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Why Do Sport Coaches Adopt a Controlling Coaching Style?

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The Role of an Evaluative Context and Psychological Need Frustration

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Abstract

In this study, involving 585 youth sport coaches ($M_{\text{age}} = 35.76$), we investigated whether coaches who perceive their environment to be highly evaluative would report acting in a more controlling or pressuring way. In a subsample ($N = 211$, $M_{\text{age}} = 38.14$), we examined the explanatory role of coaches' experiences of psychological need frustration in this relation. We also considered whether years of coaching experience would serve as a buffer against the adverse effects of an evaluative context. In line with the tenets of Self-Determination Theory (Ryan & Deci, 2017), results of structural equation modeling indicated that an evaluative context related to the use of a more controlling coaching style, with experiences of need frustration accounting for this relation. Coaching experience did not play any moderating role, suggesting that even more experienced coaches are vulnerable to the harmful correlates of an evaluative sport context.

Keywords: sport club climate, coach evaluation, interpersonal behavior, basic psychological needs, self-determination theory

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43 *Richard (32 years old), a youth football coach: "Although the club board emphasizes*
44 *that winning is not the most important thing, I still feel judged and evaluated if my players do*
45 *not perform well. If I enter the cafeteria after a game, the youth coordinator always first asks*
46 *about the outcome of the game and he is far less interested in whether my players played well*
47 *or whether I noticed some progress."* This quote comes from a coach who participated in an
48 intervention on motivating coaching (Reynders et al., 2019) and illustrates that contextual
49 pressures on coaches can be conveyed in subtle ways. Simply asking for the outcome of a game
50 may suffice for some sport coaches to feel evaluated and pressured. Within an evaluative sport
51 context, not only coaches' own coaching performance, but also the performance of their
52 athletes may form the basis for evaluating coaches (e.g., Cunningham & Dixon, 2003). Hence,
53 it is not surprising that an evaluative sport context is a prominent source of pressure among
54 sport coaches (e.g., Olusoga, Butt, Hays, & Maynard, 2009). Such a pressure-exerting context
55 not only relates to negative outcomes such as burn-out (e.g., Lundkvist, Gustafsson, Hjälm, &
56 Hassmén, 2012), but may also predict the way how coaches interact with their athletes. That
57 is, when facing an evaluative context, coaches may transmit the pressure exerted on them to
58 their athletes, thereby using a more controlling style (Rocchi & Pelletier, 2017; Stebbings,
59 Taylor, Spray, & Ntoumanis, 2012). Grounded in Self-Determination Theory (SDT; Ryan &
60 Deci, 2017), the present study sought to investigate whether an evaluative context is related to
61 sport coaches' use of a controlling or pressuring coaching style and whether this association
62 can be explained by the frustration of coaches' psychological needs for autonomy, relatedness,
63 and competence. Moreover, we explored whether more experienced coaches are more capable
64 of dealing with the pressures encountered in their sports. Specifically, we examined whether,

65 in the event of an evaluative climate, years of coaching experience may buffer against
66 experiences of need frustration and the adoption of controlling behaviors towards athletes.

67 **Controlling Coaching Style**

68 According to SDT, when coaches adopt a controlling approach, they pressure athletes
69 to act, think, or feel in specific and prescribed ways (Mageau & Vallerand, 2003). Previous
70 studies reported convincing evidence for the negative effects of a controlling coaching style.
71 For instance, at the cross-sectional level, athletes who perceived their coach as more controlling
72 reported more competitive anxiety (Ramis, Torregrosa, Viladrich, & Cruz, 2017), poor
73 motivation (Haerens et al., 2018), and symptoms of burn-out (Barcza-Renner, Eklund, Morin,
74 & Habeeb, 2016). A controlling style is also characterized by rises and falls across a series of
75 training sessions or games, with these fluctuations being related to parallel fluctuations in
76 athletes' negative affect during training (Bartholomew, Ntoumanis, Ryan, Bosch, &
77 Thøgersen-Ntoumani, 2011) and antisocial behavior during games (Delrue et al., 2017).

78 While most past studies have made use of composite scores of controlling coaching
79 (e.g., Ramis et al., 2017), other studies have adopted a differentiated approach (e.g., Barcza-
80 Renner et al., 2016). Within a differentiated approach, the predictive role of four sets of
81 pressure-exerting practices is investigated (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani,
82 2010), that is, (1) humiliating and belittling athletes (i.e., intimidation), (2) pushing athletes to
83 engage, persevere, and perform well via material rewards (i.e., controlling use of rewards), (3)
84 interfering in athletes' areas of life that are not directly associated with sports (i.e., excessive
85 personal control), and (4) withholding attention and appreciation if athletes fail to meet
86 expectations (i.e., negative conditional regard). Studies using a differentiated approach showed
87 that intimidation and the controlling use of rewards tend to yield less pronounced relations with
88 external outcomes, such as athletes' quality of motivation and athlete burn-out, when compared
89 to excessive personal control and negative conditional regard (Barcza-Renner et al., 2016;

90 Cheval, Chalabaev, Quested, Courvoisier, & Sarrazin, 2017). Given these differential
91 associations with athlete outcomes, it is worth exploring whether the different facets of
92 controlling coaching have different antecedents as well.

