the three goals, achievement and effort were weighted by importance and difficulty. Following the methodology detailed in Study One for self-efficacy, the computation of goal achievement scores were based on the work of Kiresuk and Sherman (1968). This methodology was necessary to aggregate the goal accomplishment scores of the various types of goals set at T1 of data collection. Therefore, goal accomplishment at T2 of data collection was assessed for each of the goals that athletes had set at T1 of data collection based on the following equations (Turner-Stokes, 2009):

$$Goal\ Accomplishment_i = \sqrt{Y_i * Z_i}$$

With (1):

$$Y_i = \sqrt{Importance_i * Difficulty_i}$$

And (2):

$$Z_i = (Capability_i + Effort_i)/2$$

The CFA with robust errors was just identified (0 *df*) with the three goals, which demonstrated a sufficient factor loading (0.50–0.71) and fair internal consistency (i.e., ω_t = 0.66). An average score of goal achievement for the three

goals was subsequently computed with higher scores representing higher goal achievement.

5.2.3.5 Trait cognitive sport anxiety. As used in Study Two, athletes' cognitive anxiety (i.e., worry) was assessed at T2 with five items from the Sport Anxiety Scale - 2 (Smith et al., 2006; see Chapter 4 for further details). The scale showed a good internal consistency (i.e., $\omega_t = 0.94$). The CFA with robust errors revealed a good fit to the data: χ^2 (4) = 4.04, $p = 0.35$, CFI = 0.99, TLI = 0.99, RMSEA = 0.02, SRMR = 0.01. Consequently, the five anxiety items were averaged to create a global score of trait cognitive sport anxiety with higher scores indicating higher levels of trait cognitive anxiety in sport.

5.2.3.6 Affect. Replicating Study One and Two, at T2, positive and negative affect were assessed using the 10-item Positive and Negative Affect scale for Children (Ebesutani et al., 2012; see Chapter 3 and 4 for further details). The two-factor model indicated that both positive and negative affect dimensions demonstrated good internal reliabilities (i.e., $\omega_t = 0.87$ and $\omega_t = 0.87$, respectively). The CFA results supported a two-factor model: χ^2 (32) = 33.98, $p = 0.37$, CFI = 0.97, TLI = 0.95, RMSEA = 0.02, SRMR = 0.08. Consequently, the five positive affect items and the five negative affect items were averaged to create two global scores of positive affect and negative affect. For each dimension, higher scores indicated higher levels of affect.

5.2.3.7 Subjective vitality. As used in Study One and Two, at T2, athletes' subjective vitality was assessed with the 5-item subjective vitality scale (Ryan & Frederick, 1997; see Chapter 3 and 4 for further details). The five items demonstrated a good internal reliability (i.e., $\omega_t = 0.87$). The CFA with robust errors showed a good fit to the data: χ^2 (4) = 7.32, $p = 0.12$, CFI = 0.97, TLI = 0.93, RMSEA = 0.06, SRMR = 0.02. The five items were averaged to create a global score of vitality with higher scores indicating higher levels of vitality.

5.2.3.8 Life satisfaction. At T2, life satisfaction was assessed using the single item of Cantril's Ladder of self-rated life satisfaction (Cantril, 1965). This scale was also used in Study One and Two (see Chapter 3 and 4 for further details). Higher scores indicated higher perceptions of life satisfaction.

5.2.3.9 Physical wellbeing. At T2, health quality was assessed using the single item scale (Benjamins et al., 2004). This scale was also used in Study One (see Chapter 3 for further details). Higher scores indicated higher perception of health quality.

5.2.4 Data analysis. All data were analysed with R-statistics (R Core Team, 2018). The full script of analyses, questionnaires used, and comprehensive results are available in Appendix C. Due to the nature of the data and study hypotheses, the main analysis consisted of parallel mediation analyses that were performed based on Yzerbyt and colleagues' (2018) recommendations, and accounted for the full paths of direct and indirect effects. Mediation analyses were performed separately for perceptions of mother and father responsiveness.

5.3 Results

5.3.1 Preliminary analyses. All correlations (see Table 5.1) were in the expected directions. Athletes' age and gender were used as a control variable throughout analyses.

As with Study One (see Chapter 3), the four components of thriving (positive affect, vitality, health quality, and life satisfaction) were positively correlated (i.e., r ranging from 0.24 to 0.58; see Table 5.1). The CFA demonstrated a good fit to the data: χ^2 (51) = 60.26, p = 0.17, CFI = 0.95, TLI = 0.94, RMSEA = 0.03, SRMR = 0.05. The four components significantly loaded on the higher order factor of thriving and this general measure of thriving demonstrated a good internal reliability (i.e., ω_t = 0.90). Consequently, the scores of positive affect, vitality, health quality, and life satisfaction were averaged as a new variable, *thriving* (M = 3.92, SD = 0.62), with higher scores representing higher levels of thriving. The correlations (Table 5.1) indicated that at T2 thriving was positively correlated with athletes' perceptions of self-efficacy (r = .18) and self-esteem (r = .38) at T1, and negatively correlated with athletes' age (r = -.22).

Table 5.1

Spearman correlation table of the continuous variables used at T1 and T2 of the data collection

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. T1 Age	12.5	1.14														
2. T1 F_Understand	4.22	0.74	-.20**													
3. T1 F_Validate	4.39	0.7	-.18*	.79**												
4. T1 M_Understand	4.23	0.62	-.19**	.63**	.61**											
5. T1 M_Validate	4.47	0.55	-.22**	.53**	.67**	.70**										
6. T1 Self-Esteem	3.83	0.65	-.15*	.37**	.30**	.29**	.17*									
7. T1 Self-Efficacy	3.52	0.71	-0.13	.22**	.23**	.19**	.34**	0.12								
8. T2 Goal Accomp.	2.65	0.82	-0.11	0.03	0.07	-0.01	0.06	0.08	.28**							
9. T2 Trait Cog. Anxiety	3.11	1.19	.24**	-.22**	-.23**	-.21**	-.16*	-.35**	0.11	0.15						
10. T2 Negative Affect	1.28	0.62	0.03	-0.05	-0.1	0	-0.08	-0.1	0.07	0.11	.31**					
11. T2 Positive Affect	3.82	0.91	-.27**	.37**	.31**	.22**	.27**	.31**	.28**	0.07	-.31**	-.30**				
12. T2 Vitality	3.73	0.84	-.19*	.39**	.37**	.22**	.25**	.32**	.15*	0.07	-.29**	-0.11	.58**			
13. T2 Health	3.45	0.68	0.01	.23**	.19*	0.15	.15*	.18*	0.03	-0.13	-.20**	-.21**	.24**	.34**		
14. T2 Life Satisfaction	7.62	1.48	-.21**	.40**	.35**	.21**	.27**	.34**	0.07	-0.07	-.43**	-.37**	.54**	.41**	.28**	
15. T2 Thriving	3.92	0.62	-.22**	.47**	.41**	.26**	.31**	.38**	.19*	-0.03	-.41**	-.33**	.81**	.79**	.63**	.73**

Note. T1 = time one of data collection; T2 = time two of data collection (three months later); F_Understand = Perceived father understanding; F_Validate = Perceived father validation; M_Understand = Perceived mother understanding; M_Validate = Perceived mother validation. Thriving is a higher order factor gathering positive affect, vitality, health quality, and life satisfaction. * $p < .05$; ** $p < .001$.

5.3.2 Main findings. The first hypothesis stated that athletes' initial perceptions of their mother's and father's understanding and validation would be positively related to their perceived self-efficacy to reach their goals, as well as their self-esteem at time one. The specific influences of perceived understanding and validation from mothers and fathers were investigated without a priori assumptions. The second hypothesis stated that athletes' perceived self-efficacy to reach their goals at time one would be positively related to their goal accomplishment three months later. The third hypothesis stated that athletes' self-esteem at time one would be positively related with athletes' thriving three months later. Finally, the fourth hypothesis stated that athletes' perceived self-efficacy and self-esteem at time one would be negatively related to their trait cognitive sport anxiety three months later.

Athletes' perceptions of understanding and validation from their mothers and fathers at T1 were positively correlated with athletes' perceptions of self-efficacy and self-esteem at T1. These variables from T1 were also significantly correlated with thriving and goal accomplishment at T2. Consequently, a mediation analysis was deemed appropriate for the variables that demonstrated a positive correlation (Hayes, 2018). All hypotheses were tested together in one model for athletes' perceptions of mother or father respectively. The mediation analysis was performed using 10,000 bootstraps and controlled for athlete age and gender. In the model, athletes' age was negatively related with thriving and positively related with trait cognitive sport anxiety. Compared to male athletes, female athletes showed lower levels of self-esteem and thriving, and higher levels of anxiety and goal accomplishment.

5.3.2.1 Influence of perceived mother responsiveness. The mediation analysis (see Figure 5.2) indicated that perceptions of mother validation at T1 were positively related to athletes' perceived self-efficacy to reach their goals (T1, $\beta = .441$). However, although perceptions of mother understanding at T1 were positively related to athletes' self-esteem (T1, $\beta = .371$) they were negatively associated with their perceived self-efficacy to reach their goals (T1, $\beta = -.193$). Subsequently, athletes' perceived self-efficacy was positively related to goal accomplishment (T2, $\beta = .327$) and trait cognitive sport anxiety three months later (T2, $\beta = .247$). Moreover, athletes' self-esteem at T1 was negatively related to trait cognitive sport anxiety (T2, $\beta = -.297$) but positively associated with thriving three months later (T2, $\beta = .278$).

Finally, perceptions of mother validation (T1) were directly and positively related to athletes' thriving (T2, β = 325).

The analysis revealed that athletes' perceived self-efficacy at T1 fully mediated the relationship between perceptions of mother validation at T1 and athletes' goal accomplishment three months later, $r^2 = 0.156$ (see Table 5.2). Athletes' self-esteem at T1 fully mediated the relationship between perceptions of mother understanding at T1 and athletes' thriving three months later; the results also supported a direct, positive relationship between perceptions of mother validation at T1 and athletes' thriving (T2, β = .325), $r^2 = 0.266$ (see Table 5.2). Finally, athletes' perceived self-efficacy and self-esteem at T1 fully mediated the relationship between initial perceptions of mother validation and mother understanding on athletes' trait cognitive sport anxiety three months later T2, $r^2 = 0.248$ (see Table 5.2).

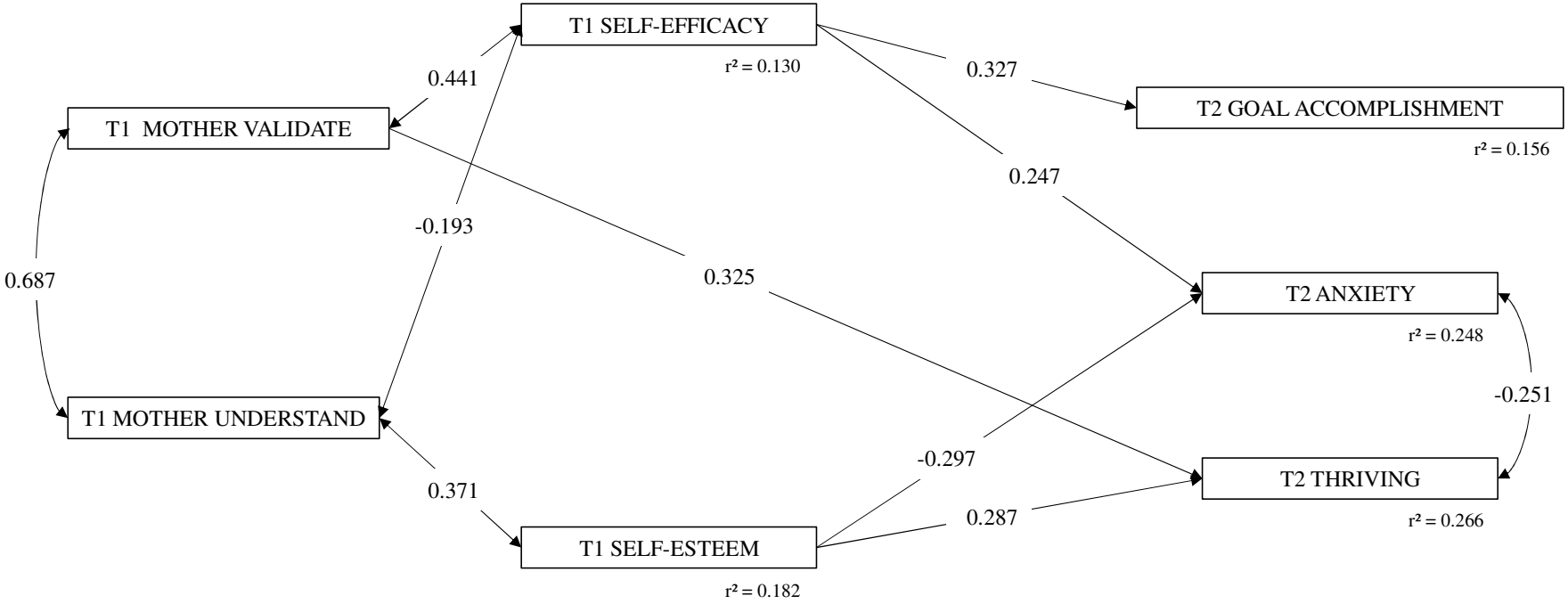
Table 5.2

Indirect effects of perceived mother validation and understanding through self-efficacy and self-esteem

predictors	**mediators**	**target variables**	**indirect effect**	***se***	**p-value**	**95% CI indirect effect (lower and upper)**
T1 mother validation	T1 Self-efficacy	T2 Goal accomplishment	0.144	0.045	0.001	[0.062: 0.239]
T1 mother understanding	T1 Self-efficacy	T2 Goal accomplishment	-0.063	0.036	0.081	[-0.142: 0.000]
T1 mother understanding	T1 Self-esteem	T2 Thriving	0.106	0.044	0.016	[0.030: 0.201]
T1 mother validation	T1 Self-efficacy	T2 Trait Cog. Anxiety	0.109	0.043	0.010	[0.034: 0.201]
T1 mother understanding	T1 Self-esteem	T2 Trait Cog. Anxiety	-0.048	0.029	0.098	[-0.112: 0.000]

