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Emotional Intelligence and Sideline Verbal Behaviors in Youth Soccer

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20   **Abstract**

21   The overall purpose of this study was to examine the mediating effects of parents' coping

22   strategies on the relationship between parents' emotional intelligence (EI) and sideline verbal

23   behaviors during their children's soccer games. Participants were 232 parents (120 mothers,

24   110 fathers) of youth soccer players aged 9 to 13 years old. Observations in situ were carried

25   on 30 soccer games during a soccer tournament. At the end of the game, parents were

26   approached and asked to complete the Emotional Intelligence Scale and the Brief COPE

27   scale. SEM analyses revealed that adaptive and maladaptive coping mediated the relationship

28   between regulation of emotion and parents' praise/encouragement, and negative and

29   derogatory comments during the game. In addition, game result moderated the relationships

30   between EI, coping strategies and parents' behaviors. Emotional regulation and adaptive

31   coping may promote desirable parents' sideline behaviors and reduce undesirable behaviors.

32   *Keywords*: adaptive coping, emotional regulation, encouragement, maladaptive coping,

33   praise, soccer.

34   Mediating Effects of Parents' Coping Strategies on the Relationship Between Parents'

35   Emotional Intelligence and Sideline Verbal Behaviors in Youth Soccer

36   Parents exert a powerful influence on their children's sporting experiences via the

37   emotional climate they create. This emotional climate can be conveyed in numerous settings,

38   including the family home (Holt, Tamminen, Black, Mandigo, & Fox, 2009), during car rides

39   (Tamminen, Poucher, & Povilaitis, 2017), at tournaments (Knight & Holt, 2013a) and on the

40   sidelines while parents are spectators (Holt, Tamminen, Black, Sehn, & Wall, 2008). Parents'

41   sideline verbal behaviors have received considerable attention in the youth sport literature.

42   Researchers have shown that parents engage in a wide range of sideline behaviors, and

43   whereas the majority of comments made by parents during games are positive and directed

44   toward athletes, negative behaviors do occur (Bowker et al., 2007; Holt et al., 2008; Kidman,

45   McKenzie, & McKenzie, 1999). Nonetheless, coaches and sport administrators have reported

46   concerns with negative parental sideline verbal behaviors, including parents verbally abusing

47   officials and other parents, undermining coaches, calling out their children's weaknesses, and

48   providing conditional support based on children's performances (Ross, Mallett, & Parkes,

49   2015).

50   Several factors appear to influence the nature and content of parents' verbal comments

51   on the sidelines. For example, Holt et al. (2008) suggested a model which emphasizes the role

52   of parents' empathy towards their children, the emotional intensity of the games and parents'

53   knowledge and expertise of the sport. Other researchers suggested that constructs such as

54   parents' anger (Omli & LaVoi, 2012), goals relevant to interpersonal communication (Dorsch,

55   Smith, Wilson, & McDonough, 2014), and control-orientation (Goldstein & Iso-Ahola, 2008)

56   also influence sideline behavior. For instance, Goldstein and Iso-Ahola (2008) found that

57   parents with high control-orientation exhibited more ego defensiveness and reported higher

58   levels of anger and aggressive spectator behavior than parents with low control-orientation.

59   Also, parents may encounter a range of organizational and developmental stressors in relation

60   to their children's participation in youth sport, and must be able to cope with the *emotional*

61   *demands* of competition (Harwood & Knight, 2009). Thus, given that parents (a) create the

62   emotional climate that supports (or detracts from) their children's sporting experiences, (b)

63   experience a variety of emotional, and (c) have the need to monitor others' and their own

64   emotions, it is plausible that emotional intelligence (EI), will enable parents to cope with their

65   children's competitive situations and behave in appropriate ways. Indeed, Harwood and

66   Knight (2015) recently suggested that EI ability is a component of sport parenting expertise.

67   However, relationships between parent EI, coping, and verbal sideline behaviors have yet to

68   be examined in the youth sport literature.

69   Salovey and Mayer (1990) originally defined EI as a "subset of social intelligence that

70   involves the ability to monitor one's own and others' feelings and emotions, to discriminate

71   among them and to use this information to guide one's thinking and actions" (p. 189). In

72   addition to this 'ability perspective', EI has also been conceptualized as a trait (Petrides, Pita,

73   & Kokkinaki, 2007). In an attempt to reconcile these different perspectives, Mikolajczak

74   (2009) proposed a tripartite model, in which EI is organized in three levels. The first level

75   consists of knowledge about emotions (e.g., parents' knowledge about strategies to regulate

76   emotions). The second level refers to the ability to use specific emotion regulation strategies.

77   This component reflects the ability perspective (Salovey & Mayer, 1990) and involves a set of

78   hierarchical specialized skills, such as the ability to perceive emotions, understand emotions,

79   manage them, and use them to facilitate thinking. The third level refers to the disposition

80   (trait) to behave in a certain way in emotional situations. This component belongs to the

81   domain of personality and affect, such as stress tolerance, adaptability, or social competence

82   to deal with the emotional situation (e.g., Petrides et al., 2007).

83

84   Measures of EI reflect the theoretical approach researchers follow in sport (Laborde,

85   Dosseville, & Allen, 2016). The most frequent trait measure is the 153-item Trait Emotional

86   Intelligence Questionnaire (TEIQue), which has demonstrated sound psychometric

87   characteristics within a sample of athletes of various sports (Laborde, Dosseville, Guillen, &

88   Chavez, 2014). This measure has been shown to be preferable to Schutte EI scale (Schutte et

89   al., 1998) and the Bar-On Emotional Quotient Inventory (Bar-On, 2004) as studies in sport

90   have not been able to replicate the hypothesized factor structure (Laborde et al., 2014;

91   Laborde et al., 2016). Concerning measurement of EI as an ability, the Mayer-Salovey-Caruso

92   Emotional Intelligence Test (MSCEIT) is a EI performance test that measures the

93   subcomponents of Salovey and Mayer's (1990) framework: perception, use, understanding

94   and management of emotion. Using MSCEIT, Dunn, Brackett, Ashton-James, Schneiderman,

95   and Salovey (2007) showed that spectators of a basketball game who are high in EI ability

96   made more accurate forecasts about their own affective responses to the outcome of the event.