93 **Evaluative Sport Context**

94 Because of the well-documented costs associated with a controlling coaching style, a
95 new range of studies has begun to identify the sources underlying this style (see Matosic,
96 Ntoumanis, & Quested, 2016 for a review). Three classes of risk factors for the adoption of a
97 controlling style have been proposed (Mageau & Vallerand, 2003; Matosic et al., 2016). That
98 is, the pressure on coaches can arise from below, within, or above. Pressures from below refer
99 to athlete characteristics such as their disengagement or their lack of motivation, pressures from
100 within refer to personal characteristics of the coach, and pressures from above include
101 contextual characteristics such as socio-environmental (e.g., work-life conflict) and external
102 pressures (e.g., time constraints). These contextual pressures are very relevant to focus on
103 because they are most susceptible for change and, hence, carry direct practical implications
104 compared to factors from within or below.

105 In relation to the pressure exerted by the context, which is central in the current study,
106 prior studies (Rocchi & Pelletier, 2017; Stebbings et al., 2012) have found that sport coaches
107 who encounter more demanding job characteristics (e.g., higher work-life conflict, more time
108 constraints) report engaging in more controlling coaching. Yet, no studies to date focused on
109 the pressuring role of the broader club climate in relation to coaches' reliance on a controlling
110 style. In an evaluative club climate, coaches' own performance as well as the performance of
111 their athletes are continuously monitored, evaluated, and judged by their colleagues and the
112 club board. Because prior work indicated that teachers (Pelletier, Séguin-Lévesque, & Legault,
113 2002; Soenens, Sierens, Vansteenkiste, Dochy, & Goossens, 2012) or parents (Wuyts,
114 Vansteenkiste, Mabbe, & Soenens, 2017) who feel or are experimentally made accountable for

115 their children's performance use more controlling strategies, it can be expected that an
116 evaluative climate may also relate to a more controlling coaching style in sports.

117 **Basic Psychological Need Frustration as an Explanatory Mechanism**

118 According to the Basic Psychological Needs Theory (Ryan & Deci, 2017;
119 Vansteenkiste, Ryan, & Soenens, 2020), a subtheory of the Self-Determination Theory, when
120 coaches are facing an evaluative context, their psychological needs may get frustrated. That is,
121 if coaches feel judged and are made accountable for their players' performances, they may feel
122 pressured to deliver training sessions in certain ways (autonomy frustration), they may question
123 their skills as a coach (competence frustration), and feel not well understood by or even
124 alienated from board members and other coaches (relatedness frustration) (Vansteenkiste &
125 Ryan, 2013). In the context of sports, coaches' need frustration has been found to relate to
126 coaches' experience of negative affect and emotional and physical exhaustion (e.g., Stebbings
127 et al., 2012). In addition to these disadvantages for coaches' personal functioning, experiences
128 of need frustration may also affect the way how they interact with others, for instance, by
129 eliciting a more prejudicial way of interacting (e.g., Costa, Ntoumanis, & Bartholomew, 2015).
130 In fact, coaches' need frustration has been identified as an important predictor of a controlling
131 coaching style (e.g., Delrue et al., 2019; Silva et al., 2017). As such, experiences of need
132 frustration may serve as an explanatory mechanism (i.e., mediator), thereby accounting for the
133 transmission of the pressure coaches experience from the club board to the pressure imposed
134 onto their athletes (e.g., Rocchi & Pelletier, 2017; Stebbings et al., 2012). At the same time,
135 the contextual pressures placed upon coaches may be directly imitated by coaches in the
136 interaction with their athletes. That is, the dynamics between board members and coaches
137 would serve as a model and script for the interaction between coaches and athletes (i.e., a
138 modelling process).

139 **The Role of Coach Experience**

165 well as its various constituting facets (i.e., intimidation, controlling use of rewards, excessive
166 personal control and negative conditional reward; see e.g., Barcza-Renner et al., 2016; Cheval,
167 2017), and by treating psychological need frustration as an explanatory underlying mechanism
168 and coaching experience as a potential buffer in this relationship. Hereby, we pursued three
169 hypotheses. First, we hypothesized that a perceived evaluative sports context is linked to sport
170 coaches' use of a controlling coaching style (Hypothesis 1). Second, we investigated whether
171 an evaluative context has an indirect effect on a controlling style through the frustration of the
172 basic psychological needs (Rocchi & Pelletier, 2017; Stebbings et al., 2012). We also expected
173 the direct effect to remain significant as a controlling coaching style may not only be rooted in
174 the encountered need frustration, but may also directly come from the exposure to an evaluative
175 context (Hypothesis 2). Finally, we sought to explore whether the relationship between an
176 evaluative context and a controlling style is moderated by coaching experience (Hypothesis 3).
177 That is, among more experienced coaches the encounter of an evaluative context may less
178 easily give rise to experiences of need frustration and the use of a controlling style.