Note. These values represent standardized path coefficient. 95% CI indirect effect = the 95% confidence interval with lower and upper bounds for indirect effects.

Figure 5.2. Summary of the significant effects ($p < 0.05$) of perceived mother validation and understanding at T1 through self-efficacy and self-esteem at T1 on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving three months later.

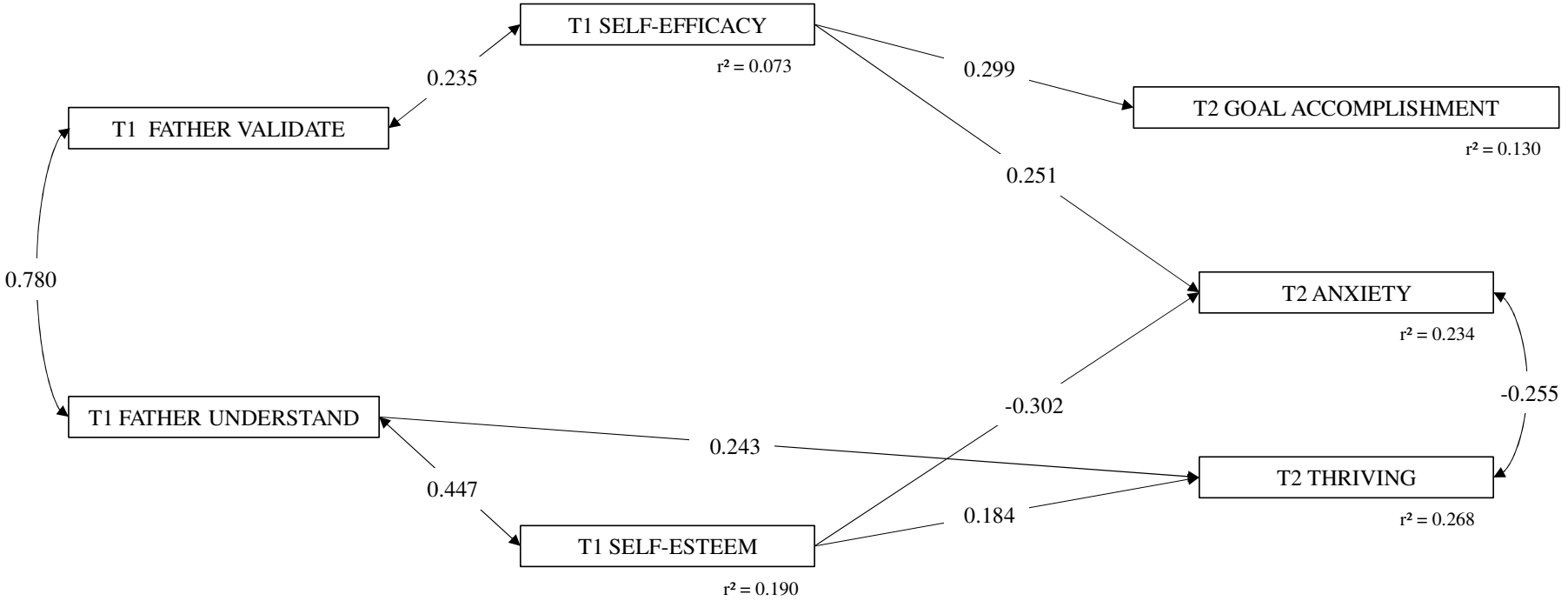


Note. These values represent standardised path coefficient. T1 = time one of data collection; T2 = time two of data collection, three months after T1.

5.3.2.2 Influence of perceived father responsiveness. The mediation analysis (see Figure 5.3) indicated that initial perceptions of father validation were positively related to athletes' perceived self-efficacy to reach their goals (T1, β = .235) and perceptions of father understanding at T1 were positively related to athletes' self-esteem (T1, β = .447). Subsequently, athletes' perceived self-efficacy at T1 was positively related to athletes' goal accomplishment (T2, β = .299) and athletes' trait cognitive sport anxiety three months later (T2, β = .251). Athletes' self-esteem at T1 was negatively related to athletes' trait cognitive sport anxiety (T2, β = -.302) but positively associated with athletes' thriving three months later (T2, β = .184). Finally, perceptions of father understanding at T1 were directly and positively related to athletes' thriving (T2, β = 243).

Analysis showed that athletes' perceived self-efficacy at T1 fully mediated the relationship between initial perceptions of father validation T1 and athletes' goal accomplishment three months later, $r^2 = 0.130$ (see Table 5.3). Athletes' self-esteem at T1 partially mediated the relationship between perceptions of father understanding at T1 and thriving three months later; the results also supported a direct, positive relationship between perceptions of father understanding at T1 and athletes' thriving (T2, β = .243), $r^2 = 0.268$ (see Table 5.3). Finally, athletes' perceived self-efficacy and self-esteem at T1 fully mediated the relationship between initial perceptions of father validation and father understanding (T1) on athletes' trait cognitive sport anxiety three months later, $r^2 = 0.234$ (see Table 5.3).

Figure 5.3. Summary of the significant effects ($p < 0.05$) of perceived father validation and understanding at T1 through self-efficacy and self-esteem at T1 on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving three months later.



Note. These values represent standardized path coefficient. T1 = time one of data collection; T2 = time two of data collection, three months after T1.

Table 5.3

Indirect effects of perceived father validation and understanding through self-efficacy and self-esteem.

predictors	**mediators**	**target variables**	**indirect effect**	***se***	**p-value**	**95% CI indirect effect (lower and upper)**
T1 father validation	T1 Self-efficacy	T2 Goal accomplishment	0.070	0.037	0.060	[0.008: 0.153]
T1 father understanding	T1 Self-esteem	T2 Thriving	0.082	0.050	0.097	[-0.009: 0.188]
T1 father validation	T1 Self-efficacy	T2 Trait Cog. Anxiety	0.059	0.034	0.086	[0.006: 0.138]
T1 father understanding	T1 Self-esteem	T2 Trait Cog. Anxiety	-0.135	0.055	0.014	[-0.258: -0.046]

Note. These values represent standardised path coefficient. 95% CI indirect effect = the 95% confidence interval with lower and upper bounds for indirect effects.

5.4 Discussion

The purpose of this study was to examine the long-term influence of perceived parental validation and understanding on athletes' goal accomplishment, trait cognitive sport anxiety, and thriving. Notably, this study was the first to use the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, et al., 2017) as a two-factor model accounting for perceived understanding and validation rather than a single factor of perceived responsiveness. Overall, the results showed that athletes' perceived self-efficacy to accomplish their goals mediated the relationship between perceived parental validation and goal accomplishment and trait cognitive sport anxiety three months later. The results also revealed that athletes' self-esteem mediated the relationship between perceived parental understanding and thriving and trait cognitive sport anxiety three months later.

The first hypothesis stated that athletes' perceptions of their mother's and father's understanding and validation would be positively related to their perceived self-efficacy to reach their goals, as well as their self-esteem. The results revealed that, perceptions of mother/father understanding positively related to athletes' self-esteem, while perceptions of mother/father validation positively related with athletes' perceived self-efficacy to accomplish their goals. The positive relationship between perceived parental understanding and self-esteem may be clarified as follows; feeling understood is a broad concept that includes understanding one's thoughts, feelings, motivation, and identity (Reis, Lemay, et al., 2017). Athletes' perception of being understood by their parents likely implies congruency between the athletes' experience of their self, and the athletes' beliefs regarding how their parents perceived those experiences of the self (Reis, Lemay, et al., 2017). Thus, if the athletes' perceptions of their parents' understanding are a general sense of their parents' insight about themselves, and the athletes' self-esteem is their own perceptions about themselves, it is not surprising that these two constructs were positively related.

These results provide support to Knight and Holt's (2014) grounded theory of parental involvement which showed that parents understanding their child's experience in sport, and the creation of an understanding emotional climate, was key to optimal parental involvement in sport. The findings also align with attachment

theory and related research that has shown that the quality of the parent-child attachment (i.e., acceptance, warmth, and trust) increases the level of self-esteem among adolescents (Gullone & Robinson, 2005; Walker & Greene, 1986). This link between the current findings and attachment theory is of particular interest because the trust scale of the Inventory of Parent and Peer Attachment – Revised (IPPA-R; Gullone & Robinson, 2005), which is the scale usually adopted in attachment research, measures the degree of mutual understanding in the attachment relationship. So, the trust scale of the IPPA-R, and the understanding subscale of perceived parental responsiveness actually measured similar constructs and have resulted in similar outcomes. Using the IPPA-R in sport, a study conducted with Korean middle and high school athletes showed that the quality of the parent-athlete attachment (i.e. communication, trust, and alienation) mediated the relationship between athletes' perceptions of parental support and their self-esteem (Kang et al., 2015). Thus, the results of the present study which showed that athletes' perception of their parents' understanding was positively linked with self-esteem clearly aligns with similar research using attachment theory (Gullone & Robinson, 2005; Kang et al., 2015; Walker & Greene, 1986).

The positive relationship found in the present study between athletes' perception of their mother's/father's understanding and their self-esteem can also help to clarify previous findings that showed a positive association between athletes' perception of parental support and self-esteem (Felker, 1968; Hoyle & Leff, 1997; Leff & Hoyle, 1995). The results of the present study indicate that it may have been athletes' perception of their parents' understanding (which can be considered as a component of athletes' perceptions of parental support) that positively linked with their increased self-esteem. Further research should be conducted to help discriminate more specifically between athletes' perceived understanding versus perceived support from their parents.

The results of the present study also showed a positive relationship between athletes' perception of their mother's/father's validation and their self-efficacy to accomplish their goals. These results may also be explained while considering the specific context in which the study took place, because participants were involved in three team sports (i.e., rugby, handball, and basketball) which are the most popular

sports in France (Ministère de la ville, de la jeunesse, et des sports, 2017). Participants were all involved in a selective process and played at regional level, or were involved in regional selections and thus one would anticipate their sport involvement was important to them. Participants were also in the specialisation phase of their sport development, characterised by structured training sessions and a large amount of deliberate practices aiming to increase their performance (Côté et al., 2007). Combining these aspects, that is, the relatively young age of participants, their sport specialisation status, and the contextual and personal importance of their sport involvement, it is feasible that their athletic identity may be inflated compared to other components of their self (Mitchell et al., 2014). If participants have a stronger athletic (than social, academic etc) identity, they may perceive the validation of their parents not as validation of them as a person, but as an athlete. Thus, participants may have perceived that validation from their parents was contingent upon their sport involvement and performances, and felt that they were validated as an athlete. If athletes felt they were validated as athletes (rather than validated in general), it increased their belief in themselves as athletes, that subsequently linked with increased self-efficacy to accomplish their goals.