97   Despite its clear theoretical foundation of MSCEIT, Laborde et al. (2016) summarize the

98   limitations of this instrument including its complex scoring system, overlap with other

99   personality and intelligence dimensions, and lack of validation studies in sport. In addition, its

100   141-items renders it impractical for field studies. Another measure of EI as an ability based on

101   Salovey and Mayer's (1990) framework is the 16-item Wong and Law EI Scale (WLEIS;

102   Wong & Law, 2002). Lee and Chelladurai (2016) used the WLEIS within a sample of

103   coaches and revealed good psychometric characteristics in sport. In the current study, we

104   considered the ability perspective using the WLEIS because we aim at specifying the

105   constructs pertaining to parents' recognition of emotions in the self and others, to regulate

106   their behaviors and to use this information to facilitate their actions during their child's soccer

107   games, in line with Salovey and Mayer's (1990) framework.

108   According to MacCann, Fogarty, Zeidner, and Roberts (2011), EI leads to more

109   adaptive coping, which in turn leads to better behavioral outcomes. In the earliest

110   conceptualizations of EI, Salovey et al. (1999) suggested promising links between EI and

111   coping with stressful events, and proposed the Emotional Coping Hierarchy model. This

112   model has three sequential levels: the first level relates to the basic emotional skills of

113   emotional appraisal; the second level represents a more complex component of emotional

114   knowledge, such as emotional use and understanding; finally, the third level addresses

115   emotional regulation as the key dimension of EI that facilitates the coping process. Joseph and

116   Newman (2010) empirically confirmed the relationships between these levels via meta-

117   analytic data. These authors postulated a progressive pattern among EI levels, in which

118   emotion perception causally precedes emotion use and understanding, which in turn precedes

119   emotion regulation and behavior. Emotion regulation is associated with individuals' adaption

120   to a specific encounter because it implies the management of emotions in a flexible manner

121   that is consistent with their goals (Salovey et al., 1999). In sport, researchers have only

122   recently started to explore the relationships between EI and coping strategies. For example,

123   Laborde, You, Dosseville, and Salinas (2012) reported that athletes with higher EI scores

124   engaged in more adaptive coping, such as task-oriented coping strategies (e.g., appraise

125   competition as a challenge), whereas lower EI scores were related to disengagement-oriented

126   coping (e.g., behavioral avoidance and venting of unpleasant emotions).

127   The overall purpose of this study was to examine the mediating effects of coping

128   strategies between EI and parents' sideline verbal behaviors during their children's soccer

129   games. We followed Salovey et al.'s (1999) Emotional Coping Hierarchy model (Figure 1),

130   assuming that the emotions' appraisal, use of emotion, and regulation of emotion are related

131   to parents' behaviors in a sequential mode. Thus, we predicted that regulation of emotion is

132   the primary determinant of parents' behaviors, and it will be positively related with desirable

parents' sideline verbal behaviors (i.e., praise/encouragement) and negatively with

undesirable parents' sideline verbal behaviors (i.e., performance-contingent feedback,

instruction, striking a balance, negative comments, and derogatory comments) during their

children's soccer games (Hypothesis 1). Furthermore, we hypothesized that: regulation of

emotion will be positively related with adaptive coping and negatively with maladaptive

coping strategies (Hypothesis 2); adaptive coping will positively mediate the relationships

between regulation of emotion and desirable parents' sideline verbal behaviors (Hypothesis

3), and negatively mediate the relationship with undesirable parents' verbal behaviors

(Hypothesis 4); maladaptive coping will positively mediate the relationships between

regulation of emotion and undesirable parents' sideline verbal behaviors (Hypothesis 5), and

positively mediate the relationship with undesirable parents' verbal behaviors (Hypothesis 6).

Finally, following suggestions of gender differences in the EI (Farrelly & Austin, 2007) and

in the use of coping strategies (Matud, 2004), and that situational conditions may influence

parents' sideline behaviors (Holt et al., 2008), we were also interested in how parents' gender

(Hypothesis 7) and game outcome (Hypothesis, 8) moderate the relationships estimated in the

hypothesized model.

[FIGURE 1]

Methods

Participants

During an international youth soccer tournament, 232 parents (120 mothers, 110 fathers;

2 participants did not identify gender) of youth soccer players (boys and girls who were

between 9 and 13 years of age) participated in both phases of this study. Parents' age ranged

from 28 to 62 years old ($M = 40.50$, $SD = 5.63$). Twenty-four-point six per cent of the parents

had completed lower secondary education, 33.5% upper secondary education, 38.1% had an

undergraduate degree and 3.8% a master degree.

Design and procedure

      Observations. Ethical approval was obtained from the faculty ethics committee and the board of directors for the IBERCUP – *International Youth Football Tournament*. The IBERCUP is one of the largest youth football tournaments in the world, a weeklong event that involves more than 200 teams and 2500 young athletes from several different countries. Naturalistic observations were carried out in 30 soccer games during the week of the tournament (60 soccer teams involved), which permitted the observation of various situations (e.g., first-round games, semi-finals, final games). The length of the games was 40 minutes. We observed games in two age groups, Under-11 and Under-13, with mixed-gender participation. The number of parents of girls in this sample is small ($n = 12$).