179 Method

180 Sample

181 Participants were recruited in two waves, in season 2015-2016 ($N = 374$) and 2016-
182 2017 ($N = 211$). The total sample comprised 585 sport coaches (30.6% female, $M_{\text{age}} = 35.76$,
183 $SD = 12.94$, range = 13-74 years) who had, on average, 9.05 ($SD = 8.45$) years of experience
184 and spent 5.76 ($SD = 5.03$) hours per week coaching. All coaches were affiliated with an official
185 sports club. They were coaching teams competing at various levels of performance (35.9% no
186 competition or recreational, 34.4% provincial or nationwide, and 29.7% national or
187 international) and 77.1% of them had a coach diploma. The sample included coaches of
188 different age categories (46.5% coached athletes younger than 12 years old, 36.3% coached
189 athletes between 12 and 18 years old, and 17.2% coached athletes older than 18 years old), and

190 of both team (58.9%) and individual sports (41.1%).

191 **Procedure**

192 Participants were recruited through a governmentally funded project on motivating
193 coaching called ‘Coach with the M-factor’ project, with M referring to motivation. This project
194 aims at ameliorating coaches’ motivating style by offering three skill-oriented workshops as to
195 increase the long-term motivation of *BLINDED* youth for organized sport participation. All
196 coaches who were interested in the workshops were asked to complete an online questionnaire
197 at home, prior to participation in the workshop trajectory. Completing the questionnaire took
198 less than half an hour. The 585 participating coaches completed self-report questionnaires
199 regarding the perceived evaluative context and their own use of controlling behaviors. In the
200 subsample of coaches recruited in the second wave ($N = 211$, 26.1% female, $M_{\text{age}} = 38.14$,
201 $M_{\text{experience}} = 8.77$), experiences of need frustration were additionally measured. The research
202 was conducted according to the ethical rules presented in the General Ethical Protocol of the
203 Faculty of Psychology and Educational Sciences of *BLINDED* University. All participants
204 actively agreed that they were informed about the purpose of the research and gave permission
205 to the researchers to use their answers for research purposes.

206 **Measures**

207 **Perceived evaluative context.** Coaches’ perceived degree of being judged and
208 evaluated by their sport club based on their athletes’ performances was assessed by a sport-
209 specific adaptation of the Constraints at Work Scale (Pelletier et al., 2002) that has already
210 been successfully used in the sport context (Rocchi, Pelletier, & Couture, 2013). Four items
211 (e.g., “My club will judge me negatively if my athletes do not perform well”) were rated on a
212 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach’s alpha (α
213 = .73) was acceptable. We allowed the residuals of two items that are conceptually most closely
214 related (i.e., “I am held responsible for the performance of my athletes” and “My club will

215 judge me negatively if my athletes do not perform well”) to covary. Although the other two
216 items (i.e., "I feel that I have to perform better than my fellow coaches to prove myself to my
217 club” and "If my athletes perform poorly this is bad for my image") still contain characteristics
218 of an evaluative context, these items emphasize less explicitly the pressure from the club board
219 in relation to athletes’ performances. The model fit of this four-item model ($\chi^2(1) = .08, p =$
220 $.78, RMSEA = 0.00, CFI = 1.00, SRMR = 0.002$) was acceptable, with all indicator loadings
221 being above $.46, p < .001$.

222 **Psychological need frustration.** Coaches’ psychological need frustration was
223 measured with the Basic Psychological Need Satisfaction Need Frustration Scale (Chen et al.,
224 2015). The items were adapted by making them applicable for sport coaches and the scale was
225 shortened to 6 items, which has proven valid in previous studies in sports contexts (e.g., Delrue
226 et al., 2019). The scale measures the frustration of the needs for autonomy (2 items; e.g., “The
227 fact that I cannot choose my own way of coaching athletes frustrates me”), relatedness (2 items;
228 e.g., “Coaching athletes creates tension with people who are important to me”) and competence
229 (2 items; e.g., “Sometimes I feel like I will never succeed in coaching”). Because the frustration
230 of each need was assessed with a limited number of items, we created a composite score of
231 need frustration. Responses were reported on a 5-point scale ranging from 1 (strongly disagree)
232 to 5 (strongly agree). Reliability analysis revealed a Cronbach’s alpha of $.67$. We allowed the
233 residuals of two autonomy and relatedness frustration items to covary, since in the literature
234 the support and thwarting of the needs for relatedness and autonomy are often strongly related
235 (e.g., Niemiec et al., 2006). As such, the model fit was acceptable ($\chi^2(7) = 12.82, p = .08,$
236 $RMSEA = .06, CFI = .91, SRMR = .05$. All indicator loadings were above $.31, p < .01$.