The link between athletes' perceived validation from their parents and their increased self-efficacy further aligns with expectancy-value theory (Eccles & Wigfield, 2002). Expectancy-value theory posits that children's expectations for success (i.e., perceived self-efficacy) are influenced by their perception of their socialisers' beliefs and expectations of completing the task (Eccles & Wigfield, 2002). So, based on the expectancy-value theory, the relationship between athletes' perception of their parents' validation and their self-efficacy may be explained because athletes' expectations of success in sport were influenced by their perception of their parents valuing their sport involvement, and having high expectations for them.

The positive association between athletes' perceived parental validation and their self-efficacy to accomplish their goals also aligns with findings from Knight, Little, Harwood, and Goodger's (2016) study of elite canoeist. In their study, parental behaviours that athletes reported being beneficial for them (i.e., valuing their children's engagement in sport, or valuing their child's progress) were parallel with

the construct of athletes' perceptions of their parent's validation. Athletes reported that these parental behaviours helped them to focus more successfully upon their performances, and helped them to build their perceived competence, which is included in the notion of self-efficacy. Consequently, based on Knight and colleagues' (2016) findings, it can be inferred that parents whom appropriately validated their children's experiences in sport increased their self-efficacy to accomplish their goals.

The second hypothesis stated that athletes' perceived self-efficacy to reach their goals would be positively related with their goal accomplishment three months later. The results demonstrated a positive relationship between athletes' perceived self-efficacy to accomplish their goals and their goal accomplishment three months later. These results also showed an indirect effect of perceived validation from their mothers/fathers of their goal accomplishments, while mediated by athletes' self-efficacy. These results align with Tomlinson et al. (2016) who studied the long-term outcomes of responsive interactions among romantic couples. The results of their study showed a positive relationship between perceived partner responsiveness and goal accomplishment, while mediated by the perceived capability to accomplish the goal (Tomlinson et al., 2016). A unique finding of the present study is that the results showed that it was the perceived mother/father validation subcomponent of perceived parental responsiveness that positively indirectly influenced athletes' goals accomplishment.

The third hypothesis stated that athletes' self-esteem would be positively related with athletes' thriving three months later and the results supported the hypothesis. The results showed that athletes' self-esteem not only influenced their thriving immediately (as in Study One and two), but also influenced thriving three months later. Additionally, the results showed that athletes' self-esteem mediated the relationship between their perception of their mother's/father's understanding and long-term thriving. As indicated above, such a result makes conceptual sense because athletes' perception of being understood by their parents likely implies congruence between the athletes' self-concept and the athletes' beliefs regarding how their parents perceived their self (Reis, Lemay, et al., 2017). The long-term influence of athletes' self-esteem on thriving also make sense because self-esteem is a broad

construct that is largely based on the general sense an individual has about their self, that is relatively stable, and that predicts global outcomes (Marsh et al., 2018). These findings linking athletes' perceptions of their mother's/father's understanding and their self-esteem also helps to extend Feeney and Collins' (2015) model of thriving through relationship that posits that specific interaction accumulates with time to build general outcomes. The results of the present study showed that athletes' general perception of their parent's understanding influenced their general self-perception (i.e., self-esteem), demonstrating an association between athletes' general perceptions of close relationships and general outcomes.

The fourth hypothesis stated that athletes' perceived self-efficacy to accomplish their goals and athletes' self-esteem would be negatively related to their trait cognitive sport anxiety three months later. This relationship was predicted because perceived self-efficacy and self-esteem are related with lower levels of sport anxiety in many studies (Feltz et al., 2008; Fox & Lindwall, 2014; Martin & Gill, 1991; Smith et al., 2006). As expected, athletes' self-esteem negatively influenced athletes' trait cognitive sport anxiety, which reinforces the findings of Study Two by showing the long-term impact of athletes' self-esteem on their trait cognitive sport anxiety.

However, contrary to the fourth hypothesis, the results showed that athletes' perceived self-efficacy to accomplish their goals was associated with increased levels of trait cognitive sport anxiety three months later. Although seemingly counterintuitive, the relationship between self-efficacy and increased levels of trait cognitive sport anxiety can be explained by drawing on the Control-Value Theory of Achievement Emotions (CVTAE; Pekrun, 2006). Pekrun (2006) defines achievement emotions as emotions that relate to achievement activities (e.g., participating in competitions) and/or achievement outcomes (e.g., successes and failures). Pekrun (2006) posits two groups of appraisals for achievement emotions based on subjective value (e.g., importance of success) and subjective control (e.g., perceived causal inferences). When the subjective value is high, and the expectation of success is moderate due to a lack of control, individuals could either feel hope, if the focus is on success, and/or anxiety if the focus is on failure (Pekrun, 2006, 2018). Based on this distinction, the positive relationship between athletes' perceived self-efficacy to accomplish their goals and their sport anxiety could be explained as follows: higher

levels of perceived self-efficacy to accomplish their goals meant that athletes' believed in their own agency to perform the behaviours necessary to produce the desired outcomes (Bandura, 1997). Yet, despite their self-efficacy beliefs, competitive sport is inherently uncertain and can result in success and/or failure (Carr, 2013). Consequently, the uncertainty of sport combined with the probable high value that the participants placed on their sport involvement may have led them to experience higher levels of sport anxiety (Pekrun, 2006, 2018).

A unique feature of the current study was that it is the first study to have used the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, et al., 2017) as a two-factor model accounting for perceived understanding and validation rather than a single factor of perceived responsiveness. The use of the two-factor model was theoretically relevant (e.g., Reis, Lemay, et al., 2017) and deemed appropriate to have a better understanding of the differences in the outcomes of athletes' perceptions of their mother's/father's responsiveness. Athletes' perception of mother versus father understanding and validation suggested that the strongest influence on athletes' self-esteem was their perception of their father's understanding. The results also suggested that the strongest influence on athletes' perceived self-efficacy to accomplish their goals was their perception of their mother's validation. Although perceptions of father understanding had a direct relationship on thriving three months later, perceptions of mother's validation had a direct relationship on thriving three months later. Finally, the results also suggested that perceptions of mother understanding could have a negative relationship with athletes' self-efficacy to accomplish their goals.

The differences in the outcomes associated with perceptions of mother versus father understanding and validation could be related to the gender roles attributed to mothers versus fathers in sport. For instance, the stronger influence of athletes' perception of their father's responsiveness (as demonstrated in Study Two), and specifically athletes' perception of their father's understanding on their self-esteem could be explained due to the role of fathers in sport. That is, sport is a context in which fathers can be involved with their children without challenging their gender dominant ideology (Coakley, 2006). If fathers are involved in their child's sport participation but not in other areas of their child's life, it could result in athletes

feeling that their father's support is conditional upon their sport participation. Conditional parental support (even when positive) has been related with negative outcomes such as increased anxiety or resentment toward parents (Assor, Roth, & Deci, 2004; Otterpohl, Lazar, & Stiensmeier-Pelster, 2019). On the contrary, if athletes perceived that their father understands them as a person, understanding who they are as a whole not just an athlete, it might result in athletes' perceiving that their fathers' support is unconditional and not limited to their athletic self, subsequently resulting in higher levels of self-esteem. Such an explanation is purely speculative and further research is needed to provide a better understanding of such differences in athletes' perception of their mother's/father's understanding and validation.

5.4.1 Limitations and future directions. The results should be considered within the limitations of the study. First, the data collection occurred in sport clubs and were carried out in group settings. Despite the researcher providing clear instructions that questionnaires and responses were for individuals to complete, it is possible that other participants might have influenced athletes responses during the goal setting activity and encouraged socially desirability responses on the self-reported questionnaires (Fisher, 1993). Second, as the data collection occurred within sports clubs, is possible that the specific culture within each team influenced the results. This means that variations in the results might not only account for differences in individual's perceptions, but also reflect systematic variations at a team level (Goldstein, 2011). A multilevel hierarchical analysis would have been useful to shed light on these effects, but unfortunately the limited number of teams involved in the study, and the varying number of participants in each team, prevented such analysis being performed. Future research might overcome this issue by involving a larger number of teams in their study.

Third, athletes' gender, gender role, and sex stereotypes were not fully accounted for due to the large gender imbalance in participants. The results of the present study showed that gender did not influence athletes' perceived self-efficacy to accomplish their goals. However, athletes' gender, notably being female was negatively related with their self-esteem and with thriving, and positively related with their goal accomplishment and cognitive anxiety in sport. The negative relationship between females versus males on trait cognitive sport anxiety could be

due to female athletes experiencing higher levels of threat stereotypes in sport resulting in worries about threat and failure rather than focussing on success (Chalabaev, Sarrazin, Stone, & Cury, 2008). According to Pekrun's (2006) CVTAE, a focus on failure in risky environments (i.e., high value and low control) can lead individuals to experience higher levels of anxiety. Further examination of athletes' gender, gender role, and sex stereotypes would be necessary to fully understand such differences.

Fourth, the large amount of covariation between perceptions of mother/father understanding and validation might have created multicollinearity issues. These difficulties were prevented by a careful examination of VIF level in preliminary multiple linear regressions and by the analysis of standards errors inflation in the mediation model (Grewal, Cote, & Baumgartner, 2004). However, multicollinearity problems led to the dismissal of a fully moderated mediation model including gender and a complete SEM analysis including the measurement model. Finally, this study was carried out within the context of competitive team sports in a single region in France. More diverse participants, contexts, and cultures are required to fully grasp the potential influences of perceived parental understanding and validation in youth sport.

5.4.2 Conclusion. The results of this study showed that athletes' perceptions of their mother's/father's validation, mediated by perceived athletes' self-efficacy to accomplish their goals, influenced their goal accomplishment and trait cognitive sport anxiety three months later. The results also showed that athletes' perceptions of their mother's/father's understanding, mediated by athletes' self-esteem, influenced athletes' thriving and trait cognitive sport anxiety three months later. Overall, the present study uniquely contributed to understanding of parent-athlete relationships by showing that athletes' perception of their mother's and father's understanding and validation influenced certain long-term outcomes (i.e., goal accomplishment, sports anxiety, and thriving) mediated by self-efficacy and self-esteem.

Chapter 6

The influence of climbers' perceptions of mother's and father's responsiveness through time, contexts and situations.

6.1 Introduction

Based on Feeney and Collins' (2015) model, Study One (see Chapter 3) of this thesis demonstrated a positive relationship between the provision and perception of responsive support in specific situations and a range of immediate psychosocial outcomes for young athletes. Study Two (see Chapter 4) demonstrated that athletes' general perceptions of the responsiveness of their parents were related with their general self-perception (i.e., self-esteem) and subsequent indicators of thriving (i.e., positive affect, vitality, life satisfaction). Finally, Study Three (see Chapter 5) showed that athletes' perceptions of their parent's understanding and validation were positively related with long-term thriving (i.e., positive affect, vitality, life satisfaction, and health quality) three months later. Taken together, the findings of these three studies have lent support to the application of Feeney and Collins' (2015) model to understand parent-athlete relationships. Moreover, they have illustrated specific and general influences of parents' responsiveness on immediate and longer-term thriving, self-efficacy, and self-esteem.

However, further research to address limitations of these previous studies and to further examine Feeney and Collins' (2015) model continued to be needed. Specifically, studies one and two were cross-sectional and Study Three was semi-longitudinal, with only two data collection points separated by three months. As such, these three studies did not allow for the measurement of the temporal and contextual variations in athletes' perceptions of parental responsiveness. The design used in the previous three studies only measured athletes' perceptions of their parents' responsiveness in intermittent instances rather than continuously. It is important to monitor athletes' continuous perceptions of parental responsiveness because, according to Feeney and Collins (2015), it is through the gradual accumulation and generalisation of the immediate outcomes of specific interactions that broader outcomes and long-term thriving are shaped (Feeney & Collins, 2015). As detailed in Chapter 4, it is suggested that this occurs because relationships that are responsive in specific situations are also deemed to be continuously responsive

through time and situations. Such continuously responsive interactions ultimately result in the support being generalised, leading to broader outcomes (i.e., thriving).