      Observer training. Prior to conducting the observations, four observers (three lecturers with PhD in Sport and Exercise Psychology and a teacher of physical education with a master degree in Sports Coaching) were trained following the guidelines of McKenzie and van der Mars (2015). Training comprised the following phases: identification of the categories of the system (i.e., definition of behavioral categories); discussion of the observation protocol (i.e., interactive discussion about behavioral scenarios); evaluation of the learning of the categories (i.e., interpretation of video segments created by the first author); and practice and application of the observation system in situ. The observation system was tested in three under-12 soccer games. After the first game of observation training, we decided to implement a maximum ratio of four parents to one observer, depending on the conditions of the crowd (e.g., parents very close together, presence of flags, the sound of trumpets). Thus, the four observers were divided into two teams. Each team randomly chose four parents to observe at each game, coding in three games a total of 164 verbal behaviors using a paper-and-pencil observation system (see Supplementary Material: Parents' observation system). For each of the observed categories, we found acceptable Cohen's kappa coefficients ranged between 0.86 and 0.91, by

183   comparing two independent observations related to the same match (McKenzie & van der

184   Mars, 2015).

185   **Participant recruitment.** During the tournament, the observers wore the same clothing

186   as the tournament staff and volunteers. At the beginning of each game, observers randomly

187   chose four parents to observe. At the end of the game, parents were approached, informed

188   about the purpose of the study and that they had been observed, and invited to participate in

189   the remainder of the study (i.e., the completion of the questionnaires). A total of 96.6% of

190   parents observed agreed to participate in the remaining of the study and provided informed

191   consent. Those parents who did not agree, did not have their children playing in the game

192   observed, or were not parents (e.g., grandparents or other relatives) were excluded from the

193   study and their observational data were not used. Only data from the 232 parents who

194   participated in both stages of this research (i.e., they were observed and completed the

195   questionnaires) were included in the analysis.

196   Parents who agreed to participate were directed to a classroom-type setting. Prior to the

197   administration of the questionnaires, it was made clear that participation in this study was

198   voluntary and that all responses would be confidential. A research assistant answered any

199   questions during the data collection. Participants took about 10 minutes to complete the

200   questionnaires and immediately returned them to a research assistant.

201   **Measures**

202   **Emotional intelligence.** The Portuguese version (Rodrigues, Rebelo, & Coelho, 2011)

203   of the Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) was used

204   to assess parents' perceptions of their EI abilities. Following Lee and Chelladurai (2016), we

205   used the WLEIS because (a) it is representative of the original EI construct defined by

206   Salovey and Mayer (1990), (b) it is short, (c) there is evidence of good psychometric

characteristics, both for its English (e.g., Libbrecht, De Beuckelaer, Lievens, & Rockstuhl,

2014) and Portuguese versions (Carvalho, Guerrero, Chambel, & González-Rico, 2016).

WLEIS is a short 16-item self-report scale that was validated in different countries,

showing psychometrically sound characteristics, such as construct and criterion validity,

reliability, and measurement invariance (e.g., Libbrecht et al. 2014). Recently, the Portuguese

version of WLEIS has demonstrated consistent psychometric characteristics via confirmatory

factor analysis, reproducing the original factor structure (Carvalho et al., 2016). WLEIS is

based on the revised four-dimensional EI model originally theorized by Salovey and Mayer

(1990). In this model, EI consists in four dimensions: self-emotions appraisal (e.g., "I really

understand what I feel"), other's emotions appraisal (e.g., "I have good understanding of the

emotions of people around me"), use of emotion (e.g., "I would always encourage myself to

try my best"), and emotion regulation (e.g., "I can always calm down quickly when I am very

angry"). All items were responded on 7-point Likert-type scale ranging from 1 = *totally*

disagree to 7 = *totally agree*. Cronbach alpha coefficients for the current study were 0.79 (use

of emotion), 0.81 (self-emotions appraisal), 0.84 (regulation of emotion), and 0.86 (other's

emotions appraisal).

Coping strategies. The Portuguese version (Ribeiro & Rodrigues, 2004) of the Brief

COPE (Carver, 1997), a 28-item self-report questionnaire, was used to assess coping. We

focused on situational coping, which refers to coping with a specific event at a precise

moment in time (Lazarus, 1991). Participants were asked to indicate what they did to cope

during the soccer game in which their children competed. According to Carver (1997), two

broad coping dimensions integrate the 14 subscales: *adaptive coping strategies* (i.e., active

coping, acceptance, humor, religion, planning, positive reframing, and using instrumental and

emotional support) and *maladaptive coping strategies* (i.e., behavioral disengagement, denial,

self-blame, self-distraction, substance use, and venting negative emotion). Items were

answered on a 4-point Likert-type scale, ranging from 1 = *I have not used this at all* to 4 = *I*

have used it a lot. In this study, both adaptive (.83) and maladaptive coping strategies (.79)

had adequate Cronbach alpha coefficients.

     Parents' sideline verbal behaviors. We used Holt et al.'s (2008) observational system

to examine parents' sideline behaviors in competitive sport settings (e.g., Dorsch et al., 2014).

Holt et al. (2008) identified six categories of parents' verbal reactions to children's

performance behaviors (see Supplementary Material: Parents' observation system): (a)

praise/encouragement denotes more supportive comments (e.g., "Very well, John!" "Let's go,

team!"); (b) *performance-contingent feedback* refers to comments intended to improve

children's performance (e.g., "Now it's time to attack, boys"); (c) *instruction* refers to direct

commands (e.g., "Pass the ball!"); (d) *striking a balance* refers to verbal reactions that are

intended to provide an equilibrium between positive and negative comments (e.g., "Oh, no

John… That's okay, good try!"); (e) *negative comments* refers to general negative reactions

during the game (e.g., "Bad decision, John!"); and (f) *derogatory comments* refers to

depreciating and potentially harmful reactions (e.g., "Hey, ref, go home!" "That's

embarrassing, John!"). Similar to Holt and colleagues (2008), we also recorded the intended

target of each comment: athletes, coaches and referees.

