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**Effect of Parent Responsiveness on Young Athletes' Self-Perceptions and Thriving: An  
Exploratory Study in a Belgian French-Community**

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## Abstract

**Objective:** The purpose of this study was to examine the influence of parental responsive support (observed) and perceived parental responsive support on athletes' self-perceptions and thriving.

**Methods:** Forty-one French-speaking Belgian individual sport athletes aged 12-15 years ( $M = 13.13$ ,  $SD = 0.90$ ) and one of their parent's spent 10 minutes discussing three important athletes' sport-related goals for the next season. The discussion was video-taped and coded to identify parents' responsive support behaviors. After the discussion, athletes responded to a series of questionnaires measuring perceived parental responsiveness, self-efficacy, self-esteem, and thriving indicators (i.e., positive affect, vitality, life satisfaction, and health quality).

**Results:** The results show that observed and perceived parental responsive support contributed to athletes' proximal perceptions of self-efficacy. Both parental observed responsive support and athletes' perceived parental responsiveness, mediated by athletes' self-efficacy, were positively related to athlete's self-esteem. Further, athletes' perceived parental responsiveness was positively related with thriving while mediated in series by self-efficacy and self-esteem.

**Conclusion:** Overall, it appears that parents' responsive support (observed) and athletes' perception of responsive support are associated with positive self-perceptions and optimal wellbeing in young athletes. This study demonstrates that parents can provide responsive support to their children in the sport context. These results add further weight to suggestions that sport organizations should actively include, rather than exclude, parents in their processes.

*Keywords:* adolescent athletes; parent-child relationships; perceived responsiveness; responsive support; thriving; youth sport

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52 **Exploratory Study in a Belgian French-Community**

53 Research has provided extensive evidence that the different sport experiences children  
54 have are largely influenced by the quality of their sport environment (Knight et al., 2017).  
55 Within such environments, parents, coaches, and peers have been consistently recognized as  
56 influencing young athletes' experiences in sport, for instance throughout the motivational  
57 climate they create (Keegan et al., 2010), or through the quality of their relationships with  
58 athletes (Babkes & Weiss, 1999). In particular, parents play a pivotal role, being the most  
59 important social influence in an athlete's life until the age of 13 years, and a continuing  
60 influence throughout an athlete's entire career (Wylleman & Rosier, 2016). Parents influence  
61 their children's sporting careers in multiple ways, not least through their provision of social  
62 support (i.e., the provision of aid and assistance through interpersonal exchanges and within  
63 relationship; Beets et al., 2010). For example, parents provide tangible support by committing  
64 time and money to enable participation. Further, parents provide emotional support at, and in  
65 preparation for, competitions, as well as informational support (Lauer et al., 2010). By  
66 providing such support, parents can influence athletes' psychosocial experiences, long-term  
67 engagement, and performance in sport (Knight et al., 2017).

68 However, it is not simply a matter of whether parents provide support or not that will  
69 influence athletes' experiences, rather, it is athletes' perception of support that is particularly  
70 important (Leff & Hoyle, 1995). That is, the extent to which athletes perceive their parents'  
71 behaviors as supportive, irrespective of what is actually being provided, will influence  
72 psychosocial outcomes and sporting performance (Babkes & Weiss, 1999). Parental behaviors  
73 that athletes may or may not perceive as supportive, can include, attendance at competitions,  
74 specific comments about performances, or their provision of tangible assistance. Further, it  
75 may include athletes' perception of their parents' beliefs about competency, or their

76 perception of parents providing positive responses. When athletes perceive their parents'  
77 behaviors, attitudes, and beliefs as supportive, it can lead to increased motivation, enjoyment,  
78 self-esteem, or reduced stress and burnout (Babkes & Weiss, 1999; Leff & Hoyle, 1995).

79 Despite the potential for certain supportive parental behaviors to result in positive  
80 psychosocial outcomes, these are not guaranteed (Charbonneau & Camiré, 2019). For  
81 instance, Knight et al. (2011) demonstrated that athletes can perceive the behaviors of their  
82 parents (such as being present and vocal at competitions) as supportive, but if they are not  
83 presented in the “right ways” such behaviors can also lead to feelings of embarrassment.  
84 Athletes can perceive that their parents are providing necessary tangible support such as time,  
85 energy, effort, and money to enable them to participate in sport, but as a result of their  
86 investment, athletes may feel pressurized to perform (Lauer et al., 2010). Similarly, parents'  
87 attendance at competitions may appear to be supportive, but it can lead to them feeling they  
88 are being pressurized and controlled rather than supported (Charbonneau & Camiré, 2019).

89 One reason for such conflicting outcomes arising from seemingly supportive behaviors  
90 may be the extent to which the behaviors/support are responsive. The construct of  
91 responsiveness describes how individuals attend to and support each other's needs and goals.  
92 Reis et al. (2004) posits three key components of responsiveness which are *understanding*,  
93 *validation*, and *caring for*. *Understanding* refers to the support provider (e.g., a parent)  
94 comprehending the support recipient's (e.g., athlete) core self (e.g., needs, desire,  
95 weaknesses); *validation* is respect for or valuing the support recipient's view of the self; and  
96 *caring for* is associated with expressing affection, warmth, and concern for the support  
97 recipient's wellbeing (Reis et al., 2004; Reis & Gable, 2015). Previous research has shown  
98 that responsive support can result in positive outcomes such as positively influencing support  
99 recipients' self-efficacy (Lemay & Neal, 2014), self-esteem (Feeney, 2007; Smith & Reis,

100 2012), and wellbeing (Tomlinson et al., 2016). Moreover, it can predict immediate and long-  
101 term increases in wellbeing a decade later among romantic couples (Selcuk et al., 2016).

102 Overall, responsiveness is a core process that has pushed forward understanding of how  
103 close relationships can promote optimal wellbeing (i.e., thriving) (Reis & Gable, 2015). Given  
104 such findings, it is anticipated that the construct of responsiveness could help to better  
105 understand the effect of parent's support within sport. However, it has yet to be examined in  
106 relation to parent-athlete relationships or sport settings more broadly. Applying and  
107 understanding responsiveness within the parent-child relationship is important because sport  
108 participation can be considered as a context that provides athletes with life opportunities for  
109 positive development and thriving (Carr, 2013). In such contexts, high quality relationships  
110 and family support are identified as key facilitators leading to athletes' experiencing thriving  
111 and performance benefits (Brown et al., 2018). To this end, the purpose of this study was to  
112 examine the influence of parental responsive support (observed) and perceived responsive  
113 support on athletes' self-perception and thriving within a Belgian French-Community.