This perspective is based on Bowlby's attachment theory (Bowlby, 1973, 1982, 1988), which suggests that children build an internal working model based on the gradual internalisation of the attachment relationships that they experience with their caregivers (e.g., parents). It is thought that, when children are securely attached to their caregiver (i.e., as a result of the caregiver demonstrating that they are available, responsive, and helpful to their children when necessary), they gradually develop a secure internal working model characterised by a positive perception of themselves (e.g., self-esteem) and of their environment (Bowlby, 1988; Carr, 2013; Duchesne & Larose, 2007). Consequently, it can be assumed that the consistency of perceived parental responsiveness will influence athletes' psychosocial outcomes. However, this can only be examined through repeated continuous measurement of perceptions of parental responsiveness. Hence, one purpose of the current study was to adopt a longitudinal, continuous measurement approach to examine this relationship.

In addition to testing the relationship suggested in Feeney and Collins' (2015) model and attachment theory (Bowlby, 1973, 1982, 1988), it is also valuable to monitor athletes' perception of their parent's responsiveness across situations because research in youth sport has shown that parents' behaviours are sometimes inconsistent. For instance, parents have been shown to demonstrate autonomy-supportive behaviours (e.g., letting their children being involved in decision making) in some situations, but controlling behaviours in other (Holt et al., 2009). When parents behave in such a manner it can lead to closed communication with their children and not being able to read their children's moods (Holt et al., 2009). If such inconsistency in parental behaviours is present, it can be anticipated that athletes would similarly report inconsistent perceptions of parental responsiveness, which may impact on short-term psychosocial outcomes and subsequently their ongoing thriving in sport. Such insights can only be gained through more continuous monitoring of parental responsiveness.

Of particular interest when considering parental behaviours, and in this instance, responsiveness, are competitions. Competitions have been recognised as highly emotional experiences for parents, which they can find challenging to manage

(Harwood & Knight, 2015). For instance, a study of British tennis parents identified that parents faced various pre-match (e.g., planning, logistic), in-match (e.g., child's emotional control and behaviour, controlling their own feelings), and post-match stressors (e.g., lack of skills in helping their child to manage emotions associated with results) (Harwood & Knight, 2009). However, not all parents experience the same stressors, and some parents are able to cope more successfully with them than others (Burgess, Knight, & Mellalieu, 2016). Given the individual challenges and subsequent emotions parents might experience at competitions, it seems that they might be a specific situations in which the responsiveness of parents may be likely to fluctuate (i.e., as a result of their own emotional experience parents may increase or decrease their responsiveness). The studies included in this thesis thus far had not been conducted around or in relation to competition and thus incorporating competitions within the study period seemed pertinent. Overall, it was anticipated that athletes' perception of the responsiveness of their parents would be fairly consistent through time, but that such perceptions may vary as a function of the proximity of competitions.

Research has also shown that athletes' perceptions of parental support can be positively correlated with their performance in competitions (Hoyle & Leff, 1997), meaning that athletes could perceive their parents as more supportive when they accomplish high performances (or vice versa). Further, the extent to which athletes had accomplished good or bad performances in competitions influences how athletes want their parents to behave (Knight & Holt, 2014). Thus, it appears that, whether parents appropriately match their behaviours to different situations (and thus meet the needs of their child at that time) will influence perceptions of appropriateness (Knight et al., 2010, 2011) and reported responsiveness. It was, therefore, anticipated that athletes' perceptions of their parent's responsiveness may be contingent upon their performances in competitions, but examination of the proposed relationships was required.

Finally, the second study (see Chapter 4) found that athletes' perceptions of their mother's and father's responsiveness were positively related with their self-esteem. Studies one, two, and three demonstrated that athletes' self-esteem, mediated with their perception of their mother's and father's responsiveness, was related to

athletes' thriving (i.e., affect, life satisfaction, vitality, health quality). These results aligned with the conceptualisation of self-esteem as a broader construct that is largely based on the general sense an individual has about themselves, the perception of significant others, and that mostly predict global outcomes (Marsh et al., 2018). However, research has also demonstrated that individual's self-concept (e.g., self-esteem) and performances are both determinants and consequences of each other (Marsh, Chanal, & Sarrazin, 2006), meaning that athletes' performance accomplishment could influence their self-esteem and vice-versa. Consequently, it was anticipated that athletes' self-esteem would be positively influenced by their performance accomplishment in competitions. Thus, it was anticipated that athletes' thriving (i.e., affect and life satisfaction) would be positively influenced by their self-esteem, their perceptions of their mother's and father's responsiveness, and by their performance accomplishment in competitions but examination of this proposed relationships were also required.

Based on the need to have more continuous, contextual, and situational specific indicators of athletes' perceptions of their mother's and father's responsiveness, the purpose of this study was to assess the influence of climbers' perceptions of their mother's and father's responsiveness through time, context, and situation in relation to their self-esteem, performance accomplishment, and thriving (i.e., affect and life satisfaction).

6.1.1 Hypotheses. Three hypotheses were developed for this study:

- Hypothesis 1: Athletes' perceptions of their mother's and father's responsiveness would be consistent across time but will vary as a function of their performance accomplishment and the proximity of a competition.
- Hypothesis 2: Athletes' self-esteem would be related to their perceptions of their mother's and father's responsiveness, and would vary as a function of their performance accomplishment in competition, and the proximity of a competition.
- Hypothesis 3: Athletes' affect and life satisfaction would be related to their self-esteem and their perceptions of their mother's and father's responsiveness, and would vary as a function of their performance accomplishment in competition, and the proximity of a competition.

6.2 Method

6.2.1 Participants. A convenience sample of 12 young Belgian climbers (six male and six female) competing at national and/or international level, aged between 11 and 18 years (M_{age} = 14.00, *SD* = 2.13) participated in the study. They trained on average 3.66 times/week (*SD* = 0.49) and were involved in climbing on average for 6.41 years (*SD* = 2.61). Of the participants, ten lived both with their mother and father while two lived only with their mother. Eight participants indicated that their mother was the most involved parent in their sport, three participants selected their father, and one participant selected both their mother and father.

6.2.2 Procedure. Following receipt of ethical approval, coaches of the main French-speaking youth climbing teams in Belgium were contacted to help identify potential participants who may be interested in taking part in this study. Climbing teams in Belgium were selected because of their convenient accessibility and proximity to the researcher. Potential participants were subsequently informed about the study by their coaches and given an information sheet. Individuals who were willing to participate in the study (and had parental consent) were asked to contact the researcher directly to ensure coaches were not aware of who was participating in the study. Participants were required to send a consent form signed by their parents (if they were aged under 16 years of age) as well as a participant assent form prior to the start of data collection.

The study occurred for a duration of 11 weeks between January and March 2019, with participants responding to online self-reported questionnaires on a weekly basis. These 11 weeks corresponded to the national youth sport climbing season in Belgium. During this period, participants competed in three competitions: the Belgian Lead Youth Cup N°1 (week one), the Belgian Lead Youth Cup N°2 (week two), and the Belgian Lead Youth Championship (week ten).

During weeks one, two, and ten (before each competition), participants were asked to indicate their expected results for the competition that was occurring that weekend. Then, during weeks two, four and 11 (following each competition), participants were asked to assess their satisfaction/dissatisfaction with their performance accomplishment in the competition from the preceding weekend. Each week (T1 to T11) participants also responded to various self-reported questionnaires

measuring perceptions of their mother's/father's responsiveness, affect, self-esteem, and life satisfaction. Due to the intensity and repetition of the data collection, questionnaires were carefully selected in order to provide sufficient information, and to minimise the time required from participants.

6.2.3 Measures. Questionnaires either available in French or translated from English into French using a back translation procedure as recommended by Hambleton and Zenisky (2010) were used in the study.

6.2.3.1 Perceived parental responsiveness. Using the three-item version of the Perceived Partner Responsiveness Scale (Selcuk, Stanton, Slatcher, & Ong, 2017), participants were asked to indicate each week (T1 to T11) on a 5-point Likert scale, anchored at 1 (*not at all*) and 5 (*extremely*), the extent to which they perceived that their mother and father were *"really interested in what I felt or thought"* (cared for), *"understood me well"* (understanding), and *"valued my competences and opinions"* (value/validate). Both scales demonstrated a good internal consistency (i.e., $\omega_t = 0.88$ for mothers, and $\omega_t = 0.94$ for fathers). The three items were averaged into a single score of perceived mother responsiveness and a single score of perceived father responsiveness, with higher scores representing stronger perceptions of mother or father responsiveness.

6.2.3.3 Self-esteem. As with the preceding studies, the five items from the short version of the Physical Self-Description Questionnaire (Marsh et al., 1994) assessing global self-esteem were used each week (T1–T11). The scale demonstrated a good internal consistency (i.e., $\omega_t = 0.82$) and the five items were averaged to create a global score of self-esteem, with higher scores indicating higher levels of self-esteem.

6.2.3.4 Performance accomplishment. At T2, T4, and T11 of data collection, for each competition in which the climber had participated, they were asked to indicate on a 5-point Likert scale, anchored by 1 (*not at all*) and 5 (*extremely*), the extent to which they perceived that: (a) the competition was important for them (i.e., *importance*); (b) they had accomplished their desired performance (i.e., *performance*); (c) if they had to make continuous effort to accomplish this performance (i.e., *effort*), and; (d) if this performance was difficult to accomplish (i.e., *difficulty*). For each competition, *performance* and *effort* were weighted by

importance and *difficulty*. An average score of performance accomplishment for each competition was subsequently computed, with higher scores representing higher performance accomplishments.

6.2.3.5 Affect. Each week (T1–T11), participants' affect were assessed using the 20-item Positive and Negative Affect Scale (Gaudreau, Sanchez, & Blondin, 2006). The psychometric analysis across two samples of French and Canadian athletes demonstrated that the scale could be used as a three-factor model accounting for positive affect, upset, and afraid (see Gaudreau, Sanchez, & Blondin, 2006 for further details). Each scale demonstrated a good internal consistency (i.e., $\omega_t = 0.88$, $\omega_t = 0.82$, and $\omega_t = 0.82$). Consequently, the ten positive affect items, the five upset affect items, and the five afraid affect items were averaged to create three global scores of positive affect, upset affect, and afraid affect. For each dimension, higher scores indicated higher levels of affectivity.

6.2.3.6 Life satisfaction. As with preceding studies, each week (T1–T11) life satisfaction was assessed using the single item of Cantril's Ladder of self-rated life satisfaction (Cantril, 1965). Higher scores indicated higher perceptions of life satisfaction.

6.2.4 Data analysis. All data were analysed with R-statistics (R Core Team, 2018). The full script of analyses, questionnaires used, and comprehensive results are available in Appendix D. The main analysis consisted of linear mixed-effect models accounting for fixed effect at level-1 and participant random effects as level-2 (Goldstein, 2011). The models were computed using Maximum-Likelihood (ML). Autoregressive errors (AR1) in the data were taken into account in order to control for within participant correlations from week to week, all variables were standardised beforehand, and VIF carefully checked (Barr, Levy, Scheepers, & Tily, 2013). Due to the relatively low number of participants in the study (N = 12), and the numbers of repetitions (T = 11), the α-level was set at 0.10 (Lakens et al., 2018).

6.3 Results

6.3.1 Preliminary analyses. Twelve participants responding over eleven weeks could have theoretically resulted in 132 individual data points. However, the constraints of the study (i.e., participants only had a limited time frame to respond to the weekly questionnaires) in addition to organisational difficulties for athletes (e.g., busy schedules, being abroad) led to a total of 14 missing data points. If participants missed a week of the data collection, the data were handled with a listwise deletion procedure, meaning that such data were simply not accounted for (Kang, 2013). Overall, data collection resulted in 118 observations across the 12 participants.

Preliminary analyses consisted of spearman correlation analysis of the variables that were measured on weekly basis (T1-T11). As expected, based on the results of previous studies of this thesis, athletes' perceptions of their mother's and father's responsiveness were positively correlated. Athletes' perceptions of mother's and father's responsiveness were positively correlated with athletes' self-esteem, and self-esteem further positively correlated with various components of thriving (i.e., positive affect, life satisfaction). Consequently, all correlations (see Table 6.1) were in the expected directions.

Table 6.1

Means, standard deviations, and correlations with confidence intervals for the continuous variables that were collected during the 11 weeks of the data collection.