237 **Controlling coaching.** Coaches completed the Controlling Coach Behaviors Scale
238 (Bartholomew et al., 2010), which consists of four subscales: intimidation (4 items; e.g., “I
239 shout at my athletes in front of others to make them do certain things”), controlling use of

240 rewards (4 items; e.g., “I only use rewards/praise so that my athletes complete all the tasks I
241 set in training”), excessive personal control (3 items; e.g., “I expect my athletes’ whole life to
242 center on their sport participation”) and negative conditional regard (4 items; e.g., “I am less
243 friendly with my athletes if they don’t make the effort to see things in my way”). Responses
244 were reported on a 7-point scale ranging from 1 (does not describe me at all) to 7 (describes
245 me completely). The total set of 15 items yielded an acceptable Cronbach’s alpha of .79, with
246 internal consistencies for the subscales varying between .61 (i.e., excessive personal control)
247 and .79 (i.e., negative conditional regard). To examine the internal structure of this
248 questionnaire, a higher-order CFA was conducted thereby modeling the items as indicators of
249 the four first-order factors that in turn served as indicators for one higher-order factor of
250 controlling coaching. This higher-order model fitted the data well ($\chi^2(86) = 165.30, p < .001,$
251 RMSEA = .04, CFI = .94, SRMR = .05). All indicator loadings were above .31, $p < .001$.

252 **Plan of Analysis**

253 To address the three hypotheses, we used the statistical program Mplus Version 8
254 (Muthén, Muthén, & Asparouhov, 2017). In a first model, we examined the role of an
255 evaluative context in the prediction of both a composite score of controlling coaching (Model
256 1a) as well as its four constituting facets (Model 1b) through structural equation modeling
257 (SEM), making use of the robust MLR estimator. Several indices were employed to evaluate
258 the model fit, namely the χ^2 test, the comparative fit index (CFI), the standardized root mean
259 square residual (SRMR), and the root mean square error of approximation (RMSEA). An
260 acceptable fit was indicated by χ^2 /df ratio of 2 or below, CFI values of .90 or above, and SRMR
261 and RMSEA values of .08 or below (Hu & Bentler, 1999). Second, we investigated the
262 mediating role of need frustration in relation to both the composite score (Model 2a) as well as
263 the four facets of controlling coaching (Model 2b) through Bayesian Structural Equation
264 Modeling (BSEM). Model fit of the BSEM models was assessed using the Posterior Predictive

265 p-value (PPP), which permits a direct measure of the discrepancy between the obtained sample
266 and general population. An excellent fitting model is expected to have a PPP-value around 0.5
267 (Muthén & Asparouhov, 2012). Furthermore, model convergence was assessed with the
268 Potential Scale Reduction Factor. PSR-factors equal or less than 1.1 are considered evidence
269 of convergence (Gelman, Carlin, Stern, & Rubin, 2004). In our third model, we explored the
270 moderating role of coaching experience in the relationship between an evaluative context and
271 experiences of need frustration (Model 3a), overall controlling coaching (Model 3b) and its
272 four facets (Model 3c). To conduct these moderation analyses, the Bayes estimator and same
273 fit indices as in Model 2 were used. Likewise, we tested an integrated model (combining Model
274 2 and 3) through moderated mediation analyses.

275 Throughout the analyses, we made use of the maximum amount of data. Specifically,
276 since experiences of need frustration were only assessed among coaches of the second wave,
277 the analyses in which need frustration is included (Model 2a, 2b, 3a, integrated model) were
278 only performed on this subsample ($N = 211$). Yet, analyses in which need frustration is not
279 included (Model 1a, 1b, 3b, 3c) were performed on the full sample ($N = 585$). Although Model
280 1 and 3 consisted of latent constructs, Model 2 and the integrated model - given they were
281 based on the limited subsample - made use of manifest constructs.

282 Results

283 Preliminary Analyses

284 Table 1 presents the descriptive results and the correlations between measured
285 variables. In a set of preliminary analyses, a MANOVA including the perceptions of an
286 evaluative context, the use of a controlling style and its four indicators as dependent variables,
287 revealed that the multivariate effects of athletes' age group (Wilks's $\lambda = .92$, $F(10, 1100) =$
288 4.83 , $p < .001$, $\eta_p^2 = .04$), level of performances (Wilks's $\lambda = .88$, $F(10, 1100) = 7.47$, $p < .001$,
289 $\eta_p^2 = .06$), type of sport (Wilks's $\lambda = .97$, $F(5, 550) = 2.96$, $p \leq .01$, $\eta_p^2 = .03$), and coach gender