#### 114 **Theoretical Underpinnings**

115 Feeney and Collins' (2015) model of thriving through relationships was selected to  
116 underpin this study. This model integrates and builds upon well-known theories such as  
117 attachment theory (Bowlby, 1988), self-determination theory (Ryan & Deci, 2017), and  
118 traditional social support theories (Beets et al., 2010). The advantages of using Feeney and  
119 Collins' (2015) model for the understanding parent-athlete relationships are that; (a) it  
120 specifically accounts for the positive influences that social support can have in the context of  
121 life opportunities (e.g., sport participation); (b) it specifies the support behaviors that promote  
122 thriving in such contexts, and; (c) it specifically identifies the links between specific  
123 responsive interactions and thriving. Further, this model has been proposed as relevant to  
124 understand thriving in the context of elite sport participations (Brown et al., 2018).

125 Feeney and Collins' (2015) model comprises two general pathways that detail how  
126 individuals may thrive as a result of their responsive interactions with close others. Thriving  
127 is the desired end-state of optimal wellbeing of the model and comprises five related  
128 components of hedonic (e.g., subjective wellbeing), eudemonic (e.g., goal accomplishment),  
129 psychological (e.g., positive self-regards), social (e.g., meaningful and deep connections with  
130 others), and health quality (e.g., health, fitness). The pathways correspond to the two life  
131 contexts of life adversity (e.g., losses, injuries, illnesses) and life opportunities (e.g., sport  
132 development, new opportunities). The current study focuses specifically upon the social  
133 support behaviors and pathway of thriving through relationships during life opportunities.

134 Feeney and Collins (2015) suggest that when individuals are in situations that are seen as  
135 life opportunities, supportive relationships can promote thriving through the provision of  
136 responsive support (termed relational-catalyst support by Feeney and Collins). Responsive  
137 support can be displayed throughout implicit and explicit behaviors (e.g., communicating,  
138 listening, providing encouragement, not unnecessarily interfering). When individuals  
139 encounter life opportunities, the provision of responsive support by the support provider (e.g.,  
140 a parent), combined (directly or indirectly) with the perception of the responsiveness of the  
141 support by the recipient (e.g., an athlete) can lead to various proximal psychosocial outcomes  
142 (e.g., perceived capability, or self-efficacy). Support for this pathway was identified by  
143 Tomlinson et al. (2016) in a study with romantic couples. In particular, Tomlinson and  
144 colleagues identified that, the provision and perception of responsive support during a 10-  
145 minute conversation about future goals predicted proximal outcomes in the recipient, such as  
146 their perceived capability to reach their goals. Based on these findings, the current study  
147 adopted a similar method to examine responsive support in the parent-athlete relationship.

148 Proximal outcomes such as perceived self-efficacy or competence are central mediators  
149 between responsive interactions (i.e., characterized by the provision and/or perception of

150 responsive support) and thriving (Feeney & Collins, 2015), and thus were of particular  
151 interest within the current study. However, when seeking to apply Feeney and Collins' model,  
152 some clarity is required regarding the definitions of, and interactions between, self-efficacy  
153 and self-esteem. Feeney and Collins do not provide a clear definition of self-esteem and  
154 recent studies based on their model (e.g., Feeney, 2007; Tomlinson et al., 2016) have  
155 considered self-esteem as a unidimensional construct rather than adopting the  
156 multidimensional perspective that is currently accepted (Marsh et al., 2018). Moreover, in  
157 their research (Feeney et al., 2017), self-efficacy is measured with a global measure that could  
158 be confounded with self-esteem (Maddux, 2009). To prevent issues in the current study, a  
159 clarification of the conceptualization of self-efficacy and self-esteem were made.

160 In line with Bandura's (2006) definition, self-efficacy was considered to be an individual's  
161 belief in their capabilities to produce a given attainment. Thus, self-efficacy was viewed as  
162 specific and prospective, and an indicator of what individual's perceived they would be able  
163 to accomplish in a particular context. As such, self-efficacy was anticipated to be a proximal  
164 outcome of a specific parent-athlete interaction. In contrast, self-esteem was conceptualized as  
165 a broader construct situated at the apex of individuals' hierarchy of self-perceptions, that is  
166 largely based on evaluating past-accomplishments and the general sense an individual has  
167 about their self. Thus, self-esteem was seen to more strongly predict distal (rather than  
168 proximal) outcomes (Marsh et al., 2018). Based on this theoretical standpoint, it was  
169 anticipated that after a specific interaction in a positive context (e.g., life opportunity),  
170 responsive interactions would lead to a proximal increase in the support recipient's self-  
171 efficacy (Feeney & Collins, 2015). The support recipient's self-efficacy (which is specific and  
172 prospective), would subsequently influence general self-esteem (Marsh et al., 2018) because.  
173 interactions that are responsive in specific situations, leading to proximal outcomes (e.g., self-  
174 efficacy), should also reflect the typical responsive interactions among dyads therefore

175 leading to the generalization of the outcomes (i.e., self-esteem) (Feeney & Collins, 2015).  
176 Eventually, it was anticipated that higher levels of general self-esteem would predict higher  
177 levels of thriving (Feeney & Collins, 2015; Marsh et al., 2018).

## 178 **The Current Study**

179 Based on Feeney and Collins' (2015) thriving through relationship model, the purpose of  
180 this study was to examine the influence of parental responsive support (observed) and  
181 perceived responsive support on athletes' self-perception and thriving within a Belgian  
182 French-Community. Three hypotheses were proposed:

- 183 • Hypothesis 1: After a specific interaction, the observed parents' provision of responsive  
184 support and athletes' perceived parental responsiveness (PPR) would be positively related  
185 to athletes' perceived self-efficacy to reach their goals.
- 186 • Hypothesis 2: Athletes' perceived self-efficacy to reach their goals would mediate the  
187 relationship between responsive interactions and athletes' general self-esteem.
- 188 • Hypothesis 3: Athletes' self-esteem would subsequently be related with the general  
189 thriving components of positive affect, vitality, life satisfaction, and health quality.

## 190 **Method**

### 191 **Study Context**

192 It is important to situate the understanding parent-child relationships through the prism of  
193 their cultural context because different parenting practices may serve the same function, and  
194 the same practices may serve different functions in different contexts (Bornstein, 1995, 2012).  
195 For instance, an authoritarian parenting style (high control, low warmth) may lead to positive  
196 outcomes in African American and Hong Kong school children, while an authoritative  
197 parenting style (high warmth, high control) may lead to positive outcomes in European  
198 American school children (Leung et al., 1998). The present study took place in the French-  
199 Community in Belgium. Belgium is considered a progressive and liberal European country



200 where parents remain an important source of socialization for their children even in late  
201 adolescence (Beyers & Goossens, 2008). In this context, research shows that supportive  
202 parenting is characterized by high levels of responsiveness and autonomy support, and low  
203 levels of behavioral and psychological control (Delhay et al., 2012).