Variable	M	SD	1	2	3	4	5	6
1. Perceived Father Responsiveness	3.77	1.12						
2. Perceived Mother Responsiveness	4.30	0.71	.48** [.32, .61]					
3. Self-Esteem	3.96	0.60	.35** [.17, .50]	.44** [.28, .58]				
4. Positive Affect	3.21	0.78	.07 [-.11, .26]	.18 [-.00, .35]	.35** [.18, .50]			
5. Upset Affect	1.48	0.66	-.50** [-.63, -.34]	-.12 [-.29, .07]	-.35** [-.50, -.19]	.00 [-.18, .18]		
6. Afraid Affect	1.86	0.81	-.32** [-.48, -.14]	-.12 [-.30, .06]	-.27** [-.43, -.09]	.21* [.03, .38]	.59** [.46, .70]	
7. Life Satisfaction	77.83	13.74	.22* [.04, .39]	.46** [.31, .59]	.64** [.52, .73]	.49** [.34, .62]	-.30** [-.45, -.12]	-.17 [-.34, .02]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * = $p < .05$; ** = $p < .01$.

6.3.2 Main findings. The main findings consisted of seven models accounting for random (i.e., variations between participants) and fixed effects on climbers' perceived father responsiveness (Model 1), perceived mother responsiveness (Model 2), self-esteem (Model 3), life satisfaction (Model 4), positive affect (Model 5), afraid affect (Model 6), and upset affect (Model 7).

6.3.2.1 Model 1. The first model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend) on their perception of their father's responsiveness. The model was based on 73 observations across 12 participants. The Intraclass Correlation Coefficient (ICC) for the model accounting for the correlation among observations within each participant was: ICC = 0.856. The full model (random + fixed effects) explained 85.9% of the variance, with the fixed-effect explaining 2.4% of the variance. The information criterion of the full model compared to the null model was: AIC (9) = 125.998, AIC(4) = 190.364 The random-effect variance in the model was $\sigma^2 = 0.866$ with a residual variance of: $\sigma^2 = 0.145$. The fixed effects demonstrated that climbers' had higher levels of perceived father responsiveness ($\beta = 0.328$, $p = 0.003$) when they had competed last weekend (see Table 6.2 for further details).

Table 6.2

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on perceived father responsiveness.

Fixed effects	Estimates	90% CI	p-value
(Intercept)	-0.257	-0.722 – 0.207	0.780
Performance Accomplishment	0.078	-0.055 – 0.213	0.350
Competed last weekend (Yes)	0.328	0.155 – 0.500	**0.003**
Will compete this weekend (Yes)	0.083	-0.127 – 0.295	0.529
Performance * Competed (Yes)	-0.089	-0.266 – 0.088	0.424
Performance * Will compete (Yes)	-0.006	-0.277 – 0.265	0.971

6.3.2.2 Model 2. The second model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend) on their perception of their mother's responsiveness. The model was based on 82

observations across 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.500. The information criterion of the full model compared to the null model was: AIC (9) = 163.891, AIC(4) = 267.544. The random-effect variance in the model was $\sigma^2 = 0.412$ with a residual variance of: $\sigma^2 = 0.412$. The full model (random + fixed effects) explained 52.3% of the variance, with a fixed-effect that explained 4.6% of the variance. The fixed effects demonstrated that climbers had higher levels of perceived mother responsiveness ($\beta = 0.333$, $p = 0.008$) when they had competed last weekend (see Table 6.3 for further details).

Table 6.3

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on perceived mother responsiveness.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	-0.113	-0.496 – 0.269	0.636
Performance Accomplishment	0.1132	-0.002 – 0.293	0.194
Competed last weekend (Yes)	0.333	0.0137 – 0.528	**0.008**
Will compete this weekend (Yes)	0.175	-0.056 – 0.406	0.229
Performance * Competed (Yes)	0.031	-0.175 – 0.237	0.807
Performance * Will compete (Yes)	-0.038	-0.321 – 0.244	0.828

6.3.2.3 Model 3. The third model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend), and athletes' perceptions of their mother's and father's responsiveness on their self-esteem. The model was based on 82 observations across 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.437. The information criterion of the full model compared to the null model was: AIC (11) = 160.022, AIC(4) = 301.293. The random-effect variance in the model was $\sigma^2 = 0.251$ with a residual variance of: $\sigma^2 = 0.324$. The full model (random + fixed effects) explained 69.8% of the variance, with a fixed-effect that explained 46.4% of the variance. The fixed effects demonstrated that climbers had lower levels of self-esteem when they planned to participate in a competition during the weekend ($\beta = -0.372$, $p = 0.051$), or when they had competed last weekend ($\beta = -0.286$, $p =$

0.079). Climbers had higher levels of self-esteem when they perceived higher levels of mother responsiveness (β = 0.565, p < 0.001) and when they had performed well in a competition last weekend (β = 0.355, p = 0.028; see Table 6.4 for further details).

Table 6.4

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on climbers' self-esteem.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	0.055	-0.254 – 0.365	0.778
Performance Accomplishment	0.055	-0.133– 0.243	0.646
Competed last weekend (Yes)	-0.286	-0.539 – -0.033	**0.079**
Will compete this weekend (Yes)	-0.372	-0.668 – -0.076	**0.051**
Perceived Father Responsiveness	0.118	-0.109 – 0.345	0.417
Perceived Mother Responsiveness	0.565	0.350 – 0.762	**<0.001**
Performance Acc. * Competed (Yes)	0.355	0.106 – 0.605	**0.028**
Performance Acc. * Will compete (Yes)	-0.077	-0.446 – 0.291	0.742

6.3.2.4 Model 4. The fourth model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend), their perceptions of their mother's and father's responsiveness, and their self-esteem on their life satisfaction. The model was based on 73 observations across 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.419. The information criterion of the full model compared to the null model was: AIC (14) = 149.722, AIC(4) = 291.228. The random-effect variance in the model was $\sigma^2 = 0.191$ with a residual variance of: $\sigma^2 = 0.265$. The full model (random + fixed effects) explained 75.5% of variance, with a fixed-effect that explained 57.9% of the variance. The fixed effect demonstrated that climbers had lower levels of life satisfaction when they had competed last weekend (β = -0.344, p = 0.027). Climbers had higher levels of life satisfaction when they had higher levels of self-esteem (β = 0.524, p < 0.001; see Table 6.5 for further details).

Table 6.5

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on climbers' life satisfaction.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	0.165	-0.123 – 0.455	0.379
Performance Accomplishment	-0.125	-0.294 – 0.044	0.260
Competed last weekend (Yes)	-0.344	-0.577 – -0.110	**0.027**
Will compete this weekend (Yes)	0.071	-0.205 – 0.348	0.692
Perceived Father Responsiveness	0.012	-0.192 – 0.219	0.927
Perceived Mother Responsiveness	0.204	-0.010 – 0.419	0.147
Self-Esteem	0.524	0.334 – 0.714	**<0.001**
Performance Acc. * Competed (Yes)	0.103	-0.132 – 0.339	0.499
Performance Acc. * Will compete (Yes)	0.063	-0.270 – 0.396	0.771
Perceived Father Responsiveness * Self-Esteem	0.079	-0.062 – 0.221	0.392
Perceived Mother Responsiveness * Self-Esteem	-0.191	-0.372 – -0.009	0.110

6.3.2.5 Model 5. The fifth model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend), their perceptions of their mother's and father's responsiveness, and their self-esteem on their positive affect. The model was based on 73 observations across 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.480. The information criterion of the full model compared to the null model was: AIC (14) = 133.033, AIC(4) = 221.178. The random-effect variance in the model was $\sigma^2 = 0.350$ with a residual variance of: $\sigma^2 = 0.380$. The full model (random + fixed effects) explained 58.3% of the variance, with a fixed-effect that explained 19.8% of the variance. The fixed effect demonstrated that climbers had lower levels of positive affect when they achieved a high level of performance accomplishment in competition ($\beta = -0.183$, $p = 0.039$), and when they had higher levels of perceived father responsiveness ($\beta = -0.256$, $p = 0.075$). However, climbers had higher levels of positive affect when they had competed last weekend ($\beta = 0.328$, $p = 0.008$), when they had higher levels of self-esteem ($\beta = 0.289$, $p = 0.007$), and when they had high performance accomplishment in interaction with competing the previous weekend ($\beta = 0.250$, $p = 0.043$; see Table 6.6 for further details).

Table 6.6

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on climbers' positive affect.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	-0.309	-0.692 – 0.074	0.291
Performance Accomplishment	-0183	-0.317 – -0.049	**0.039**
Competed last weekend (Yes)	0.328	0.142 – 0.515	**0.008**
Will compete this weekend (Yes)	0.193	-0.015 – 0.402	0.158
Perceived Father Responsiveness	-0.256	-0.474 – -0.038	**0.075**
Perceived Mother Responsiveness	0.079	-0.112 – 0.270	0.525
Self-Esteem	0.289	0.130 – 0.447	**0.007**
Performance Acc. * Competed (Yes)	0.250	0.063 – 0.437	**0.043**
Performance Acc. * Will compete (Yes)	0.252	0.007 – 0.469	0.117
Perceived Father Responsiveness * Self-Esteem	-0.086	-0.205 – 0.033	0.269
Perceived Mother Responsiveness * Self-Esteem	-0.019	-0.171 – 0.132	0.842

6.3.2.6 Model 6. The sixth model tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend), their perceptions of their mother's and father's responsiveness, and their self-esteem on their afraid affect. The model was based on 73 observations within 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.400. The information criterion of the full model compared to the null model was: AIC (14) = 163.755, AIC(4) = 255.702. The random-effect variance in the model was $\sigma^2 = 0.296$ with a residual variance of: $\sigma^2 = 0.442$. The full model (random + fixed effects) explained 56.1% of the variance, with a fixed-effect that explained 26.7% of the variance. The fixed effects demonstrated that climbers had lower levels of afraid affect when they had higher levels of perceived mother responsiveness in interaction with higher levels of self-esteem ($\beta = -0.310$, $p = 0.018$). Climbers had higher levels of afraid affect when they planned to participate in a competition ($\beta = 334$, $p = 0.071$), or when they had competed last weekend ($\beta = 0.470$, $p = 0.004$; see Table 6.7 for further details).

Table 6.7

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on climbers' afraid affect.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	-0.024	-0.397 – 0.349	0.921
Performance Accomplishment	-0.082	-0.260 – 0.094	0.474
Competed last weekend (Yes)	0.470	0.226 – 0.714	**0.004**
Will compete this weekend (Yes)	0.334	0.053 – 0.614	**0.071**
Perceived Father Responsiveness	-0.243	-0.494 – -0.007	0.140
Perceived Mother Responsiveness	-0.054	-0.196 – 0.185	0.727
Self-Esteem	-0.187	-0.294 – 0.016	0.162
Performance Acc. * Competed (Yes)	0.024	-0.391 – 0.271	0.876
Performance Acc. * Will compete (Yes)	0.050	-0.221 – 0.380	0.815
Perceived Father Responsiveness * Self-Esteem	-0.043	-0.197 – 0.110	0.664
Perceived Mother Responsiveness * Self-Esteem	-0.310	-0.507 – -0.113	**0.018**

6.3.2.7 Model 7. Finally, model seven tested the relationships (main effects and interactions) between participants' performance accomplishment and the proximity of competitions (competed last weekend/will compete this weekend), their perceptions their mother's and father's responsiveness, and their self-esteem on their upset affect. The model was based on 73 observations within 12 participants. The ICC for the model accounting for the correlation among observations within each participant was: ICC = 0.076. The information criterion of the full model compared to the null model was: AIC (14) = 205.480, AIC(4) = 295.617. The random-effect variance in the model was $\sigma^2 = 0.056$ with a residual variance of: $\sigma^2 = 0.681$. The full model (random + fixed effects) explained 45.8% of the variance, with a fixed-effect that explained 41.3% of the variance. The fixed effects demonstrated that climbers had lower levels of upset affect when they had higher levels of perceived father responsiveness ($\beta = -0.482$, $p = 0.002$), and when they had higher levels of self-esteem ($\beta = -0.338$, $p = 0.051$). Climbers had higher levels of upset affect when they had competed last weekend ($\beta = 0.477$, $p = 0.044$); see Table 6.8 for further details).

Table 6.8

Standardised estimates, 90% Confidence interval, and p-value accounting for fixed effects predictors on climbers' upset affect.