Data analysis

     The two-step approach to maximum likelihood structural modeling was implemented

using AMOS 23. First, the measurement model was estimated by conducting a confirmatory

factor analysis (CFA) to evaluate the extent to which each of the variables were adjusted to its

indicators. Subsequently, the structural model estimation was performed to test the research

hypotheses. The adequacy of the models was assessed through a variety of fit indices. We

followed the cut off values (CFI and TLI > .95, RMSEA < .06, and SRMR < .08) suggested

by Hu and Bentler (1999) as excellent model fit; however, Marsh, Hau, and Wen (2004) have

257   contended that the rigorous approach of Hu and Bentler (1999) to the cut of values could lead

258   to an incorrect rejection of an appropriate model. Thus, we considered the cut off values (CFI

259   and TLI > .90, RMSEA and SRMR < .08) proposed by Hair, Black, Babin, and Anderson

260   (2014) as adequate model fit.

261   **Mediation analysis**. With mediation analysis we explored the direct and indirect effects

262   of the variables in this study on the outcome variable. Specifically, EI variables were

263   conceptualized to have an indirect association with parents' sideline verbal behaviors and

264   coping strategies were conceptualized as mediators. The significance of the direct and indirect

265   effects was assessed using the bootstrap resampling procedure (1000 bootstrap samples), via

266   bias corrected 95% confidence intervals (CI). An indirect effect is considered significant (at ≤

267   0.05) if its 95% CI does not include zero (Williams & MacKinnon, 2008). Effect size values

268   of 0.1, 0.3, and 0.5 were considered small, medium and large, respectively (Cohen, 1988).

269   **Moderation analysis**. We were also interested to know possible changes on the

270   relationships between the variables in the study as a function of the moderating influence of

271   gender and game outcome. Thus, two multi-group analyses were conducted to discern the

272   extent to which the parents' gender and game outcome moderate the path coefficients

273   estimated in hypothesized model. Differences between models were accessed with chi-square

274   (χ^2) tests of significance and CFI difference (ΔCFI) values (Cheung & Rensvold, 2002).

275   Between groups differences was further assessed by sequentially examining the unconstrained

276   and the constrained structural paths. The significance of the structural paths was assessed

277   using critical ratio for differences produced by AMOS (significance ≥ 1.96).

                                                    Results

279   A priori power analysis to compute required sample size was conducted using GPower

280   3.1. (Faul, Erdfelder, Buchner, & Lang, 2009) considering the following input parameters:

281   effect size $f^2 = 0.1$; alpha = 0.05; statistical power = 0.95; and 6 predictors. The required

282   sample was 215. A preliminary inspection to the data revealed that missing values comprised

283   0.2% of cells in the original data, without any missing data patterns. Consequently, missing

284   data were imputed using AMOS's regression procedure. Mardia's coefficient (58.12)

285   exceeded the expected values for the multivariate normality. Hence, a Bollen-Stine bootstrap

286   (B-S) was used for subsequent analysis (Nevitt & Hancock, 2001). In addition, variance

287   inflation factors (VIF) were assessed to verify collinearity within all study variables, with

288   values ranging from 1.23 (self-emotions appraisal) to 1.76 (adaptive coping), showing

289   acceptable conditions to conduct regression analysis (VIF < 10; Hair et al., 2014).

290   **Measurement model**

291   Table 1 shows means, standard deviations, and bivariate correlations among all

292   variables. Parents revealed high self-emotions appraisal ($M = 3.96$, $SD = 0.69$) and low levels

293   of maladaptive coping ($M = 2.22$, $SD = 0.50$). Regarding sideline verbal behaviors, parents

294   expressed a mean of 32.80 ($SD = 12.60$) comments per game (984 parents' verbal behaviors

295   were recorded). Most of the verbalized behaviors were praise/encouragement ($M = 16.60$, SD

296    $= 6.30$), followed by performance-related behaviors (i.e., performance-contingent feedback

297   and instruction), negative and derogatory comments. Negative and derogatory comments were

298   rare (4%), and mainly targeted to the referee. Parents' comments were directed to athletes

299   (92%), referees (6%) and coaches (2%).

300   The correlation matrix showed a variety of associations between variables (Table 1). In

301   general, all EI variables correlated between each other, while regulation of emotion was

302   related with both adaptive ($r = .17$, $p < 0.01$) and maladaptive ($r = .33$, $p < 0.01$) coping

303   strategies. In turn, adaptive coping strategies correlated positively with praise/encouragement

304   ($r = .38$, $p < 0.01$) and negatively with negative ($r = -.16$, $p < 0.05$) and derogatory ($r = -.11$, p

305   < 0.05) comments. Maladaptive coping correlated negatively with praise/encouragement ($r =$

306   -.12, $p < 0.05$) and positively with striking a balance ($r = .23$, $p < 0.01$), and negative ($r = .18$,

307    $p < 0.01$) and derogatory ($r = .21$, $p < 0.01$) comments.

308   The test of the measurement model included parents' own and other's emotions

309   appraisal, use of emotion, regulation of emotion, and adaptive and maladaptive coping as

310   latent variables. Results suggest an excellent fit to the data [$\chi^2/df = 475.32$ (390), $p < .001$,

311   TLI = 0.95, CFI = 0.95, SRMR = 0.02, RMSEA = 0.04 (CI = 0.04, 0.05)].

312   [TABLE 1]

313   **Structural model**

314   The assessment to the hypothesized mediational model displayed an inadequate fit to

315   the data [$\chi^2/df = 906.53$ (577), $p < .001$, TLI = 0.88, CFI = 0.89, SRMR = 0.05, RMSEA =

316   0.06 (CI = 0.06, 0.07)]. Some of the criteria demonstrated excellent fit (SRMR < .08 and