#### 204 **Participants**

205 Following Schweizer and Furley's (2016) recommendations for reproducible research, a  
206 priori power analyses were conducted to determine the minimal sample based on key  
207 variables (i.e., responsive support, PPR, self-efficacy and self-esteem) from studies with a  
208 similar methodology (Feeney et al., 2017; Lemay & Neal, 2014; Tomlinson et al., 2016). In  
209 those studies, the association between the observed and perceived responsive support, and  
210 their subsequent association with perceived self-efficacy and self-esteem consistently  
211 demonstrated moderate ( $r = 0.3$ ) to large ( $r = 0.5$ ) effect sizes. Specifically, a priori power  
212 analyses using MedPower (Kenny, 2017) were used to determine the minimal sample for  
213 indirect effects with the following inputs:  $r = (0.30 : 0.50)$ ,  $\alpha = 0.10$ , power  $(1-\beta) = 0.80$ . The  
214 minimal sample size for indirect effects was estimated between  $N = 30$  ( $r = .50$ ) and  $N = 89$  ( $r$   
215  $= .30$ ). In total, 41 parent-athlete dyads participated. The issue of the sample size is addressed  
216 later when describing the procedure.

217 The 41 athletes were all French speaking, living in Belgium. Individual sports from the  
218 French-Community were chosen as appropriate because in Belgium, the organization of sport  
219 is a responsibility of the communities, with each of the three communities (Flemish, French,  
220 and German speaking communities) having their own policy, structures, and legal instrument  
221 to rule sports matter (Scheerder et al., 2011). French-speaking sport federations are generally  
222 small, with two-thirds of them having less than 5000 members (Winand et al., 2010), and  
223 relying heavily upon volunteers (Scheerder et al., 2011). It is therefore usual for parents to be  
224 involved in sport, especially in individual sports (Zintz, 2005). Selecting participants from

225 individual sports in the Belgian French-Community ensured parents were committed and  
226 involved in their children's sport, and had a good understanding of the sport context.

227 Athletes were aged between 12 and 14 years ( $M = 13.13$ ,  $SD = 0.90$ ). This age range was  
228 selected because: (a) athletes were deemed to be cognitively capable of answering the  
229 questions (Harter, 2012); (b) participants would be able to produce self-determined goals; (c)  
230 parents are a large influence in their lives (Wylleman & Rosier, 2016), and; (d) athletes were  
231 in the specialization phase of sport development (Côté, 1999) and as such were committed to  
232 training and competition. Athletes involved in individual sports were selected to ensure they  
233 would discuss their own rather than team goals. Athletes were from athletics ( $n = 14$ ), sport  
234 climbing ( $n = 12$ ), tennis ( $n = 7$ ), gymnastics ( $n = 4$ ), and swimming ( $n = 4$ ). They trained on  
235 average 3.03 times/week ( $SD = 0.72$ ) and had been involved in sport for an average of 7.33  
236 years ( $SD = 2.30$ ).

237 In total, 24 mothers and 17 fathers participated in the study, with a mean age of 44.83 years  
238 ( $SD = 5.20$ ). Eight parents were single parents (19.51%). Parents had on average 2.39 children  
239 ( $SD = 0.86$ ) Parents' highest level of education were: professional qualification ( $n = 8$ ),  
240 secondary education ( $n = 6$ ), undergraduate/bachelor's degree ( $n = 11$ ), Master's degree ( $n =$   
241 13), and PhD ( $n = 8$ ). Six of the parents had no sport experience (14.63%); all other parents  
242 were involved in sport in some form.

### 243 **Procedure**

244 Following receipt of ethical approval, sports coaches, managers, and committee members  
245 from sport clubs were contacted to identify if they were happy for the lead researcher to  
246 attend their training venue and speak to potential participants about the study. If interested,  
247 the researcher arranged a time to attend and share information about the study with parent and  
248 athlete dyads. The parent who self-identified as the most involved in their child's sport (to  
249 ensure they had a good understanding of the sport environment; Knight & Holt, 2014) was the

250 second member of the dyad. Dyads were given an information sheet and asked to contact the  
251 researcher if they were interested in the study to schedule a time for data collection.

252 When participants arrived for the study, they were reminded of the purpose and signed the  
253 consent/assent form. Then, the athlete and their parent were invited into a semi-private room  
254 at their sport club. The room was equipped with chairs, a table, and a discrete audio/video  
255 recording system. When entering the room, the parent and athlete received an instruction  
256 sheet detailing the goal setting task and the instructions were read aloud by the researcher.  
257 Specifically, the researcher asked the young athlete to spend 10 minutes setting three  
258 important sport-related goals for the next year and discussing these with their parent, and to  
259 write them on the provided sheet. Athletes were informed their goals could include anything  
260 they considered as important linked to their sport participation such as skills they wanted to  
261 develop, something they want to do more/less, or their performance. Athletes were told these  
262 goals would not be shared with their club or coach and would remain confidential.

263 The parent-athlete interaction was unobtrusively videotaped while the researcher sat in a  
264 different room. Following the goal setting activity, the athlete completed a series of  
265 questionnaires assessing their perceptions of parental responsiveness, self-efficacy, self-  
266 esteem, and thriving factors of affect, vitality, life satisfaction, and health quality. The  
267 completion of the questionnaires took approximately 20 minutes and during this time, parents  
268 were asked to respond to general demographic questions.

## 269 **Measures**

270 Questionnaires either available in French or translated from English into French using a  
271 back-translation procedure as recommended by Hambleton and Zenisky (2010) were used in  
272 the present study. For each questionnaire, internal consistency were assessed with  $\Omega_{\text{total}}$   
273 ( $\omega_t$ ; Revelle & Zinbarg, 2009). Further examination of construct validity was assessed when  
274 necessary (i.e., modified scale, composite variable) with confirmatory factorial analysis

275 (CFA). Support for the goodness of fit between the model and the observed data were  
276 considered when; (a) comparative fit index (CFI) and Tucker Lewis index (TLI) values were  
277 close to .95 or greater, and; (b) root mean square error of approximation (RMSEA) values  
278 were close to .06 or below, and standardized root mean square residual (SRMR) values were  
279 close to .08 or below (Brown, 2015). CFA analysis considered parameter estimates (e.g.,  
280 factor loadings, error variances, factor variances) such as standardized residuals (Brown,  
281 2015) and the content of each problematic item (e.g., weak factor loading, cross-loading) to  
282 ensure that its deletion would not affect the theoretical meaning of a construct (Carpenter,  
283 2018). Due to potential non-normal distribution of the data, CFA analysis were computed  
284 with robust maximum likelihood estimator with Satorra-Bentler scaled tests (Brown, 2015).