Fixed effect	Estimates	90% CI	p-value
(Intercept)	-0.055	-0.382 – 0.270	0.792
Performance Accomplishment	0.047	-0.211 – 0.305	0.779
Competed last weekend (Yes)	0.477	0.119 – 0.835	**0.044**
Will compete this weekend (Yes)	0.241	-0.189 – 0.672	0.390
Perceived Father Responsiveness	-0.482	-0.712 – 0.252	**0.002**
Perceived Mother Responsiveness	0.172	-0.112 – 0.457	0.354
Self-Esteem	-0.338	-0.601 – -0.076	**0.051**
Performance Acc. * Competed (Yes)	-0.327	-0.687 – 0.032	0.166
Performance Acc. * Will compete (Yes)	-0.094	-0.609 – 0.420	0.778
Perceived Father Responsiveness * Self-Esteem	0.042	-0.173 – 0.258	0.761
Perceived Mother Responsiveness * Self-Esteem	-0.184	-0.450 – 0.081	0.288

6.4 Discussion

The purpose of this study was to assess the influence of climbers' perceptions of their mother's and father's responsiveness through time, context, and situation in relation with their self-esteem, performance accomplishment, and thriving (i.e., affect and life satisfaction). The results demonstrated that climbers' perceptions of their mother's and father's responsiveness were fairly consistent through time. Climber's perceptions of their mother's and father's responsiveness were highly correlated within each participant, and most of the variance was explained by differences in perceptions of mother and father responsiveness between participants (i.e., ICC = 0.856 for athletes' perception of their father's responsiveness, and ICC = 0.500 for athletes' perception of their mother's responsiveness). The consistency of participants' perceptions of their parents' responsive support align with Feeney and Collins' (2015) proposition that relationships that are responsive in specific situations are also deemed to be continuously responsive through time. This is important because Feeney and Collins' model posits that it is through the gradual accumulation of the immediate outcomes of specific interactions that broader outcomes and long-term thriving are shaped. Consequently, it is believed that because of the consistency of the responsiveness of their parents, participants were able to gradually build a positive perception of themselves, and a positive perception of their parent as reliable

sources of comfort and reassurance (Carr & Fitzpatrick, 2011; Duchesne & Larose, 2007).

The only predictor related with participants' perceptions of their mother's and father's responsiveness was that they had competed during the previous weekend. When climbers had participated in a competition during the weekend, they perceived their mothers and fathers as more responsive compared to when they had not participated in a competition. In line with a study in elite junior slalom canoeing, the finding showing that parents were perceived more positively by children after competitions can be interpreted as that parents were perceived as more responsive after a competition because they had provided the appropriate types of support (Knight et al., 2016). Although, the positive relationship between climbers' participation in competitions and their perceptions of their mother's and father's responsiveness should not be overinterpreted as the fixed effects in the models only explained 2.4% and 4.6% of the variance in participants' perceived father and mother responsiveness.

These results demonstrating that parents can positively adapt to competitions and be perceived by athletes as responsive to their needs are important because parents in competitions are often portrayed negatively with parents described as overstepping the coach and coaching their child, making negative or derogatory comments, demonstrating directive behaviours and pressure, or engaging in inappropriate debriefings after the game (Bean, Jeffery-Tosoni, Baker, & Fraser-Thomas, 2016; Bois et al., 2009; Elliott & Drummond, 2015; Gould et al., 2006; Holt et al., 2008; Ross et al., 2015). The prevalence of research highlighting negative parental behaviours in competitions is problematic because it reinforces the stigmatisation of parental involvement in sport. Consequently, the current findings linking climbers' participation in competitions with more positive perceptions of their parents are important. Such results contribute to the cultural shift in sport parenting research that consider parents not only as potential problems, but as well-intentioned and capable of learning and optimising their child's experiences in sport (Harwood et al., 2019).

The results of the present study further demonstrated that climbers' self-esteem was fairly consistent through time (i.e., ICC = 0.437) and that climbers' self-esteem

was positively related with their perceptions of their mother's responsiveness, but not related with perceptions of their father's responsiveness. The lack of relationship between climbers' perception of their father's responsiveness and their self-esteem does not mean that there was no relationships between climbers' perception of their father's responsiveness and their self-esteem (i.e., see correlations in Table 6.1), but rather that climbers' perceptions of their mother's responsiveness superseded the influence of their perceived father's responsiveness. The enhanced influence of climbers' perceived mother's responsiveness on their self-esteem can potentially be explained by the fact that most participants (i.e. 8 out of 12) considered their mother as their most involved parent in sport. This is interesting because the opposite effect (i.e., players' perception of their father's responsiveness superseded perceived mother responsiveness on self-esteem) was identified in Study Two (see Chapter 4) when most rugby players considered their father as their most involved parent in sport. Consequently, in the present study, the enlarged influence of climbers' perceived mother's responsiveness on their self-esteem can be interpreted as that mothers were likely to be seen as central to climbers' self-worth and self-evaluation (i.e., self-esteem).

Higher levels of climbers' self-esteem were further strengthened by the interaction between performance accomplishment in competition in interaction with competing the previous weekend. That is, climbers had higher levels of self-esteem when they had performed well during a competition during the previous weekend. The influence of competition proximity and performance accomplishment on climbers' self-esteem are in line with the idea that individual's self-concept (e.g., self-esteem) and performances are both determinants and consequences of each other (Marsh et al., 2006).

As expected, based on the results of previous studies of this thesis, the present study demonstrated the central role of climbers' self-esteem on thriving (i.e., life satisfaction and affect). When climbers had higher levels of self-esteem, it resulted in higher life satisfaction and positive affect, and lower levels of afraid and upset affect. These results are not surprising as self-esteem is a known mediator of the relationship between responsive support and thriving (Feeney, 2004; Gable & Reis, 2010; Smith & Reis, 2011). However, the results also showed the influence of the

context, with climbers that planned to compete during the weekend reporting higher levels of afraid affect. When climbers had competed the previous weekend, this resulted in lower levels of life satisfaction, higher levels of positive affect (especially in interaction with performance accomplishment), and higher levels of afraid and upset affect. Finally, the results demonstrated that climbers' perceptions of their father's responsiveness were negatively related with positive affect and upset affect, and climbers' perceptions of their mother's responsiveness was negatively related with their afraid affect in interaction with self-esteem. This means that climbers' perceptions of their parent's responsiveness were related with their life satisfaction and affect (positive, afraid, and upset affect) even when accounting for the context (i.e. proximity of a competition), the situation (i.e. performance accomplishment), and their self-esteem. Such results build upon Harwood and Knight's (2015) proposition that one of the primary characteristics of parental expertise in sport is the ability for parents to provide support that complements the demands of training and competition experienced by children. Overall, the results demonstrated that climbers' perceptions of their parent's responsiveness were central to their experiences during the competitive season.

6.4.1. Limitations and future directions. The results of this study should be considered within the limitations. The study was conducted in a single sport (i.e. climbing) with a small number of participants. A unique sport with fixed competitive venues and schedules was required to simultaneously control for competitive participation and results for all participants. However, it does limit the generalisability of the results. Participants were also conveniently selected based on their likely participation in the entire national competitive season in youth climbing in Belgium. Such a convenience sample facilitated the intensive longitudinal design over a period of eleven weeks, and minimised the chances of participants dropping out of the study. However, it should be acknowledged that neither the sport, nor the participants were representative of the overall population of young competitive athletes. Further research should consider involving other sports, and if possible, a random selection of a higher number of participants.

During the process of data collection, fourteen data points (out of 132) were missed by participants, and the data collection resulted in 118 observations across the

12 participants. Missing data arose for multiple reasons such as athletes' being on holiday, busy schedules during the week, and other unknown factors. Despite uncertainty regarding missing data at random occasions, the decision was made not to account for missing data and no specific countermeasures were taken (e.g., by computing alternative scores such as mean substitution). This decision was made in order to truly account for the reality of data collection in the field but could have resulted in bias results (Kang, 2013).

Due to the limited number of participants, and the repetitive design of the study, questionnaires were limited to a strict minimum to reduce completion time and boredom for participants. A full psychometric analysis of the questionnaire was not possible, and only basics reliability scores were produced (i.e., Omega scores). However, all questionnaires used in the present study had either been used in previous studies of the present thesis and demonstrated good psychometric scores or were considered a reliable questionnaire based on previous studies. Consequently, despite not being able to conduct a full psychometric analysis of the questionnaires in the present study, there is a degree of confidence that the questionnaires were both valid and reliable.

6.4.2 Conclusion. This study demonstrated consistency in young climbers' perceptions of their mother's and father's responsiveness across time, situations, and context. Climbers' perceptions of their parent's responsiveness were linked with positive psychosocial outcomes (i.e. self-perceptions, thriving). The consistency of parental responsiveness will allow these positive outcomes to gradually accumulate with time and to result in long-term thriving for young athletes (Feeney & Collins, 2015). Climbers' perceived mother and father responsiveness further increased after competitions, demonstrating that parents were able to provide appropriate support for their child in competitions, and help optimise their child's experiences in sport.

Chapter 7

General Discussion

The literature review (see Chapter 2) of this thesis provided a comprehensive overview of the literature pertaining to parental involvement in sport. The review outlined the roles that parents fulfil in the lives of their young athletes followed by a brief examination of the various influence parents can have on children's sporting experiences. The review demonstrated that the complex association between specific parental behaviours and athletes' outcomes was not yet fully understood (Charbonneau & Camiré, 2019; Knight, Berrow, et al., 2017). It was subsequently proposed that one important factor that might alter athletes' perceptions of parental support (Dorsch et al., 2016) and also influence athletes' wellbeing and growth (Knight, Harwood, et al., 2017) may be the quality of the relationship that exists between a parent and their child. A critical examination of theories pertaining to parent-athlete relationships in sport was subsequently provided. It was proposed that the study of such relationships could be illuminated by focusing on their responsiveness (Maisel & Gable, 2009; Reis & Gable, 2015). Consequently, drawing on Feeney and Collins' (2015) model of thriving through relationship, the purpose of the present thesis was to increase understanding of how different features of the parent-athlete relationships might influence short- and longer-term psychosocial outcomes among athletes.

Four studies were conducted to address this overall aim. The first study (Chapter 3) sought to understand how the responsiveness of specific parent-athlete interactions could influence immediate outcomes (i.e., self-efficacy) for young athletes. The second study (Chapter 4) aimed to examine how athletes' general perceptions of their parent's responsiveness could influence their general self-perceptions (e.g. self-esteem) and thriving. The third study (Chapter 5) further examined the pathways through which athletes' perceptions of their parent's validation and understanding could influence long-term psychosocial outcomes. Finally, Study Four (Chapter 6) investigated the influences of parental responsiveness through varying times, contexts, and situations on athletes' psychosocial outcomes.

Overall, the results of this thesis demonstrated that the provision and/or perception of parental responsive support led to immediate, and long-term positive psychosocial outcomes for young athletes. The following sections discuss the findings of the thesis beginning by clarifying the construct of responsiveness (Section 7.1) and the assessment of responsiveness (Section 7.1.1). Subsequently, the features of parent-athlete relationships (Section 7.2) are discussed while considering the specific outcomes of parental responsiveness in sport (section 7.2.1), athletes' general perception of parental responsiveness (Section 7.2.2), and differences in athletes' perception of their mother's and father's responsiveness (Section 7.2.3). Applied implication (Section 7.3) and future research direction (Section 7.4) are also discussed. Finally, a general conclusion is provided (Section 7.5).

7.1 Clarifying Responsiveness

One key proposition of the present thesis was that the study of parent-athlete relationships could be illuminated by focusing on the provision and perception of responsiveness within their relationships (Maisel & Gable, 2009; Reis & Gable, 2015). Responsiveness describes how people in a relationship attend to and support each other's needs and goals (Reis et al., 2004). Researchers are starting to consider responsiveness in youth sport research (e.g., Stupica, 2016; Weltevreden, van Hooft, & van Vianen, 2018), with some studies that can be interpreted *post-hoc* as including notions of responsiveness, but without referring to the responsiveness construct (e.g., Clarke et al., 2016; Knight & Holt, 2014; see Chapter 2 for further details). However, the lack of a clear and shared definition, and the lack of awareness pertaining to the characteristics of responsiveness (i.e. validating, understanding, and caring for) has led researchers to provide a collection of distinct studies that has limited their integration as collective findings. This has resulted in parent-athletes relationships being, to date, relatively misunderstood despite being considered as central to athletes' development and wellbeing (Harwood & Knight, 2015; Knight, Berrow, et al., 2017).