290 (Wilks's $\lambda = .96$, $F(5, 550) = 4.47$, $p < .001$, $\eta_p^2 = .04$) were significant. Test of between-
291 subjects effects showed that coaches of the youngest age group (< 12 years) experienced less
292 contextual pressure compared to coaches of older athletes ($F(2,554) = 8.05$, $p < .001$).
293 Furthermore, coaches of the middle age group (12–18 years old) scored highest on (indicators
294 of) a controlling style ($F(2, 554) = 8.30$, $p < .001$; see Appendix A). Coaches training athletes
295 at an (inter)national level reported the least intimidation ($F(2, 554) = 3.33$, $p < .05$) and
296 controlling use of rewards ($F(2, 554) = 8.57$, $p < .001$), but the most excessive personal control
297 ($F(2, 554) = 16.04$, $p < .001$; see Appendix A). Team sport coaches reported more intimidation
298 than coaches of individual sports ($F(1, 554) = 8.66$, $p < .01$). Male coaches reported more
299 intimidation ($F(1,554) = 4.77$, $p < .05$), controlling use of rewards ($F(1, 554) = 7.12$, $p \leq .01$),
300 excessive personal control ($F(1, 554) = 6.23$, $p \leq 0.1$), and the use of a controlling style overall
301 ($F(1, 554) = 8.79$, $p < .01$). Analysis of variance on the subsample in which need frustration
302 was measured, revealed that qualified coaches experienced less need frustration compared to
303 unqualified coaches ($F(1, 202) = 5.01$, $p < .05$).

304 **Primary Analyses**

305 In all models, all (non-)significant findings remained identical after taking into account
306 relevant covariates (i.e., coach diploma, gender, level of performances, age group, experience,
307 hours of contact and type of sport). As such, results of analyses without covariates are reported.

308 **Hypothesis 1.** When treating controlling coaching as a second order composite score
309 in Model 1a, the fit was acceptable ($\chi^2(146) = 269.28$, $p < .001$, χ^2/df ratio = 1.84, RMSEA =
310 .04, CFI = .93, SRMR = .05; Hu & Bentler, 1999) with standardized factor loadings of all items
311 ranging from $\beta = .31$, $p < .001$ to $\beta = .86$, $p < .001$ on their proposed latent constructs. Similarly,
312 when considering the separate indicators of controlling coaching in Model 1b, the fit was
313 acceptable ($\chi^2(141) = 257.58$, $p < .001$, χ^2/df ratio = 1.83, RMSEA = .04, CFI = .93, SRMR =
314 .05; Hu & Bentler, 1999) with standardized factor loadings ranging from $\beta = .32$, $p < .001$ to β

315 = .80, $p < .001$. Results of Model 1a showed that an evaluative context related positively to
316 coaches' self-reported use of a controlling coaching style ($\beta = .57, p < .001$), a relation that
317 emerged for all four facets in Model 1b, as a unique relation was found with intimidation ($\beta =$
318 $.40, p < .001$), controlling use of rewards ($\beta = .22, p \leq .001$), excessive personal control ($\beta =$
319 $.38, p < .001$), and negative conditional regard ($\beta = .51, p < .001$).

320 **Hypothesis 2.** Building on the above models, we investigated the explanatory role of
321 psychological need frustration (Figure 1, Table 2). Results of Model 2a revealed a significant
322 indirect effect of an evaluative context to the self-reported use of a controlling coaching style
323 through the frustration of the basic psychological needs. In the case of the differentiated model
324 Model 2b, there was similar evidence for need frustration as an explanatory mechanism in the
325 case of intimidation and negative conditional regard, but not in the case of excessive personal
326 control and the controlling use of rewards.

327 **Hypothesis 3.** Next, we explored the moderating role of coaching experience. For this
328 type of analyses, the PPP-value is not provided by Mplus. However, the range of the PRS-
329 factor was acceptable, ranging between 1.03 and 1.08. The results of these three models
330 revealed that the number of years of coaching experience did not play a moderating role in the
331 relation between an evaluative context and the experiences of need frustration (Model 3a;
332 interaction term $\beta = -.06, 95\% \text{ CI } [-.23, .13]$), neither in the relation between an evaluative
333 context and a controlling style (Model 3b; interaction term $\beta = -.02, 95\% \text{ CI } [-.12, .09]$) or any
334 of its four indicators (Model 3c). The absence of interaction effects indicates that more
335 experienced coaches are not resilient to an evaluative context. In terms of main effects, we
336 found that more experienced coaches made less use of a controlling style ($\beta = -.16, 95\% \text{ CI } [-$
337 $.25, -.06]$), with specifically less intimidation ($\beta = -.15, 95\% \text{ CI } [-.25, -.05]$) and negative
338 conditional regard ($\beta = -.15, 95\% \text{ CI } [-.23, -.06]$). Yet, experience was unrelated to experiences
339 of need frustration ($\beta = -.08, 95\% \text{ CI } [-.24, .06]$), the controlling use of rewards ($\beta = -.04, 95\%$

340 CI [-.15, .05]) and excessive personal control ($\beta = .03$, 95% CI [-.05, .12]).

341 Finally, we tested an integrated model through moderated mediation analyses. The
342 results of this integrated model are the same as those of Model 2 and 3 considered separately,
343 with an indirect significant effect for controlling coaching, intimidation and negative
344 conditional regard and no significant interaction effect for coaching experience (see Table 3).