317   RMSEA < .06). However, the incremental indices showed inadequate fit (CFI and TLI > .90).

318   In this situation, the generation of an alternative model should be considered, provided it has

319   theoretical support, it is parsimonious, and it fits the data (Kline, 2011). Further analysis

320   indicated no associations from regulation of emotion, adaptive and maladaptive coping to

321   performance-contingent feedback ($\beta = 0.03$, $p > 0.05$; $\beta = -0.02$, $p > 0.05$, and $\beta = 0.04$, $p >$

322   0.05, respectively) or from regulation of emotion, adaptive and maladaptive coping to

323   instruction ($\beta = -0.04$, $p > 0.05$; $\beta = 0.01$, $p > 0.05$, and $\beta = 0.06$, $p > 0.05$, respectively). Thus,

324   these variables were excluded from the revised path model, and no additional modifications

325   were applied. Consequently, the revised model showed an adequate fit to the data [$\chi^2/df =$

326   603.46 (514), p < .001, TLI = 0.90, CFI = 0.91, SRMR = 0.04, RMSEA = 0.06 (CI = 0.05,

327   0.06)].

328   The standardized direct effects for the revised model are presented in Figure 2. As

329   expected, the EI variables were related in a sequential mode. Further, regulation of emotion

330   showed positive significant relationships on praise/encouragement ($\beta = 0.35$, $p < 0.01$), and

331   adaptive coping ($\beta = 0.19$, $p < 0.05$), whereas negative associations were found with

332   maladaptive coping ($\beta = -0.32$, $p < 0.01$), and negative ($\beta = -0.18$, $p < 0.05$) and derogatory

333   comments ($\beta = -0.16$, $p < 0.05$). Adaptive coping was positively associated with

334   praise/encouragement ($\beta = 0.31$, $p < 0.01$), and negatively associated with negative comments

335   ($\beta = -0.15$, $p < 0.05$). Moreover, maladaptive coping was related with striking a balance ($\beta =$

336   0.22, $p < 0.01$), negative comments ($\beta = 0.21$, $p < 0.01$) and derogatory comments ($\beta = 0.28$, p

337   < 0.01). Non-significant relationships were identified between regulation of emotion to

338   striking a balance ($\beta = 0.01$, $p > 0.05$), adaptive coping to striking a balance ($\beta = 0.06$, $p >$

339   0.05) and derogatory comments ($\beta = -0.02$, $p > 0.05$), and maladaptive coping to

340   praise/encouragement ($\beta = -0.01$, $p > 0.05$).

341   [FIGURE 2]

342   Findings of the mediation analysis between EI, coping strategies and parents' sideline

343   verbal behaviors are displayed in Table 2. Regulation of emotion showed significant indirect

344   effects on praise/encouragement and negative comments via adaptive coping ($\beta = .18$; CI $=$

345    $.10$, $.29$; $\beta = -.09$; CI $= -.21$, $-.02$; respectively). Moreover, regulation of emotion had

346   significant indirect effects on negative comments ($\beta = -.12$; CI $= -.25$, $-.02$) and derogatory

347   comments ($\beta = -.08$; CI $= -.19$, $-.01$) via maladaptive coping strategies.

348   [TABLE 2]

349   **Moderating effects of gender and game result**

350   We performed two multi-group confirmatory factor analyses to detect whether the path

351   coefficients differed significantly between mothers and fathers, and between wins and losses.

352   With regard to gender, the fit of both unconstrained [$\chi2/df = 1101.33$ (1154), $p < .001$, TLI $=$

353   0.90, CFI $= 0.91$, SRMR $= 0.04$, RMSEA $= 0.05$ (CI $= 0.04$, 0.05)] and constrained structural

354   paths [$\chi2/df = 1123.89$ (1195), $p < .001$, TLI $= 0.90$, CFI $= 0.91$, SRMR $= 0.05$, RMSEA $=$

355   0.06 (CI $= 0.05$, 0.06)] models was acceptable. The $\chi2$ statistic indicated that these models

356   were invariant [$\Delta\chi2(41) = 22.56, p > 0.05$], while the critical ratios for differences between

357   structural paths revealed that two hypothesized relationships differed significantly between

358   groups. The paths from use of emotion to regulation of emotion ($Z = 2.22, p < 0.05$), and from

359   regulation of emotion to praise/encouragement ($Z = 2.09, p < 0.05$), evidenced significant

360   differences. Both paths coefficients for mothers ($\beta = 0.72, p < 0.01; \beta = 0.42, p < 0.01$,

361   respectively) were greater than the coefficients for fathers ($\beta = 0.28, p < 0.01; \beta = 0.19, p <$

362   0.05, respectively). These findings suggest that mothers with high use of emotion scores were

363   more likely to better regulate their emotions than fathers. In turn, mothers with high

364   regulation of emotion were more likely to praise and encourage during their child's games

365   than fathers.

366   The same procedure was performed to examine differences on paths coefficients for

367   parents who watched games when their children won compared to when their children lost.

368   The unconstrained [$\chi2/df = 1553.16 (1154), p < .001$, TLI = 0.88, CFI = 0.89, SRMR = 0.06,

369   RMSEA = 0.07 (CI = 0.06, 0.07)] and constrained structural paths [$\chi2/df = 766.22 (1195), p <$

370    $.001$, TLI = 0.91, CFI = 0.92, SRMR = 0.04, RMSEA = 0.05 (CI = 0.04, 0.05)] models

371   revealed satisfactory fit. The $\chi2$ statistic indicated that these models were significantly

372   different [$\Delta\chi2(41) = 786.94, p < 0.001$]. The critical ratio for differences indicated that

373   maladaptive coping revealed a significantly different relationship on negative ($Z = 3.13, p <$

374   0.05) and derogatory ($Z = 3.55, p < 0.05$) comments. The magnitude of the paths from

375   maladaptive coping to negative and derogatory comments was greater for losses ($\beta = 0.32, p <$

376    $0.01; \beta = 0.37, p < 0.01$, respectively) than for wins ($\beta = 0.03, p > 0.05; \beta = 0.02, p > 0.05$,

377   respectively). Moreover, regulation of emotion revealed a significantly different path on

378   negative comments ($Z = -2.12, p < 0.05$). This path coefficient was greater for losses ($\beta = -$

379    $0.25, p < 0.01$) than the coefficient for wins ($\beta = -0.06, p > 0.05$). Additionally, the

380   relationship between adaptive coping and negative comments ($Z = -2.46, p < 0.05$) was

381   significantly different between wins and losses. Also, this path was greater for losses (β = -

382   0.28, $p < 0.01$) than for wins (β = -0.02, $p > 0.05$). Thus, the results demonstrated the model's

383   change in both groups, suggesting that the result of the game moderated the structural paths of

384   the revised model.