One added value of the present thesis was to integrate a clearly defined concept of responsiveness based on Reis et al. (2004). The advantages of Reis et al.'s (2004) definition of responsiveness is that it is both simple and parsimonious and can be operationalised as a single construct that is central to healthy and satisfying

relationships (Reis & Gable, 2015). This is important because it allows the researcher to assess, model, test, and integrate a shared understanding of the features of parent-athlete relationships. Responsiveness can also be aggregated into its subcomponents of understanding and validation (Reis, Crasta, et al., 2017) which provides deeper knowledge and information on specific characteristics within parent-athlete relationships. Further, Reis et al.'s (2004) construct of responsiveness is integrated within Feeney and Collins' (2015) model of thriving through relationships, which is the theoretical model chosen in the present thesis. In this thesis, the uses of Reis et al.'s (2004) construct of responsiveness within Feeney and Collins' (2015) provided an increased understanding of how different features of the parent-athlete relationships influenced short- and longer-term psychosocial outcomes among athletes

7.1.1 Assessing responsiveness. A variety of methods and questionnaires were used to address a number of research questions relating to parents' provisions and athletes' perceptions of responsiveness. In Study One, based on Tomlinson et al.'s (2016) study, a video-based behavioural coding system was developed to assess parental responsive support in sport. An extensive pilot study was carried out to generate a coding manual and to develop the final responsive support coding system which comprises nine items. Three independent coders, blind to the study hypotheses, were trained based on the pilot videos. Subsequently, coders were asked to assess the extent to which parents provided responsive support for their child's sport goals during a ten-minute interaction. Overall the video-coding procedure demonstrated being a reliable and sensitive method to assess the parental provision of responsive support in youth sport (see Chapter 3 for further details). The uses of this observational assessment method demonstrated that ten-minutes interaction between parents and athletes were sufficient to link parents' provision of responsive support with athletes' immediate and positive outcomes (i.e., self-efficacy). The video-coding procedure is recommended for future research aiming to assess the effects of the provision of responsive support in youth sport. This method is justified because providing support is an inherently interpersonal process that is embedded within particular relationship contexts (Feeney & Collins, 2015).

Athletes' perceptions of their mother's and father's responsiveness were assessed with various self-reported questionnaires. In Study One, athletes' perceived parental responsiveness (PPR) was assessed with an adapted version of Tomlinson et al. (2016) questionnaire which was specifically designed to assess the perceived responsiveness after a specific interaction. In Study Two and Three, athletes' general perceptions of their parents' responsiveness were assessed with the twelve-items version of the Perceived Partner Responsiveness Scale (PPRS; Reis, Crasta, et al., 2017). Reis, Crasta, et al. (2017) showed that the PPRS could be used either as a 1-factor model accounting for perceived responsiveness, or as a 2-factor model of perceived understanding and validation. In Study Two (see Chapter 4), the psychometric analysis of the PRRS demonstrated a good fit to the data for both the 1-factor (perceived responsiveness) and the 2-factor model (perceived understanding and validation*)*. The 1-factor model accounting for athletes' perceptions of their mother's and father's responsiveness as a single factor was subsequently chosen. In Study Two (see Chapter 5), the 2-factor model accounting for perceived understanding and validation showed a better fit to the data, which led to assessment of athletes' perceptions of their parents' understanding and validation. Finally, in Study Four, because of the repetitive nature of the study, athletes' perceived parental responsiveness were assessed with a three-item version of the Perceived Partner Responsiveness Scale (Selcuk et al., 2017). The instruments employed are parsimonious and sensitive to measure athletes' perceptions of parental responsive support and they can be easily implemented in future research. Although, further research is needed to provide comprehensive psychometric analyses in the context of youth sport participation.

7.2 The Features Of Parent-Athlete Relationships

In the present thesis, Reis et al.'s (2004) construct of responsiveness was integrated within Feeney and Collins' (2015) model of thriving through relationships to provide a better understanding of the features of parent-athletes relationships in youth sport. The features of such relationships are discussed hereafter.

7.2.1 Specific outcomes of parental responsiveness in sport. Feeney and Collins' (2015) model proposes that specific interactions characterised by the provision/perception of responsive support would lead to various positive specific

outcomes (i.e., increase in perceived capability) for the support-recipient (e.g., athlete). Therefore, Study One of this thesis (see Chapter 3) anticipated that in a 10-minutes interaction between parent and athlete discussing athletes' sport-related goals, higher levels of parents' provision of responsive support would lead to higher levels of athletes' perception of their parent's responsiveness. A unique feature of Study One was that parents were not asked to report their supportive behaviours, but that parent-athlete interactions were audio/video recorded. This method was justified because the provision of responsive support comprises implicit and explicit behaviours that are not necessarily perceived by the support provider themselves (Feeney & Collins, 2015).

The results of Study One demonstrated that after a 10-minutes interaction between parent and athlete discussing athletes' sport-related goals, both the parental provision of responsive support and athletes' perception of their parent's responsiveness contributed to athletes' immediate perceptions of self-efficacy. Although, parents' responsive behaviours (coded by three independent coders) were not related to athletes' perceptions of their parent's responsiveness. These findings may appear surprising, but they actually converge with an alternative pathway proposed by Feeney and Collins' (2015) in their model. This path proposes that the immediate outcomes of responsive interactions may be predicted directly by the provision of responsive support, without such support being perceived (e.g., by the athlete) when the support is provided invisibly or subtlety (e.g., non-intrusive listening, directing attention to opportunities), or because responsive support may involve saying something that the recipient does not want to hear (e.g., disengaging or reframing unattainable goals). Consequently, it may be assumed that neither parents should necessarily be aware that they are providing responsive support, nor children necessitate to accurately perceive their parents' provision of responsive support in order to lead to immediate positive outcomes.

Study Four (see Chapter 6) further showed that during the competitive season, athletes perceived their parent's as more responsive when they had competed during the weekend before, compared to the weeks they had not competed. The fact that parents were perceived more positively by athletes after competitions can be interpreted as that parents were perceived as more responsive after a competition

because they had provided the appropriate types of support (Knight et al., 2016). Collectively, these results demonstrate that parents can be responsive to their children in the sport context (i.e. discussing sport goals, or in competitions), and that parental responsiveness can lead to positive outcomes for young athletes in sport. However, the mere fact that these parent-athlete responsive interactions were sport-specific raises questions regarding the possibility such parental responsive support could be conditional (or perceived by athletes as conditional) upon athletes' sport involvement. If parents are involved in their child's sport participation but not in other areas of their child's life, it could result in athletes feeling that their parents' support is conditional upon their sport participation (Assor & Tal, 2012).

Conditional parental support (even when positive) has been related with negative outcomes such as resentment toward parents, negative affect, or lower wellbeing (Assor et al., 2004). Specifically, parents' conditional positive regard (PCPR) is defined as parents that are perceived to provide more affection and esteem than usual when their children meet their expectations, for instance by winning a competition (Assor & Tal, 2012; Roth, Assor, Niemiec, Ryan, & Deci, 2009). Recently, a study in education demonstrated 'the dark side' of perceived positive regards with students' perception of their parents' conditional positive regard that led to increase test anxiety and poorer test performances (Otterpohl et al., 2019).

In the present thesis, suspicions that athletes could have perceived their parents' support as conditional to their sport participation arose while trying to interpret some unexpected results of Study Three (see Chapter 5). In this study, participants' perception of their mother's and father's validation led to higher level of perceived self-efficacy. Athletes' self-efficacy further mediated the relationships between perceptions of their mother's and father's validation and goal accomplishment three month later. However, athletes' self-efficacy also mediated the relationship between their perception of their mother's and father's validation and trait cognitive sport anxiety three month later.

As discussed in Chapter 5, the relationship between perceived validation and athletes' perceived self-efficacy was explained by the possibility that participants' athletic identity was inflated compared to other components of their self (Mitchell et al., 2014). Consequently, participants may have perceived that validation from their

parents was contingent upon their sport participation resulting in athletes' perception of conditional support from their parent. Therefore, it is believed that athletes' perceptions that their parents' validation could share some characteristics and outcomes with parental conditional positive support (Assor, Kanat-Maymon, & Roth, 2014; Assor & Tal, 2012; Otterpohl et al., 2019). However, such a claim is purely speculative and further research is necessary to shed light on this prospect.

7.2.2 Athletes' general perception of parental responsiveness. Feeney and Collins' (2015) model proposes that a relationship that is responsive in a specific situation would also be continuously responsive through time and situations. In doing so, this results in the perception of responsive support being generalised and consequently having a broader influence on the support recipient (e.g., an athlete within the parent-athlete relationship). This perspective is rooted in attachment theory (Bowlby, 1973, 1988), which suggests that children who are securely attached to their caregiver (i.e., as a result of the caregiver demonstrating that they are available, responsive, and helpful to their children when necessary) gradually develop a secure internal working model characterised by a positive perception of themselves (e.g., self-esteem) and of their environment (Bowlby, 1988; Carr, 2013; Duchesne & Larose, 2007).

Consequently, based on Feeney and Collins' (2015) model, it was expected that athletes whom perceive their parents as being responsive in a specific situation (as in Study One) will also perceive their parents as being responsive in general, resulting in the psychosocial outcomes associated with responsive support to spread from specific (e.g. self-efficacy) to general (e.g. self-esteem). Study Four demonstrated that athletes' perceptions of their parent's responsiveness were fairly consistent through time, allowing athletes' to gradually build a positive perception of themselves, and to perceive their parent as reliable sources of comfort and reassurance (Carr & Fitzpatrick, 2011; Duchesne & Larose, 2007). Study Two, Three, and Four further demonstrated that athletes' general perceptions of their mother's and father's responsiveness were positively related to their self-esteem. Specifically, the results of Study Three (see Chapter 5) demonstrated that it was athletes' perceived mother's and father's understanding subcomponent of Reis et al.'s (2004; 2015) construct of responsiveness that was related with their self-esteem.

Studies one, two, three, and four also established that athletes' self-esteem mediated the relationship between their perception of their mother's and father's responsiveness and various factors of thriving (i.e., positive affect, life satisfaction, vitality, health quality). Lastly, Study Three demonstrated the long-term influence of athletes' perceptions of their mother's and father's responsiveness on their thriving component three month later.

Collectively, the findings of the present thesis showed that (a) athletes' general perceptions of their parent's responsiveness was fairly consistent though time, (b) that such perceptions of parental responsiveness (especially perceived understanding) was positively related with athletes' self-esteem, and (c) that athletes' self-esteem mediated the relationship between athletes' perception of their parent's responsiveness and their long-term thriving. These findings support Feeney and Collins' (2015) model suggesting that individual can thrive, growth and flourish through their responsive relationships with close others. These results further support the idea that high-quality relationships allow athletes to experience thriving in elite sport (Brown & Arnold, 2019; Brown et al., 2018).

7.2.3 Differences in athletes' perception of their mother's and father's responsiveness. Throughout the four studies of this thesis, divergences in the outcomes associated with athletes' perceptions of their mother's and father's responsiveness occurred. This arose for instance in Study Two where participants' perception of their father's responsiveness superseded the influence of perceived mother responsiveness on their self-esteem. In Study Four, the opposite effect happened with young climber's perceptions of their mother's responsiveness that superseded the influence of perceived father's responsiveness on their self-esteem.

Discrepancies in the outcomes associated with participants' perceptions of their mother's and father's responsiveness could be potentially explained by whom participants considered as their most involved parent in sport. In Study Two, 73.77% of the young rugby players considered their father as their most involved parent in sport, which subsequently led participants' perception of their father's responsiveness to supersede the influence of perceived mother responsiveness on their self-esteem. In Study Four, the enhanced influence of climbers' perceived mother's responsiveness on their self-esteem could similarly be explained by the fact

that most participants (i.e., 66.67%) considered their mother as their most involved parent in sport.

Collectively, the results of the present thesis tend to demonstrate that athletes' perception of their mother's and father's responsiveness is more strongly related with their self-esteem for the parent that is considered as the most involved parent in sport. These effects can potentially be explained as because of their sport involvement, the most involved parent in sport may have be perceived by athletes' as central to their self-worth and self-evaluation (i.e., self-esteem). It is also possible that the differences in the outcomes associated with athletes' perceptions of their mother's and father's responsiveness (or the subcomponents of validation and understanding) could be related to the gender roles and stereotypes attributed to mothers versus fathers in sport (Chalabaev et al., 2013; Coakley, 2006). Further research will be required to shed light of these effects. To do so, future research recommendations includes assessing athletes' perception of both their parents (when possible), assessing athletes' perception of which parent they perceived being the most involved in their sport participation, and accounting for the specific culture and possible gender-stereotypes within the sport or club.