345 Discussion

346 Although perceived controlling or pressuring coaching has been found to relate
347 positively to athletes' competitive anxiety (Ramis et al., 2017), antisocial behavior (Delrue et
348 al., 2017) and poor motivation (Haerens et al., 2018), fewer studies have shed light on the
349 factors that explain coaches' use of a controlling motivating style. The present study aimed to
350 fill this void by investigating the role of an evaluative context as a risk factor, with experiences
351 of need frustration accounting for this association. In line with our hypotheses and prior
352 research in other life domains (Pelletier et al., 2002; Wuyts et al., 2017), we found that sport
353 coaches' perception of an evaluative sport context related to a controlling coaching style
354 (Hypothesis 1). When deconstructing the composite score of controlling coaching into its facets
355 (i.e., intimidation, controlling use of rewards, excessive personal control, negative conditional
356 regard; Bartholomew et al., 2010), an evaluative sport context was found to relate to the use of
357 each of the four facets, suggesting that coaches turn to a variety of pressuring strategies in
358 response to encountered pressures themselves. The relationship between the evaluative context
359 and controlling use of tangible rewards was slightly less pronounced compared to the relation
360 with the three other indicators. Whereas the three other practices (i.e., intimidation, excessive
361 personal control, negative conditional regard) represent more domineering controlling
362 strategies, thereby targeting the athlete as a person, the use of rewards is somewhat less
363 controlling, as the focus is on athletes' behavior (Delrue et al., 2019). Possibly, an evaluative
364 climate predicts especially more intrusive practices.

365 Further, as expected, we found that a controlling coaching style is rooted in
366 experiences of need frustration, but also directly arises from the exposure to an evaluative
367 context (Hypothesis 2). Hereby, we suspect that coaches may adopt the interaction style
368 between club board members and themselves as a script for their way of approaching their
369 athletes. Looking at the separate subscales of controlling coaching, the current study suggests
370 that need frustration is especially important as an underlying explanatory mechanism for
371 intimidation and negative conditional regard. In contrast, need frustration did not play an
372 explanatory role in the case of excessive personal control. In spite of the negative consequences
373 of this controlling strategy, these behaviors may also be well-meant by highly committed
374 coaches who want to bring discipline to their players. As such, the exertion of excessive control
375 is not necessarily grounded in coaches' experiences of need frustration. Another possible
376 explanation is that these behaviors, compared to the other controlling strategies, are most
377 similar to the evaluative pressures that coaches encounter. Therefore, through a process of
378 modeling, coaches immediately mirror and project these controlling behaviors of the context
379 onto their athletes, such that the role of their own psychological needs gets minimized.
380 However, these explanations cannot be inferred with certainty from the present findings and
381 are therefore rather speculative.

382 Since SDT recognizes that personal characteristics may play a distinctive role and even
383 serve as a buffer against contextual pressures (Ryan & Deci, 2017), we explored whether more
384 experienced coaches display a more adaptive pattern of functioning. Results revealed that more
385 experienced coaches engage in less controlling behaviors in general, and less intimidation and
386 negative conditional regard in particular. It may be the case that experienced coaches have
387 found out that such controlling behaviors do not have a sustainable positive impact on athletes
388 (e.g., Gonzáles, García-Merita, Castillo, & Balaguer, 2016), leading them to withdraw from
389 such pressuring practices. While evidence was found for a main effect of years of coaching

390 experience, it did not function as a buffer against an evaluative context (Hypothesis 3). That is,
391 coaches, either being experienced or being new to the role, experienced similar degrees of need
392 frustration and engaged in a similar dose of controlling coaching behaviors in response to a
393 pressure-exerting context.

394 In a set of preliminary analyses, we also examined whether the variation in coaches'
395 perceived evaluative context differed as a function of different sport-specific characteristics.
396 Regarding type of sport (individual versus team) no differences in the perception of an
397 evaluative context were found. It could be thought that coaches of team sports experience more
398 pressure, as they have the task of supporting the performance of each individual within the
399 team, taking into account everyone's personal preferences and expectations (Karabatsos,
400 Malousaris, & Apostolidis, 2006). Yet, these pressures that are perhaps typical for team sports
401 were not captured by our measures and are perhaps more closely related to the pressure from
402 below (e.g., number of athletes), rather than the experienced pressure from above (e.g.,
403 evaluative club climate) (Mageau & Vallerand, 2003). On the other hand, in a team situation
404 the pressure could get divided across team members, whereas the coach and athlete are the only
405 ones involved in an individual sport, with the pressure thus being higher as oriented to only
406 one person. Anyhow, these hypothetical explanations require more research.