385   **Discussion**

386   The overall purpose of this study was to examine the mediating effects of parents'

387   coping strategies on the relationship between parents' EI and sideline verbal behaviors during

388   their children's soccer games. In general, the hypothesized relationships were supported.

389   Specifically, parents' regulation of emotion was positively related with praise/encouragement,

390   and negatively with negative and derogatory comments (Hypothesis 1). As high levels of

391   parents' emotion regulation are associated with sideline behaviors traditionally viewed as

392   favorable for youth athletes (i.e., related with increase praise/encouragement; Teques, Serpa,

393   Rosado, Silva, & Calmeiro, 2018), high emotion regulation individuals are likely to exhibit

394   fewer negative behaviors (i.e., criticism, insults and offensive behaviors). These results

395   suggest that improvement of parents' emotion regulation may promote parents' desirable

396   behaviors during their children's participation in competitive sport.

397   Consistent with previous studies in sport (Laborde et al., 2012), EI (regulation of

398   emotion) was positively associated with adaptive coping, and negatively associated with

399   maladaptive coping strategies (Hypothesis 2). Specifically, parents' emotion regulation was

400   more strongly associated with reduced use of maladaptive coping strategies (β = -0.32, R^2 =

401   .36), instead of increased use of adaptive coping (β = 0.19, R^2 = .22). This result reinforces the

402   argument that EI is likely to support rather than promote adaptive coping (Davis, 2013), and

403   renews the discussion about the levels of conscientiousness on emotional regulation. High-

404   level consciousness implies awareness of emotional reactions that includes extended self-

405   reflection, whereas low-level consciousness involves a brief awareness that emerges in a

406   superficial fashion and is unlikely to be recalled (Mayer & Salovey, 1995). In this sense,

407   parents may be aware that it is undesirable to express anger after the referee calls a penalty

408   against their children's team, but they may not be fully aware of an adaptive strategy to cope

409   with the situation. Future studies could examine the associations between parents' regulation

410   of emotion and adaptive/maladaptive coping in more detail by analyzing moderating effects

411   of intentional forms of emotional regulation, such as emotional attention (e.g., Gohm, 2003)

412   or emotional self-efficacy (e.g., Kirk, Schutte, & Hine, 2008).

413   Also, the present results expand current knowledge by demonstrating small to moderate

414   mediating effects of coping strategies on the link between EI and individuals' behaviors (e.g.,

415   MacCann et al., 2011). As noted above, those who better regulate emotions engage more

416   frequently in adaptive coping (e.g., active coping, humor) and are less likely to use

417   maladaptive approaches such as denial or venting (e.g., Laborde et al., 2012). In turn,

418   adaptive coping was positively related with praise/encouragement and negatively with

419   negative comments (Hypothesis 3 and 4), whereas maladaptive coping was associated with

420   negative and derogatory comments (Hypothesis 5 and 6). In other words, the mediating

421   effects of coping strategies suggests that parents with high emotional regulation can manage

422   emotions effectively and are thus more likely to select appropriate coping strategies to

423   maintain optimal emotional balance and adopt appropriate behaviors.

424   The non-significant associations between regulation of emotion and both coping

425   strategies with performance-feedback and instruction may imply that different behaviors are

426   associated with varying degrees of emotional valence, including neutral emotional states

427   (Barrett, 2006). Holt et al. (2008) placed parents' praise/encouragement, performance-

428   contingent feedback, instruction, striking a balance, negative and derogatory comments on a

429   continuum moving from more supportive to more controlling comments. Hence,

430   performance-contingent feedback and instruction can be considered as neutral emotional

431 valence behaviors that do not elicit emotional regulation or coping strategies. However, this

432 interpretation is speculative, and future research should address how the hedonic tone of

433 parents' emotional experiences (i.e., positive and negative emotions) and appraisal patterns

434 are related with coping (see Lazarus, 1991).

435   In addition, the results regarding moderating effects of parents' gender show that the

436 revised path model was invariant across mothers and fathers (Hypothesis 7). However, an

437 analysis of the structural paths revealed that two paths coefficients for mothers (i.e., use of

438 emotion → regulation of emotion, and regulation of emotion → praise/encouragement) were

439 greater than the coefficients for fathers. Although the research on gender has contradictory

440 results (e.g., Joseph & Newman, 2010), the findings of the current study corroborate the idea

441 that females may be better at regulating emotions than males (e.g., Farrelly & Austin, 2007)

442 resulting in the demonstration of more supportive behaviors. Nevertheless, more important

443 than recognizing differences between genders, it is critical to analyze the possible interactions

444 between gender and other variables (Fernández-Berrocal, Cabello, Castillo, & Extremera,

445 2012). In this study, we analyzed gender moderating effects simultaneously with several

446 variables, including EI subscales, coping strategies and behaviors. However, we did not

447 systematically explore how different situations during the game may affect EI-coping

448 processes. Given that EI-coping process is situational, it will be worthy for future studies to

449 explore mothers' and fathers' EI, coping strategies and sideline verbal behaviors during

450 different game situations (e.g., changes to game score, child in/out of game).