Theoretically, Feeney and Collins' (2015) model can provide a basis to explain how specific dyadic parent-athlete relationships can lead to certain outcomes. One may argue that such a model does not take into account one athlete and both their parents. However, this model builds on the idea that specific outcomes of each dyadic interaction lead to immediate outcomes. Relationships between one parent and one athlete are unique and results in specific outcomes. Therefore, the study of responsive parent-athlete interactions is possible within Feeney and Collins' model while considering parent-athlete relationships at a dyadic interpersonal level.

7.3 Applied Implications

The findings of the present thesis offer valuable information and applied implications for parents, coaches, and sport organisations. First, the results of the thesis showed that; (a) parental provision of responsive support was not necessarily perceived by young athletes, (b) athletes' perceptions of their parents responsiveness was central to their positive self-perceptions (i.e., self-efficacy and self-esteem) and thriving in sport, and (c) even when the parental provision of responsive support was

not detected by young athletes it still resulted in positive outcomes. Therefore, it is believed that rather than focussing on what parents provide or don't provide for their children, it is more important to acknowledge that parent-athlete relationships are complex endeavours (Knight, Berrow, et al., 2017). Potentially, certain parental behaviours may appear to be unresponsive to their children, but if such behaviours are perceived by the athlete as responsive, they can still result in positive outcomes. On the contrary, certain parental behaviours may appear as being appropriate but if they are perceived as unresponsive by the athlete, they could result in the perception of pressure and related negative outcomes.

Consequently, prudence is required for coaches and sport organisations when trying to interpret parental behaviours in sport, and a non-judgmental attitude is strongly recommended (Biestek, 1953). A non-judgmental attitude precludes assigning fault or innocence, or degree of responsibility for causation of the problems or needs, but does include both thought and feeling about the attitudes, standards, or actions of individuals (Biestek, 1953). Engaging with parents in a non-judgmental attitude entails, for instance, providing information and openly discussing with parents the values and goals that are conveyed by the club/sport organisation. Recent studies have also highlighted the importance of creating a safe inclusive environment that allows and empowers parents to provide inputs, and share their experiences (Thrower, Harwood, & Spray, 2016, 2017). Considering the complexity of parent-athlete relationships, it is therefore believed that engaging with parents without preconceived ideas or judgments will results in more positive experiences and outcomes both for clubs and sports organisations, as for parents and athletes in sport.

Recently there have been incentives for coaches and sport organisations to work with parents, to equip them with the right support and information to enable more positive developmental outcomes and sustained participation in youth sport for their children (Harwood et al., 2019). The present thesis demonstrated that parents can provide responsive support to their children in the sport context, for instance while discussing sport-related goals, or in competitions. Such parental responsive support resulted in positive outcomes for young athletes both in terms of perceived self-efficacy and goal accomplishment as in increasing athletes' self-esteem and thriving. Therefore, parents can and should be considered as allies that actively

contributes to the development of their children in sport, and the results of the present thesis encourages sport organisations to actively include parents in their processes. For instance, clubs/sport organisations are encouraged to share with parents the sport-related goals that have been set with athletes. This would allow parents with the opportunity to have a better understanding of their children needs and wishes in sport, and to subsequently provide responsive support for such aims.

A factor contributing to the long-term positive outcomes of parents' responsiveness is that responsive support is provided consistently. Specifically, the present thesis demonstrated unequivocal benefits of athletes' perception of their mother's and father's understanding. Feeling understood refers to athletes' believing that their mother and/or father know themselves, and 'get the facts right' about them (Reis, Lemay, et al., 2017). Feeling understood can include athletes perceiving that their parents understand them, or strive to understand them in sport (Knight & Holt, 2014), but should not be limited to it. This is important because the benefits of parents' responsiveness could potentially be thwarted if such responsiveness is perceived as being conditional to the athletes' sport participation (Assor & Tal, 2012). The results of the present thesis assume that in order to maximise the benefits of athletes' perception of their parents' responsiveness, such perceptions would preferably include all aspects of the athletes' lives (e.g., school, family, others area of development).

Parents that validate/value their child in sport should also be attentive to encompass and validate other aspects of their child's life. This is important because the results of the present thesis showed a possible negative effect if athletes perceived being validated by their parents only in sport, with increased self-efficacy but also concomitant increase in trait cognitive sport anxiety. It does not mean that parents should not value their child's sport involvement, but that parents who value involvement in sport should also be attentive to similarly value other aspects of their child's life. This is especially important if one (or both parents) are heavily involved in their children's sport participation. By valuing a range of aspects/competences/efforts, parents will prevent their children perceiving that their parental support and love is conditional upon their sport participation.

Altogether, this thesis leads to recommendations for parents in youth sport. (1) Based on the construct of responsiveness, the simple fact that a parent demonstrates an interest their child's sport participation, and/or that they are trying to understand the experiences that their child is having in sport may already be sufficient to positively influence the child's psychosocial outcomes. (2) It is important that the interest and support that a parent provides to their child is not limited to their sport participation but encompasses all aspects of their life (e.g., school, family, other activities). (3) The results of the present thesis tend to demonstrate that athletes' perceptions are potentially more important than parents' actual behaviours. Therefore, each parent is actively encouraged to discuss their involvement with their child, and to take into consideration their child's perspectives and wishes when engaging in their child's sporting life.

7.4 Future Research Directions

Throughout the four studies of this thesis, data were collected among participants in various sports (i.e., rugby, handball, basketball, climbing, track and field, gymnastic, tennis, and swimming), and in three different countries (i.e., Belgium, UK, and France). However, all participants were athletes ages between 10 and 16 years, competing at regional, national, or international level, and in the specialisation stage of their sport development (Côté, 1999). Further research should consider involving more diverse participants, contexts, and cultures to ensure the generalisability of the findings, for instance by including varying age groups, and participants from varying levels of sport. Using data analysis methods such as multilevel hierarchical analysis, further research could better account for the proximal and more distal context influencing athletes' psychosocial outcomes and experiences in sport (Harwood et al., 2019). Such analysis can account for systematic variations associated with a specific coach, team, and club, or more distal influences linked with the macro-context of the sport culture, or the country (Goldstein, 2011).

Second, the possible influences of athletes' gender, parents' gender, and sex stereotypes also need further and careful considerations. The results of the present thesis demonstrated potential divergences in the influences of athletes' perceptions of their mothers and fathers responsiveness. Such divergences may arise due to the

different roles parents have within sport and particularly who the athletes consider to be most involved in their sporting lives. Consequently, perceived gender biases may actually not be due to gender but degrees or importance of parental involvement.

Third, the positive influence of perceived responsiveness (i.e., being validated, understood, and cared for) requires further work in sport. Key questions that can be addressed are for instance: how the perceived responsiveness is related to, and can be differentiated from, associated constructs such as secure attachment (Bowlby, 1982, 1988), basic psychological needs of competence, autonomy, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2017), or an autonomy-supportive motivational climate (Mageau, Ranger, Koestner, & Moreau, 2015; Smith et al., 2015). Further work is also required to substantiate the influences of the perceived responsiveness on various types of relationships in sport (e.g. coach-athlete, parent-athlete, athlete-athlete, interacting effects between relationships). For example, the Perceived Partner Responsiveness Scale (PPRS) can be easily adapted and used for various type of relationships (Reis et al., 2017).

Fourth, the development and validation of a measure that can reliably assess perceived responsiveness in sport is needed. These measures are to be relevant to various age-groups (e.g., children, adolescent, adults), sport levels (e.g., initiation, recreational, specialisation, elite), and sport contexts (e.g. individuals and collective sports). Specific consideration is required for Reis and colleagues (2017) Perceived Partner Responsiveness Scale (PPRS). As discussed above, the CFA analysis of the PPRS led to two different but similarly acceptable solutions accounting either for perceived responsiveness as a single factor or as a two-factor model of perceived understanding and validation. These two likely solutions were theoretically relevant and evoked in the psychometric analysis of the scale (Reis et al., 2017). Nonetheless, further research is required to investigate the similarities and differences between a two-factor solution accounting for perceived understanding and validation and a one-factor solution of perceived responsiveness. Specifically, more work is needed attending to the convergent and discriminant validity of perceived understanding and validation because perceived parental understanding could be somehow associated with similar measures as attachment relationships in sport (Kang et al., 2015). Similarly, athletes' perceived parental validation should be compared and possibly

differentiated with the construct of perceived of positive parental conditional support (Otterpohl et al., 2019).

Fifth, the behavioural coding of parents' provision of responsive support in Study One showed that parental provision of responsive support was not significantly related with athletes' perception of their parents' responsiveness. However, exploratory analysis of the data showed that when parents demonstrate a high level of responsive support, it led to athletes developing homogeneous perceptions of their parents' behaviours, but when parents demonstrated a low level of responsive support, athletes' perceptions of such support increased in variability. Future research is therefore needed to examine the extent to which athletes can accurately detect (or not) the responsiveness of parental support, and what specific factors influence such perceptions. Further research could, for instance, assess athletes' immediate perceptions, and athletes' general perceptions of their parents' responsiveness after a specific interaction. This dual assessment would enable athletes' specific interactions and athletes' general perceptions of their parents' responsiveness to be fully differentiated.

Finally, using Feeney and Collins' (2015) model of thriving through relationships, this thesis only explored a few features of parent-athlete relationships, and this model offers many other opportunities to move forward our understanding. For instance, the present thesis only targeted the associations between the provision and perception of responsive support on athletes' psychosocial outcomes. An important avenue for future research is to consider how responsive parent-athlete interactions could also influence parents' psychosocial outcomes.

Using the "adversity pathway" from Feeney and Collins (2015) model, future research could also explore the influence of the provision and perception of responsive support on athletes facing adverse events (e.g., career threatening injuries or adverse life events).

7.5 Conclusion

Altogether, this thesis led to numerous advances at a theoretical level (i.e., implementing a new theoretical framework in sport sciences) and at a methodological level (i.e., development of a video-coding procedure, adapting existing questionnaires). These novelties helped to provide a better understanding of

the features of parent-athlete relationships by focussing and examining the responsiveness (i.e., does the support provider understand, validate, and care for; Reis et al., 2004) of parent-athlete relationships within Feeney and Collins' (2015) model of thriving through relationships. The use of this construct and model provided a suitable framework to increase the understanding of how different features of the parent-athlete relationships influenced short- and longer-term psychosocial outcomes among athletes.

Overall, the results of this thesis demonstrated that parents can provide responsive support to their children in the context of youth sport participation. When the support is responsively provided by parents and/or perceived by athletes as responsive to their needs it was positively related with athletes' self-perceptions (i.e., self-efficacy, self-esteem). Athletes' self-perceptions subsequently mediated the relationship between the provision/perception of responsive support and generalised/long-term positive outcomes (i.e. goal accomplishment, positive affect, life satisfaction, vitality, health quality).

Specifically athletes' perceptions of their mothers'/father's understanding and validation components of perceived parental responsiveness influenced athletes' psychosocial outcomes throughout two independent pathways (via self-esteem and self-efficacy respectively) and resulted in different long-term outcomes. Athletes' perceptions of their mother's/father's validation, mediated by perceived athletes' self-efficacy to accomplish their goals, influenced their goal accomplishment and trait cognitive sport anxiety three months later. Athletes' perceptions of their mother's/father's understanding, mediated by athletes' self-esteem, influenced athletes' thriving and trait cognitive sport anxiety three months later.

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Appendix A

Supplementary material for Study One (Chapter 3) are available online on dedicated a repository website:
https://osf.io/5f3sp/?view_only=8d8d11411ec248168bf86f5854217d78
The supplementary material includes: (a) information and consent for participants, (b) questionnaires used in the study, (c) the video coding procedure used to assess parental responsive support, and (d) the full script and results of analysis.

Appendix B

Supplementary material for Study Two (Chapter 4) are available online on dedicated a repository website:
https://osf.io/25u4b/?view_only=356bf7793edf43888ed777bf74505696
The supplementary material includes: (a) information and consent for participants, (b) questionnaires used in the study, and (c) the full script and results of analysis.

Appendix C

Supplementary material for Study Three (Chapter 5) are available online on dedicated a repository website:
https://osf.io/wxm7z/?view_only=769efd55e1f1459ab312c087ae164cd2
The supplementary material includes: (a) information and consent for participants, (b) questionnaires used in the study, and (c) the full script and results of analysis.

Appendix D

Supplementary material for Study Four (Chapter 6) are available online on dedicated a repository website:
https://osf.io/t7xqf/?view_only=f0af0ac5145f4424869064ef21bd61f3
The supplementary material includes: (a) information and consent for participants, (b) questionnaires used in the study, and (c) the full script and results of analysis.