407 Next, we did not find any difference in terms of the level at which athletes are
408 performing. Yet, coaches of older athletes (> 12 years) perceived the club climate to be more
409 evaluative compared to coaches of athletes younger than 12 years old. Presumably, as athletes
410 get older, the expectations in terms of discipline, diligence and performance hold by club
411 boards may increase, which explains the elevated pressure reported by these coaches.

412 **Limitations and Future Directions**

413 First, no conclusion can be drawn about the direction of relationships given the cross-
414 sectional nature of the study. A longitudinal design is recommended to examine whether

415 changes in an evaluative climate precede changes in coaches' controlling coaching style.
416 Furthermore, experimental research could expose coaches to real pressures to examine how
417 they subsequently interact with their athletes. These more advanced methods are less liable to
418 social desirability and can confirm the herein observed cross-sectional relationships.

419 Second, only self-report measures were used. Although the Harman's Single-Factor
420 Test offered some counter-evidence for common method variance, such shared variance may
421 have artificially boosted some of the observed relations. By asking club board members to
422 report on the club climate and to rate coaches' controlling behaviors, it could be examined
423 whether the obtained pattern of findings would hold across informants. Also, future research
424 may validate the current findings against observations, which have been found to be fairly
425 discrepant from what socializing agents indicate themselves (Aelterman, Vansteenkiste, Van
426 den Berghe, De Meyer, & Haerens, 2014).

427 Third, years of coaching experience had a very wide range (0-47 years) and showed a
428 positive skewness. Although we used a Bayesian approach to address this limitation, future
429 research should gather a more normally distributed sample to examine whether the current
430 pattern is replicated. The same limitation applies for the examination of mean-level differences
431 in the perception of an evaluative context as a function of sport-specific characteristics. Further
432 research should gather a more balanced sample and possibly take other factors into account
433 such as the timing during a sports season, as the pressure exerted by the club board may vary
434 depending on the period within a season. For example, club board members can start the season
435 by communicating strict rules and sanctions to coaches, but interfere less as the season
436 progresses. Alternatively, club board members can let coaches do their thing as the season
437 begins, but increase the pressure on coaches as the season progresses.

438 Further, it would be useful to include several antecedents of a controlling coaching style
439 simultaneously. By including factors at all three levels (i.e., below, within, and above), a more

440 comprehensive picture can be obtained. That way, it becomes possible to investigate the unique
441 and interactive contribution of the different pressures and to assess which category of pressures
442 is the most decisive in the prediction of a controlling coaching style. Next, it is recommended
443 to examine the basic psychological needs separately to gain more refined insight into the
444 mechanism underlying the contribution of contextual antecedents in the prediction of a
445 controlling coaching style. Although supplementary analyses showed that the results held for
446 each of the three needs, this issue can be re-examined in future research as need frustrations
447 were assessed with a limited number of items per need. Finally, the fact that need frustration
448 was only assessed in the second subsample (because of space limitations in the questionnaire
449 package in the first subsample) limits the generalizability of the documented (moderated)
450 mediational model to the entire sample.

451 **Practical Implications**

452 The present findings point to the importance of taking the club context into account
453 when seeking to understand the variation in coaches' controlling coaching style, as coaches
454 who experience a higher degree of an evaluative work context felt more pressured (i.e.,
455 autonomy frustration), questioned their capacities as a coach more (i.e., competence
456 frustration) and experienced more relational tension (i.e., relatedness frustration), which in turn
457 made coaches specifically apply behaviors that are perceived as avowedly controlling (i.e.,
458 intimidation and negative conditional regard). These results emphasize the harmful correlates
459 of a need-thwarting coaching context and demonstrate that it is important to gain more insight
460 into which contextual factors relate to the frustration of coaches' basic psychological needs.

461 As experienced coaches have not necessarily learned to deal more adaptively with a
462 pressure-exerting context, future intervention work (e.g., Cheon, Reeve, Lee, & Lee, 2015;
463 Maleté & Feltz, 2000; Reynders et al., 2019) may include a section that raises coaches'
464 awareness of the pressures exerted on them. Interventions could teach coaches the necessary