451   Another finding concerning moderating effects of game outcome on parents' behaviors

452 is that the revised path model differs significantly between parents whose child's team is

453 winning versus losing (Hypothesis 8). In general, results suggest that parents with high

454 maladaptive coping use are more likely to provide more negative and derogatory comments

455 when they watched a game that resulted in their children's defeat. On the contrary, parents

456   with high regulation of emotion and adaptive coping are less likely to exhibit negative

457   comments in a defeat. This finding supports the view that EI-coping processes may vary

458   depending on the situation (Salovey et al., 1999), and to the best of our knowledge the present

459   study is the first to address the effects of the situational conditions on the relationships

460   between EI, coping strategies and behavior. These situational conditions may influence stress

461   appraisals and subsequent emotional states (Lazarus, 2000). Therefore, it would be important

462   to consider the actual emotions parents experience, because positive and negative emotions

463   require different forms of processing information as well as different emotional regulation

464   demands. It is likely that regulation of negative emotions is more taxing on cognitive

465   resources than that of positive emotions. Negative emotions signal threat and are more

466   distinguishable from a physiological and autonomic point of view compared to positive

467   emotions (even among negative emotions). In addition, the appraisal processes that give rise

468   to negative emotions are also more differentiated than those of positive emotions

469   (Fredrickson, 2001). Therefore, negative emotions are more intense and may be more difficult

470   for individuals to regulate. It might be that while winning, there is less need to self-regulate,

471   but while losing, individuals have the need to interact with and change the environment

472   triggered by an intense emotional experience.

473   Limitations and future research should be considered for the present study. Primarily,

474   this study has a cross sectional design which precludes any causal interpretation of regression

475   effects. Season long research that addresses processual effects over time would add to our

476   understanding of how EI, coping, and parents' sideline verbal behaviors reciprocally impact

477   each other. The classification of situational coping in adaptive and maladaptive coping

478   strategies measured by the Brief COPE may not adequately reflect the coping conceptual

479   structure. Future research should include short-form measures of coping that can capture other

480   dimensions in which parents may cope with watching their child play. Likewise, researchers

481   should consider that coping is a dynamic process and parents use multiple strategies

482   simultaneously, both adaptive and maladaptive, to cope with stressors (e.g., during the course

483   of a game, and in relation to sideline verbal behaviors) (Burgess et al., 2016). Also, evidence

484   suggests that personality traits have the potential to influence how individuals manage

485   emotions and cope with stressful events. For example, the Big Five Personality traits have

486   been shown to predict specific, rather than broad, coping strategies (Connor-Smith &

487   Flachsbart, 2007). Likewise, students who hold pure personal standards perfectionism had

488   higher levels of emotional intelligence, while those with pure evaluative concerns

489   perfectionism scored lower on emotional intelligence (Gong, Fletcher & Paulson, 2017). As

490   studies in sport are still scarce, researchers should consider personality traits to understand the

491   links between parents' emotional intelligence, coping strategies and sideline behaviors.

492   Moreover, persons change their emotional intelligence competencies with experience

493   (Fernández-Berrocal, Gutiérrez-Cobo, Rodriguez-Corrales, & Cabello, 2017); hence, future

494   research should explore how parents' emotional intelligence competencies change as a

495   function of repeated exposure to their children's competitive situations. As well, future studies

496   should address the specific environmental constraints of the game (e.g., parents' interpersonal

497   relationships, coaches' tactical decisions, game score variations, referee decisions) to examine

498   their impact on the EI-coping processes. Finally, this study coded only the parents' verbal

499   behaviors. It would be interesting for future studies to extend the analysis to nonverbal

500   parents' behaviors.

501   In conclusion, the findings of this study offer several valuable contributions to the

502   literature. First, from a conceptual perspective, the findings addressed a long-standing

503   question about the hierarchical associations of EI components (i.e., emotion appraisals, use of

504   emotion and emotion regulation), recognizing emotion regulation as the immediate

505   determinant of individuals' adaptation (e.g., Joseph & Newman, 2010; Salovey et al., 1999).

506   Second, at an elementary descriptive level, the majority of sideline verbal behaviors were

507   praise/encouragement, followed by performance-contingent feedback, instruction, and

508   negative and derogatory comments. Hence, while negative parental sideline behaviors may be

509   particularly concerning for coaches and administrators (e.g., Ross et al., 2015), the current

510   study suggests that these behaviors are less frequent. Indeed, this interpretation is in line with

511   evidence obtained from observational studies conducted in several countries, including

512   Canada (Bowker et al., 2007; Holt et al., 2008), New Zealand (Kidman et al., 1999), the

513   United States (Dorsch et al., 2014). Third, this study adds to the youth sport parenting

514   literature by revealing some individual factors (i.e., regulation of emotion, adaptive and

515   maladaptive coping strategies) that are associated with verbal sideline behaviors. Finally, the

516   findings lend some support for Harwood and Knight's (2015) assertion that EI and adaptive

517   coping are features of sport parenting expertise by revealing that regulation of emotion is

518   related positively with desirable parents' sideline behaviors (i.e., praise/encouragement) and

519   negatively with undesirable parents' sideline behaviors (i.e., negative comments, and

520   derogatory comments). Overall, this study sheds light on the emotional experience of parents

521   attending their children's games and suggests that EI and adaptive coping strategies may be

522   useful approaches to include in sport parent educational initiatives in the future (cf. Knight &

523   Holt, 2013b; Ross et al., 2015).

References

524

525 Bar-On, R. (2004). The Bar-On Emotional Quotient Inventory (EQ-i): Rationale, description

526   and summary of psychometric properties. In G. Geher (Ed.), Measuring emotional

527   intelligence: Common ground and controversy (pp. 115-145). Hauppauge, NY: Nova