285

286 **Perceived parental responsiveness.** Athletes' perceptions of parental responsiveness  
287 (PPR) was assessed through the perceived partner responsiveness questionnaire (Tomlinson et  
288 al., 2016). This questionnaire comprises nine items and responses were provided on a 5-point  
289 Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). Slight modifications to the original  
290 scale were made in order to refer to the athlete's parent rather than a romantic partner. The  
291 CFA analysis showed that three items had a low factor loading and low variance. Based on  
292 the rules indicated above, these items were discarded leaving six items that demonstrated a  
293 sufficient factor loading and good internal consistency (i.e.,  $\omega_t = 0.83$ ). The six remaining  
294 items were: When you shared your goals, your parent was (a) *affectionate*, (b) *helpful/*  
295 *supportive*, (c) *comforting /reassuring*, (d) *giving of assistance*, (e) *encouraging*, and (f)  
296 *sensitive/responsive*. The CFA with robust errors showed a good fit to the data:  $\chi^2(9) = 9.84$ ,  
297  $p = 0.37$ , CFI = 0.98, TLI = 0.98, RMSEA = 0.05, SRMR = 0.06. The six items were  
298 averaged into a single score of PPR with higher scores representing stronger perceptions of  
299 parental responsiveness.

300       **Perceived self-efficacy.** A perceived self-efficacy scale was specifically built for the  
301 purpose of this study. Following Bandura's (2006) recommendations, the measure of self-  
302 efficacy was designed to reflect athletes' perceived capability to execute the goals they had  
303 set with their parents and included the perceived level of difficulty of the tasks. For each of  
304 the three goals the athletes discussed with their parent, they were asked to indicate on a 5-  
305 point Likert scale anchored by 1 (*not at all*) and 5 (*extremely*) the extent to which they  
306 perceived, (a) the goal was important for them (i.e., *importance*), (b) they felt capable to  
307 accomplish this goal (i.e., *capability*), (c) if they were capable of continuous efforts to reach  
308 this goal (i.e., *effort*), (d) if they will pursue the goal continuously (i.e., *pursuit*), and (e) if this  
309 goal was difficult to reach (i.e., *difficulty*). The computation of self-efficacy scores followed  
310 Kiresuk and Sherman's (1968) methodology to aggregate scores from various types of goals  
311 that are important to the individual. Therefore, for each of the three goals that athletes had set,  
312 perceived capability, effort, and pursuit were weighted by importance and difficulty. The  
313 three items of self-efficacy demonstrated a sufficient factor loading (0.46–0.75) and fair  
314 internal consistency ( $\omega_t = 0.61$ ). An average score of perceived self-efficacy was computed  
315 with higher scores representing stronger perceptions of self-efficacy (Bandura, 2006).

316       **Global self-esteem.** The five items from the short version of the Physical Self-Description  
317 Questionnaire (Marsh & Richards, 1994) assessing self-esteem were used. The athletes  
318 indicated the extent to which, during the last month in their everyday life, they had a lot to be  
319 proud of, they did well, or things turned out well; and if they were no good or if nothing they  
320 did ever seemed to turn out right (reverse items). Their responses were provided on a 5-point  
321 Likert scale anchored by 1 (*strongly disagree*) and 5 (*strongly agree*). The scale showed a  
322 good internal consistency (i.e.,  $\omega_t = 0.71$ ) and the five items were averaged to create a global  
323 score of self-esteem with higher scores indicating higher levels of self-esteem.

324 **Affect.** Positive and negative affect were assessed using the 10-item Positive and Negative  
325 Affect scale for Children (PANAS-C; Ebesutani et al., 2012). Athletes rated on a 5-point  
326 Likert scale from 1 (*not at all*) to 5 (*extremely*) the extent to which they, at the moment, felt  
327 *joyful, miserable, cheerful, mad, happy, afraid, lively, scared, proud, and sad*. The five-  
328 negative affect (NA) items lacked variance and did not allowed to compute reliability  
329 estimates. Consequently, the decision was made to only retain the positive affect (PA) scale  
330 for further analyses. The five PA items demonstrated a good internal reliability (i.e.,  $\omega_t =$   
331 0.80) and were averaged to create a global score of positive affect with higher scores  
332 indicating higher levels of positive affect.

333 **Subjective vitality.** Athletes rated, on a 5-point Likert scale from 1 (*strongly disagree*) to  
334 5 (*strongly agree*), the extent to which, during the last month in their everyday life, they felt  
335 full of excitement, they had high spirit, they looked forward to each day, they felt alert and  
336 awake, and if they had a lot of energy (Ryan & Frederick, 1997). The five items demonstrated  
337 a good internal reliability (i.e.,  $\omega_t = 0.84$ ) and were averaged to create a global score of  
338 vitality with higher scores indicating higher levels of vitality.

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

342 **Health quality.** Health quality was assessed using a single item scale from 1 (*my health is*  
343 *poor*) to 4 (*my health is excellent*) (Benjamins et al., 2004).

344 **Responsive support (observed).** The provision of responsive support comprises implicit  
345 and explicit behaviors that are not necessarily perceived by the support provider themselves  
346 (Feeney & Collins, 2015). Consequently, behavioral video-coding to assess the provided  
347 responsive support was required. This methodology has been regularly used to assess the  
348 provision of responsive support (Feeney et al., 2017; Lemay & Neal, 2014).

349 **Video coding procedure.** Video recordings were used to develop a behavioral coding  
350 system assessing the responsive support provided by parents. The behavioral coding system  
351 was developed using Aslpand and Gardner's (2003) recommendations for observational  
352 measures. Based on Tomlinson et al.'s (2016) study, nine behaviors were proposed for coding  
353 responsive support behaviors, but changes were needed to reflect the parent-athlete  
354 interactions and to take into account the sport context. Thus, a pilot study with six parent-  
355 athlete dyads with similar characteristics to those involved in the full study was carried out to  
356 generate a coding manual and to develop the final responsive support coding system. The  
357 recordings of the dyad goal-setting activities were initially independently coded by the lead  
358 researcher and two other members of the research team using Tomlinson et al.'s (2016) items  
359 of responsive support. The coders then shared their results and discussed the difficulties and  
360 clarifications needed in the coding manual in order to increase the coding consistency.