465 skills to get their basic psychological needs met and to constructively handle the encountered
466 pressures. Although such coach training may be useful, it may be more efficient to intervene
467 at the club level as the creation of a different club culture may activate a different motivational
468 chain, to the benefit of both coaches and their athletes. In this way, sports clubs' board members
469 can be taught how to avoid creating a need thwarting environment for coaches so that coaches
470 are not inclined to resort to demotivating coaching behaviors. Although competition and
471 striving for excellence are almost inherent components of sports, the degree to which athletes
472 and coaches get evaluated based on their successes varies widely across clubs. The present
473 study suggests that the more evaluative and judgmental components of competition can better
474 be minimized. This, however, does not mean that coaches and athletes cannot be provided with
475 any targets, yet, by preference in need-supportive ways. For instance, club boards can ask for
476 the input of coaches when setting performance standards (autonomy) that are challenging yet
477 attainable (competence) and they may avoid ranking and directly comparing coaches to prevent
478 tensions (relatedness). Although targets potentially have high informational value, thereby
479 pointing towards coaches' strengths and points of progress, they may also be used in more
480 evaluative ways such that coaches feel pressured, inferior or incompetent (see Vansteenkiste,
481 Mouratidis, & Lens, 2010), with the cascading negative effects for athletes as was shown
482 herein.

483

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Figure 1

Results of the Mediation Analyses

< INSERT FIGURE 1 HERE >

Note. *95% CI does not include zero; IE: indirect effect.

The straight lines represent relations of Model 2a, while the dotted lines and number between brackets represent relations of Model 2b.

For clarity reasons, non-significant indirect effects are omitted.

Table 1

Means, Standard Deviations, and Intercorrelations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Years of Coaching Experience	9.05	8.45	-									
2. Age of the Coach	35.76	12.94	.59**	-								
3. Number of Athletes	14.74	11.01	.07	.08	-							
4. Number of Contact Hours	5.76	5.03	.13**	.09*	.27**	-						
5. Evaluative Context	2.09	.71	-.07	-.16**	-.05	.18**	-					
6. Need Frustration	1.91	.54	-.10	-.07	-.10	.01	.38**	-				
7. Controlling Coaching	2.35	.57	-.14**	-.11**	-.00	.11*	.40**	.41**	-			
8. Intimidation	2.09	.74	-.15**	-.14**	.05	.00	.24**	.39**	.72**	-		
9. Controlling Use of Rewards	2.76	.87	-.10*	-.01	.00	-.03	.18**	.08	.65**	.28**	-	
10. Excessive Personal Control	2.17	.83	.03	-.03	-.01	.30**	.32**	.11	.63**	.25**	.23**	-
11. Negative Conditional Regard	2.37	.88	-.16**	-.14**	-.04	.02	.35**	.58**	.76**	.54**	.27**	.27**

Note. * $p < .05$, ** $p < .01$ (two-tailed).

Table 2

Results of the Mediation Analyses

	a-path β (<i>SD</i>)	b-path β (<i>SD</i>)	c-path β (<i>SD</i>)	c'-path β (<i>SD</i>)	Indirect path <i>B</i> (<i>SD</i>)	PPP	PSRF
Model 2a							
Evaluative Context -> Need Frustration -> Controlling Coaching	.38 (.06)*	.35 (.07)*	.34 (.06)*	.21 (.06)*	.13 (.04)*	.25	1
Model 2b							
Evaluative Context -> Need Frustration -> Intimidation	.36 (.05)*	.34 (.07)*	.28 (.06)*	.14 (.06)	.16 (.04)*		
-> Controlling Use Rewards	.36 (.05)*	.01 (.07)	.18 (.06)*	.18 (.07)*	.00 (.04)		
-> Excessive Personal Control	.36 (.05)*	-.01 (.07)	.27 (.06)*	.26 (.06)*	-.01 (.04)	.25	1.05
-> Negative Conditional Regard	.36 (.05)*	.55 (.05)*	.26 (.07)*	.05 (.06)	.32 (.06)*		

Note. *95% CI does not include zero.

PPP = Posterior Predictive p-value; PSRF = Potential Scale Reduction Factor.

Table 3

Results of the Moderated Mediation Analyses

	Need Frustration β (<i>SD</i>)	Controlling Coaching β (<i>SD</i>)	Intimidation β (<i>SD</i>)	Controlling Use of Rewards β (<i>SD</i>)	Excessive Personal Control β (<i>SD</i>)	Negative Conditional Regard β (<i>SD</i>)
Evaluative Context x Experience	-.16 (.29)	-.15 (.25)	-.00 (.26)	-.11 (.28)	-.06 (.28)	-.25 (.23)
Indirect Effect						
Low Experience		.13 (.05)*	.17 (.06)*	-.00 (.05)	-.01 (.05)	.37 (.11)*
Moderate Experience		.12 (.04)*	.16 (.05)*	-.00 (.05)	-.01 (.04)	.35 (.09)*
High Experience		.11 (.04)*	.14 (.05)*	-.00 (.04)	-.01 (.04)	.30 (.09)*
PPP		.50	.50	.50	.50	.50
PSRF		1.00	1.00	1.00	1.00	1.00

Note. *95% CI does not include zero.

PPP = Posterior Predictive p-value; PSRF = Potential Scale Reduction Factor.