361 The nine responsive support parental behaviors were: (a) *warmth and positive affect* (e.g.,  
362 the parent demonstrates a positive tone); (b) *listening and attentive* (e.g., when the child  
363 speaks, the parent does not interrupt); (c) *confidence in the child's ability* (e.g., the parent  
364 values the child's ability to manage the goals and related requirements autonomously); (d)  
365 *support for the child's goals* (e.g., agreement to the child's goals); (e) *responsive emotional*  
366 *support* (e.g., the parent understands or strives to understand, validate, and care for the child's  
367 goal); (f) *responsive instrumental support* (e.g., the parent proposes planning, organizing  
368 based on child's requirements); (g) *goal reflection* (e.g., the parent reflects and nurtures the  
369 child's desire); (h) *proximity-seeking behaviors* (e.g., oriented to the child); and (i)  
370 *sensitive/responsive caregiving* (e.g., general feeling of whether the parent is responsive and  
371 sensitive to the child's needs and wishes).

372 Subsequently, three independent coders, blind to the study hypotheses, were trained based  
373 on the pilot videos. The coders were asked to assess the extent to which parents showed

374 support for their child's sport goals. These behaviors were coded on visual analogue scales  
375 ranging from "Not at all" to "A great deal." The order of the videos for coding was  
376 randomized between coders. Coders watched the videos twice, in a quiet environment with  
377 headphones and without pauses. Immediately after watching the videos, they scored the  
378 parents' behaviors across the nine responsive support items. The coders also noted down the  
379 key behaviors they had considered when scoring each item. Coders' notes for the key  
380 behaviors of parents observed demonstrating high levels of responsive support included the  
381 following: The parent is confident in their child's ability and asked further questions to  
382 confirm that the goal is achievable; the tone is positive, warm, and the parent smiles during  
383 the interaction; the parent listens to their child and does not interrupt when the child is  
384 speaking. In contrast, notes for behaviors demonstrating a low level of responsive support  
385 included the following: the parent interrupts their child and dictates their own goals, their tone  
386 is neutral but there is a lack of smiling; when the child expresses their desire for their parent  
387 to support them more in sport, the parent does not react; the parent restrains their child's goals  
388 in sport and tries to convince them to reduce their ambitions.

389 The inter-rater reliability (IRR) of the coding was evaluated with a fully-crossed design (all  
390 coders coded all videos) and scores computed using intra-class correlation (ICC) (Hallgren,  
391 2012). All variables were standardized before analysis, and the ICC analysis performed as  
392 two-way models on items consistencies (Hallgren, 2012). The intra-class correlations were:  
393 (a) *warmth and positive affect* = 0.73; (b) *listening and attentive* = 0.48; (c) *confidence in the*  
394 *child's ability* = 0.50; (d) *support for the child's goals* = 0.76; (e) *responsive emotional*  
395 *support* = 0.66; (f) *responsive instrumental support* = 0.74; (g) *goal reflection* = 0.57; (h)  
396 *proximity-seeking behaviors* = 0.52; and (i) *sensitive/responsive caregiving* = 0.60. Item 6  
397 (i.e., responsive instrumental support) was reported as problematic by coders as the  
398 instrumental support was only relevant for 19 parents (out of 41). Thus, item 6 was removed



399 from further analyses. For each item, the scores from the three coders were subsequently  
400 averaged, and the eight remaining items demonstrated a good internal reliability ( $\omega_t = 0.95$ ).  
401 A CFA with robust errors showed that a one factor model with eight items demonstrated a  
402 good fit to the data:  $\chi^2(17) = 21.51, p = 0.20, CFI = 0.99, TLI = 0.98, RMSEA = 0.08, SRMR$   
403  $= 0.05$ . The eight items were averaged into a single variable of observed responsive support  
404 with higher scores indicating higher levels of observed parental responsive support.

#### 405 **Data Analysis**

406 All data were analyzed with R-statistics (R Core Team, 2018). Since most variables  
407 were negatively skewed and non-normally distributed (see Table 1), the decision was made to  
408 use the non-parametric Spearman rank-order correlation for the preliminary analysis.  
409 Subsequently, the main analysis consisted of mediation analyzes performed with Structural  
410 Equation Modelling (SEM) (Hayes, 2018). Following Savalei's (2019) recommendations for  
411 small samples, latent variables were estimated with single indicators and fixed reliability ( $\alpha =$   
412  $0.90$ ). This method controls for measurement errors and helps to maintain good Type-1 error  
413 rate without increasing of the variability of the estimates (Savalei, 2019). Considering the  
414 small sample involved in the present research, further measures were taken to ensure  
415 transparency and reproducibility of the findings (Button et al., 2013). As such, instruction  
416 sheets, coding manual, questionnaires used, the full script of analyzes, and complete results  
417 are available upon request to the corresponding author.

### 418 **Results**

#### 419 **Preliminary Analyzes**

420 During the 10-minute interaction, athletes and parents freely set and discussed a variety of  
421 goals pertaining to athletes' aims to increase their sport participation (22.95%), competitive  
422 outcomes (20.49%), self-referenced performances (18.85%), specialization into their main  
423 sport (6.56%), management of emotions and affect (6.56%), task/mastery goals (5.74%),

424 parental involvement in sport (5.74%), health (3.28%) enjoyment in sport (2.46%),  
425 relationships with peers (3.28%) and with their coach (1.64%), sport/life balance (1.64%),  
426 and, finally, school (0.82%). The content of the goals discussed was not critical for the study,  
427 rather the aim of the activity was simply to establish a typical parent-athlete interaction in the  
428 context of life opportunities, which would subsequently enable analysis of parental  
429 responsiveness. Therefore, the content of the goals was not used in further analyses.

430 Demographic information such as parents' education, family structure, and type of sport  
431 was entered in preliminary analysis and did not demonstrate any relationship with the  
432 predictor or outcome variables. Thus, the decision was made not to use them in subsequent  
433 analyses. As expected, due to the positive focus of the study, most variables demonstrated a  
434 high mean and were negatively skewed. The correlation between parent's responsive support  
435 (observed) and athletes' PPR was not significant ( $r = 0.04$ , *ns*). All other correlations (see  
436 Table 1) were in the expected directions.

437 Table 1

438 Spearman correlations table

Variable	Mean	SD	Skewness	1	2	3	4	5	6	7	8	9439
1. PPR	4.02	0.76	-0.81									440
2. Responsive Support	0.00	0.64	-0.25	.04								441
3. Self-Efficacy	4.09	0.48	-0.21	<b>.40**</b>	<b>.33*</b>							442
4. Self-Esteem	4.14	0.50	-1.21	-.06	.25	<b>.36*</b>						443
5. Positive Affects	3.86	0.72	-0.39	.22	.26	.14	<b>.41*</b>					444
6. Vitality	4.06	0.67	-0.13	.03	-.06	<b>.38*</b>	<b>.70**</b>	<b>.40*</b>				445
7. Health Quality	3.54	0.78	-1.97	.24	.20	.23	.25	<b>.32*</b>	<b>.36*</b>			446
8. Life Satisfaction	8.27	0.98	-0.23	.27	.12	.16	<b>.40*</b>	<b>.38*</b>	<b>.48*</b>	<b>.47*</b>		447
9. Thriving	4.12	0.52	-0.63	.24	.15	<b>.30*</b>	<b>.58**</b>	<b>.73**</b>	<b>.74**</b>	<b>.72**</b>	<b>.71**</b>	448
10. Age Athlete	13.14	0.91	0.22	.17	-.19	-.21	<b>-.48**</b>	<b>-.43*</b>	-.20	-.13	-.11	<b>-.40*</b>

450 *Note.* PPR = Perceived Parental Responsiveness. Thriving is a higher order factor gathering positive affect, vitality, health quality, and life451 satisfaction. \*  $p < .05$ ; \*\*  $p < .001$ .

452 The four components of thriving (e.g., positive affect, vitality, health quality, and life  
453 satisfaction) were positively correlated (see Table 1),  $r = [0.32-0.48]$ , and the account of these  
454 components as a higher order factor of thriving is theoretically relevant (Feeney & Collins,  
455 2015). Thus, using a CFA, a one factor model of thriving created from merging the scales was  
456 conducted. The CFA demonstrated a good fit to the data:  $\chi^2 (52) = 55.70, p = 0.34, CFI =$   
457  $0.98, TLI = 0.94, RMSEA = 0.04, SRMR = 0.08$ . The four components significantly loaded  
458 on the higher order factor of thriving: positive affect ( $\beta = 0.71$ ), vitality ( $\beta = 0.95$ ), life  
459 satisfaction ( $\beta = 0.79$ ), and health quality ( $\beta = 0.59$ ), and the scale demonstrated a good  
460 internal reliability (i.e.,  $\omega_t = 0.72$ ). Thus, the scores of positive affect, vitality, health quality,  
461 and life satisfaction were averaged as a new variable, *thriving* ( $M = 4.12, SD = 0.52$ ), with  
462 higher scores representing higher levels of thriving. Spearman correlations (Table 1) showed  
463 that the thriving component was positively correlated with athletes' self-efficacy ( $r = .30$ ) and  
464 self-esteem ( $r = .58$ ), and negatively correlated with athletes age ( $r = -.30$ ).

### 465 **Main Findings**

466 Descriptive analysis showed positive correlations between the parent's responsive support  
467 (observed) ( $r = .32$ ) and athletes' PPR ( $r = .40$ ) with athletes' self-efficacy. Spearman  
468 correlations also showed that athletes' self-efficacy was positively correlated with their  
469 general self-esteem ( $r = .36$ ). Consequently, a mediation analysis was appropriate to test the  
470 first and second hypotheses together (Hayes, 2018). The first mediation tested the relationship  
471 between athletes' PPR and parental responsive support (observed) on athletes' self-esteem,  
472 mediated by athletes' perceived self-efficacy to reach their goals. Athletes' age and gender,  
473 parents' age and gender, and athletes' years of involvement in their sport were entered as  
474 control variables in the model.

475 The results of the first mediation showed that: (a) Athletes' PPR ( $\beta = .39$ ) and observed  
476 parental responsive support ( $\beta = .20$ ) were positively related with athletes' self-efficacy ( $r^2 =$

477 0.55), and (b) athletes' self-efficacy was in turn positively related with athletes' self-esteem ( $\beta$   
478 = .53). But the mediation showed that only athletes' PPR was related with athletes' self-  
479 esteem while mediated through athletes' self-efficacy ( $\beta = .20$ ),  $r^2 = 0.47$ ,  $p = 0.035$  (see  
480 Table 2). Athletes' age was directly and negatively related to athletes' self-efficacy ( $\beta = -.11$ )  
481 and self-esteem ( $\beta = -.14$ ). The other control variables (i.e., athletes' gender, parents' age and  
482 gender, and athletes' years of involvement in sport) did not demonstrated any significant  
483 effect in the model.

484 Table 2

485 Summary table of indirect mediation effect of PPR and Responsive Support through self-efficacy.

<b>X</b>	<b>M1</b>	<b>Y</b>	<b>indirect effect</b>	<i>se</i>	<b>90% CI indirect effect (lower and upper)</b>	
PPR	Self-Efficacy	Self-Esteem	0.20	0.10	[0.05 : 0.37]	486 487 488
Responsive Support	Self-Efficacy	Self-Esteem	0.11	0.09	[-0.04 : 0.25]	489 490 491

492 *Note.* PPR = Perceived Parental Responsiveness. X = predictors; M1 = mediator; Y = dependent variable. These values represent standardized

493 path coefficient. 90% CI indirect effect = the 90% confidence interval with lower and upper bounds for indirect effects.

494 Based on results of the first mediation, it was decided to pursue a serial mediation testing  
495 the relationship between athletes' PPR and observed parental responsive support on athletes'  
496 thriving, mediated in series by perceived self-efficacy and self-esteem. Athletes' age and  
497 gender, parents' age and gender, and athletes' years of involvement in their sport were entered  
498 as control variables in the model.

499 The results of the serial mediation showed that athletes' PPR ( $\beta = .39$ ) and observed  
500 parents' responsive support ( $\beta = .20$ ) were positively related to athletes' self-efficacy ( $r^2 =$   
501  $0.55$ ), which in turn was positively related with self-esteem ( $\beta = .53$ ;  $r^2 = 0.47$ ), and then  
502 positively related ( $\beta = .79$ ) with thriving. The association of athletes' PPR on thriving was  
503 mediated in series through athletes' perceived self-efficacy and self-esteem:  $\beta = .16$  (see  
504 Table 3),  $r^2 = 0.55$ ,  $p = 0.055$ . Athletes' age was negatively related to athletes' self-efficacy ( $\beta$   
505  $= -.11$ ) and self-esteem ( $\beta = -.14$ ). The other control variables (i.e., athletes' gender, parents'  
506 age and gender, and athletes' years of involvement in sport) did not demonstrate any  
507 significant effect in the model.

508 Table 3

509 Summary table of indirect mediation effect of PPR and Responsive Support through self-efficacy and self-esteem.

<b>X</b>	<b>M1</b>	<b>M2</b>	<b>Y</b>	<b>indirect effect</b>	<i>se</i>	<b>90% CI indirect effect (lower and upper)</b>
PPR	Self-Efficacy	Self-Esteem	Thriving	0.16	0.08	[0.02 : 0.30]
Responsive Support	Self-Efficacy	Self-Esteem	Thriving	0.09	0.07	[-0.04 : 0.21]

510

511 *Note.* PPR = Perceived Parental Responsiveness. X = predictors; M1 = mediator 1; M2 = mediator 2; Y = dependent variable. These values

512 represent standardized path coefficient. 90% CI indirect effect = the 90% confidence interval with lower and upper bounds for indirect effects.



## Discussion

513

514 The purpose of this study was to examine the influence of parental responsive support  
515 (observed) and perceived responsive support on athletes' self-perception and thriving within  
516 a Belgian French-Community. The first hypothesis was that parent's responsive support and  
517 athlete's PPR would be positively related to athletes' immediate perceptions of self-efficacy  
518 to reach their goals. The second hypothesis stated athletes' perceived self-efficacy to reach  
519 their goals would mediate the relationship between responsive interactions and athletes' self-  
520 esteem. The third hypothesis stated that athletes' self-esteem would be related with the  
521 general thriving components of positive affect, vitality, life satisfaction, and health quality.

522 The results supported the first hypothesis as parent's responsive support (observed) and  
523 athletes' PPR significantly contributed to athletes' immediate perceptions of self-efficacy.  
524 The results partially supported the second hypothesis as athletes' perceived self-efficacy to  
525 reach their goals only mediated the association between athletes' PPR and their self-esteem.  
526 This means that athletes whom perceived their parents understood them, valued their person,  
527 and cared for them (i.e., the three components of perceived responsiveness; Reis & Gable,  
528 2015) during a specific interaction, reported higher perceptions of self-efficacy to reach their  
529 goals and subsequent higher levels of self-esteem. The results further supported the third  
530 hypothesis, indicating that athletes' perceptions of self-esteem were significantly and  
531 positively related to a general indicator of thriving comprising positive affect, vitality, life  
532 satisfaction, and health quality. Overall, the results of the study showed that after a 10-minute  
533 interaction, athletes' PPR, mediated by athletes' self-efficacy, was positively related to  
534 athletes' self-esteem. Further, athletes' PPR was positively related with thriving, while  
535 mediated in series by self-efficacy and self-esteem.

536 A unique finding was that higher levels of parent-athlete responsive interactions were  
537 positively related with higher levels of athletes' perceived self-efficacy to accomplish their

538 goals. During these interactions, both the parent's (observed) responsive support and athletes'  
539 perceptions of the responsiveness of the support contributed to increased athletes' perceived  
540 self-efficacy. These results reveal that parents' responsiveness could be a source of self-  
541 efficacy for athletes to accomplish their sport-related goals. As such, the results of the present  
542 study reinforce the idea that optimal parental involvement in sport is dependent upon, or  
543 influenced by, parent's development of an understanding emotional climate (Knight & Holt,  
544 2014). These results also provide a possible explanation to findings reported in previous  
545 qualitative studies which have indicated that when parental support was perceived as  
546 appropriate by young athletes, it positively influenced their sport involvement, motivation,  
547 and perceptions of competence (Knight et al., 2011). Similarly, these results resonate with  
548 findings from Clarke et al. (2016) in youth elite football, which indicated that players valued  
549 their fathers' involvement when they had the feeling their father cared for them.

550 In order to be responsive, parents do not necessarily need to be an expert in sport, rather  
551 they need to simply demonstrate their interest, desire to understand, supporting to their  
552 child's goals, listening, being attentive, or interacting in a positive tone (Feeney & Collins,  
553 2015). Further, being responsive does not mean that parents must praise and reward certain  
554 types of goals (e.g., mastery goals) to the detriment of other types of goals (e.g., ego goals).  
555 Rather, in the present study, responsive interactions were characterized by parents and  
556 athletes discussing various and indiscriminate types of goals, and such responsive interactions  
557 were related to athletes having higher perceived self-efficacy to accomplish their goals.

558 The current study also showed that parents' responsive behaviors (coded by three  
559 independent coders) were not related to athletes' perceptions of their parent's responsiveness.  
560 This finding aligns with previous research in sport that has indicated that actual parental  
561 behaviors are not necessarily perceived by athletes (e.g., Babkes & Weiss, 1999). Further,  
562 this finding converges with an alternative pathway proposed by Feeney and Collins' (2015).

563 This pathway proposes that the proximal outcomes of responsive interactions may be  
564 predicted directly by the provision of responsive support, without such support being  
565 perceived (e.g., by the athlete), when the support is provided invisibly or subtly (e.g., non-  
566 intrusive listening, directing attention to opportunities), or because responsive support may  
567 involve saying something that the recipient does not want to hear (e.g., reframing  
568 unattainable goals).

569 In an attempt to further understand the discrepancies between observed parental  
570 responsive support and athletes' PPR, exploratory analysis was carried out with a  
571 transformation of observed responsive support based on the median scores in a two-factor  
572 categorical variable (low, high) that provided new insights. The median scores of PPR were  
573 not significantly different depending on the level of observed parental responsive support,  
574 low responsive support (Median = 4.30), vs. high responsive support (Median = 4.00),  $W =$   
575 205,  $p = 0.90$ . A non-parametric Siegel-Tukey test showed a significant reduction in the  
576 variance in athletes' PPR for the parents that were observed demonstrating high level of  
577 responsive support,  $p = 0.01$ . Parents who were categorized based on the observations as  
578 providing high responsive support were also more consistently identified by athletes as  
579 providing high support, illustrated through a significant reduction in the variance of athletes'  
580 PPR. That is, when parents were observed demonstrating high level of responsive support, it  
581 appeared to lead to athletes developing homogeneous perceptions of their parents' behaviors,  
582 but when parents were observed demonstrating low level of responsive support, athletes'  
583 perceptions of such support increased in variability. These results could be interpreted in  
584 accordance with arguments suggesting that the perception of responsive support is the result  
585 of both accurately detecting supportive behaviors and the perceiver's cognitive biases  
586 (Lemay & Neal, 2014). For instance, it is possible that athletes perceived their parent's  
587 behaviors were more responsive because of the high value they placed on their relationship

588 with them (Lemay & Neal, 2014). It may also be that athletes with parents who were  
589 observed demonstrating a high level of responsive support were more accurate in their  
590 perceptions of support because they have gradually internalized the benefits of such  
591 responsive support through their continuous interactions with their parents (Bowlby, 1988).  
592 Athletes with parents demonstrating a low level of responsive support may be unaware of  
593 what is required to be responsive to their needs, leading to more variable responses on their  
594 level of PPR.

595 The results showed that of the control variables that were entered in the models (i.e.,  
596 athletes' age and gender, parents' age and gender, and athletes' years of involvement in  
597 sport), only participants' age was negatively related to self-efficacy and self-esteem. This  
598 negative relationship between participants' age and their self-perceptions (e.g., self-efficacy  
599 and self-esteem) aligns with developmental models suggesting a decline in self-perception  
600 associated with increased cognitive abilities and increased capacity for social comparison in  
601 early adolescence (Harter, 2012). Hence, it is possible that a decrease in participants' self-  
602 perception with age could be related to their increased reliance on peer comparison rather  
603 than relying on their parental influences. A decrease in adolescent self-perception could also  
604 be related to changes in the type and amount, and relative importance, of the activities in  
605 which they are involved (Inchley et al., 2011). In sport the similar negative effect of age on  
606 self-perception at adolescence has also been reported (Coatsworth & Conroy, 2006; Marsh et  
607 al., 2006), therefore supporting the need to control for such variables in the models. Another  
608 explanation for the reduced influence of parents observed and perceived responsiveness on  
609 young athletes' self-perception and thriving with age could be related to the gradual decrease  
610 in parental involvement around adolescence, associated with an increased influence of  
611 coaches and peers (Wylleman & Rosier, 2016).

## 612 **Applied Implications**

613 The results of the present study showed that (a) parents' observed responsive support was  
614 not necessarily perceived by young athletes, (b) athletes' perceptions of their parent's  
615 responsiveness was central to their positive self-perceptions (i.e., self-efficacy and self-  
616 esteem) and thriving in sport, and (c) these relationships stood even when the parental  
617 responsive support was not detected by young athletes. Thus, it seems that rather than  
618 focusing on what support parents provide or do not provide for their children, it is more  
619 important to acknowledge that parent-athlete relationships are complex endeavors and must  
620 be examined and considered at an individual level (Knight et al., 2017). Potentially, certain  
621 parental behaviors may appear from the outside to be unresponsive, but if such behaviors are  
622 perceived by that specific athlete as responsive, they can still result in positive outcomes.  
623 Similarly, certain parental behaviors may appear to be appropriate or responsive but if they  
624 are perceived as unresponsive by the athlete, they could result in the perception of pressure  
625 and related negative outcomes. Consequently, prudence is required by coaches and sport  
626 organizations when externally viewing parents' behaviors and consequently interpreting or  
627 assuming what impact they will have upon children.

628 Further, the present study demonstrated that parents can and do provide responsive support  
629 to their children in the sport context, when discussing sport-related goals. Such responsive  
630 support resulted in positive outcomes for young athletes both in terms of perceived self-  
631 efficacy and in increasing athletes' self-esteem and thriving. Given such a finding, it is clear  
632 that parents are and should be recognized as allies that actively contribute to their children's  
633 sporting and psychosocial development. As such, the results of the present study add further  
634 weight to suggestions that sport organizations should actively include, rather than exclude,  
635 parents in their processes (e.g., Thrower et al., 2017). Such engagement could occur by clubs/  
636 organizations sharing the sport-related goals that athletes have set with their parents. This

637 would allow parents the opportunity to have a better understanding of their children's needs  
638 and wishes in sport, and enable parents to provide responsive support for such aims.

### 639 **Limitations and Future Research Directions**

640 The results of this study should be considered within the limitations. The study was a  
641 cross-sectional explorative study with a relatively small number of participants. The  
642 exploratory nature arose due to the numerous advances that were required at a theoretical  
643 level (i.e., implementing a new theoretical framework in sport science) and at a  
644 methodological level (i.e., development of a video-coding procedure) for this study. These  
645 novelties led to the selection of a parsimonious design for the data collection, which is why a  
646 cross-sectional design with purposefully chosen participants was deemed appropriate.

647 Participants were purposefully sampled from individual sports clubs and may not be  
648 representative of the general population nor the sport population. For instance, the high  
649 educational level of parents that participated in the study should be acknowledged and might  
650 influence the generalizability of the results. Moreover, participants from a Belgian French-  
651 Community were actively recruited as parents are highly involved in their child's sport, but  
652 consequently the results may not apply in contexts that require less involvement from parents.

653 A number of steps were taken to mitigate issues of normativity (i.e., responding in a  
654 typical averaged fashion) and desirability (i.e., tendency to endorse positive characteristics)  
655 effects (Deal, 2019). For instance, participants were not aware of what behaviours were being  
656 coded, and parents were not aware of the subsequent measures for the athletes that were only  
657 described in general term. Nevertheless, it should be acknowledged that the audio-video  
658 taped interactions and subsequent observational measures of parental responsiveness could  
659 have led to some normativity and desirability effects.

660 The results of this study highlight numerous areas for further research. For instance, future  
661 research could aim to examine the extent to which athletes can accurately detect (or not) the

662 responsiveness of parental support, and what specific factors influence such perceptions.  
663 Also, the current study only measured observed parental responsive support and athletes'  
664 PPR in a very specific situation. Further research could extend this by measuring, for  
665 instance, athletes' PPR at a more general level.

666 Further research to investigate the role of self-esteem in athletes' thriving may also be  
667 warranted. The current study showed that vitality, positive emotion, health quality, and life  
668 satisfaction can be merged into a single factor of thriving but not self-esteem. In the current  
669 study, athletes' self-esteem was considered as a mediator between responsive support and  
670 thriving. This consideration is congruent with the suggestion that athletes' self-esteem can be  
671 considered as a higher-order construct that has an influence on various subcomponents of  
672 their self-perceptions (Marsh et al., 2018). Finally, other research avenues that may benefit  
673 from investigation include (but are not limited to) the specific influences of mothers' and  
674 fathers' responsive support and the long-term effects of parental responsive support on  
675 athletes' sport and personal development.

## 676 **Conclusion**

677 Overall, this study enhances understanding of parent-athlete relationships at a theoretical  
678 and methodological level. At a theoretical level, to the best of our knowledge, this study is  
679 the first to have used Feeney and Collins' (2015) thriving through relationship model and  
680 Reis and Gable's (2015) construct of responsiveness in sport. Feeney and Collins' model  
681 seems well-suited to the sport setting and for examining the mechanisms involved in parent-  
682 athlete relationships. The unique contribution of this study in understanding parent-athlete  
683 relationships is that it revealed the positive influence of the responsiveness of parental  
684 support on athletes' self-efficacy, self-esteem, and various factors of thriving. Further, the  
685 study demonstrated the value and parsimony of Reis and Gable's (2015) construct of  
686 responsiveness and highlighted the unique influence of parental responsive support

687 (observed) and athletes' perceptions of such support on their perceived self-efficacy, self-  
688 esteem, and thriving (i.e., positive affect, vitality, life satisfaction and health quality).

689 At a methodological level, this study developed a video-based behavioral coding system to  
690 assess parental responsive support that is adapted to parent-athletes interaction in sport.

691 Finally, the results highlight new areas for future studies on parent-athlete interactions.

692 Together, the use of a strong theoretical framework combined with advanced data collection  
693 methods provide unique evidence showing that responsive interactions between parents and  
694 athletes can lead to an increase in athletes' self-perception and thriving.

695



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