528   Science Publishers.

529 Barrett, L. F. (2006). Valence is a basic building block of emotional life. *Journal of Research*

530   *in Personality*, *40*, 35-55. doi: 10.1016/j.jrp.2005.08.006

531 Bowker, A., Boeknoven, B., Nolan, A., Bauhaus, S., Glover, P., Powell, T., et al. (2009).

532   Naturalistic observations of spectator behavior at youth hockey games. T*he Sport*

533   *Psychologist*, *23*, 301-316. doi: 10.1123/tsp.23.3.301

534 Carvalho, V. S., Guerrero, E., Chambel, M. J., & González-Rico, P. (2016). Psychometric

535   properties of WLEIS as a measure of emotional intelligence in the Portuguese and

536   Spanish medical students. *Evaluation and Program Planning*, *58*, 152-159.

537   https://doi.org/10.1016/j.evalprogplan.2016.06.006

538 Carver, C. (1997). You want to measure coping but your protocol's too long: consider the

539   brief COPE. *International Journal of Behavioral Medicine*, *4*, 92-100. doi:

540   10.1207/s15327558ijbm0401_6

541 Cheung, G.W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indices for testing

542   measurement invariance. *Structural Equation Modeling*, *9*, 233-255. doi:

543   10.1207/S15328007SEM0902_5

544 Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale,

545   NJ: Lawrence Earlbaum Associates.

546 Connor-Smith, J. K., & Flachsbart, C. (2007). Relations between personality and coping: a

547   meta-analysis. *Journal of Personality and Social Psychology*, *93*, 1080-1107. doi:

548   10.1037/0022-3514.93.6.1080

549   Davis, S. K. (2013). Can 'emotionally intelligent' coping promote adaptation in young

550   people? *Psychology of Education Review*, *37*, 5-12.

551   https://eprints.worc.ac.uk/id/eprint/3042

552   Dorsch, T. E., Smith, A. L., Wilson, S. R., & McDonough, M. H. (2014). Parent goals and

553   verbal sideline behavior in organized youth sport. *Sport, Exercise and Performance*

554   *Psychology, 4,* 19-35. doi: 10.1037/spy0000025

555   Dunn, E. W., Brackett, M. A., Ashton-James, C., Schneiderman, E., & Salovey, P. (2007). On

556   emotionally intelligent time travel: Individual differences in affective forecasting

557   ability. *Personality and Social Psychology Bulletin*, *33*, 85-83. doi:

558   10.1177/0146167206294201

559   Farrelly, D., & Austin, E. (2007). Ability EI as an intelligence? Associations of the MSCEIT

560   with performance on emotion processing and social tasks and with cognitive ability.

561   *Cognition and Emotion*, *21*, 1043-1063. doi: 10.1080/02699930601069404

562   Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using

563   G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research*

564   *Methods*, *41*, 1149-1160. doi: 10.3758/BRM.41.4.1149

565   Fernández-Berrocal, P., Cabello, R., Castillo, R., & Extremera, N. (2012). Gender differences

566   in emotional intelligence: The mediating effect of age. *Behavioral Psychology*, *20*, 77-

567   89.

568   Fernández-Berrocal, P., Gutiérrez-Cobo, M. J., Rodriguez-Corrales, J., & Cabello, R. (2017).

569   Teachers' affective well-being and teaching experience: The protective role of

570   perceived emotional intelligence. *Frontiers in Psychology*, *8*. doi:

571   10.3389/fpsyg.2017.02227

572   Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-

573   and-build theory of positive emotions. *American psychologist*, *56*, 218-226.

574   Gohm, C. L. (2003). Mood regulation and emotional intelligence: Individual differences.

575   *Journal of Personality and Social Psychology*, *84*, 594-607. doi: 10.1037/0022-

576   3514.84.3.594

577   Goldstein, J. D., & Iso-Ahola, S. E. (2008). Determinants of parents' sideline-rage emotions

578   and behaviors at youth soccer games. *Journal of Applied Social Psychology*, *38*, 1442-

579   1462. doi: 10.1111/j.1559-1816.2008.00355.x

580   Gong, X., Fletcher, K. L., & Paulson, S. E. (2017). Perfectionism and emotional intelligence:

581   A test of the 2×2 model of perfectionism. *Personality and Individual Differences*, *106*,

582   71-76. doi: 10.1016/j.paid.2016.10.015

583   Hair, J.F., Jr., Black, W.C., Babin, B.J., & Anderson, R.E. (2014). *Multivariate data analysis:*

584   *A global perspective* (7th ed.). Upper Saddle River, NJ: Pearson.

585   Harwood, C., & Knight, C. (2009). Understanding parental stressors: an investigation of

586   British tennis parents. *Journal of Sports Sciences*, *27*, 339-351. doi:

587   10.1080/02640410802603871

588   Harwood, C. G., & Knight, C. J. (2015). Parenting in youth sport: A position paper on

589   parenting expertise. *Psychology of Sport and Exercise*, *16*, 24-35. doi:

590   10.1016/j.psychsport.2014.03.001

591   Holt, N. L., Tamminen, K. A., Black, D. E., Mandigo, J. L., & Fox, K. R. (2009). Youth sport

592   parenting styles and practices. *Journal of Sport & Exercise Psychology*, *31*, 37-59. doi:

593   https://doi.org/10.1123/jsep.31.1.37

594   Holt, N. L., Tamminen, K. A., Black, D. E., Sehn, Z. L., & Wall, M. P. (2008). Parental

595   involvement in competitive youth sport settings. *Psychology of Sport and Exercise*, *9*,

596   663-685. doi:10.1016/j.psychsport.2007.08.001

Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55. http://dx.doi.org/10.1080/10705519909540118

Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, *95*, 54-78. doi: 10.1037/a0017286

Kidman, L., McKenzie, A., & McKenzie, B. (1999). The nature and target of parents' comments during youth sport competitions. *Journal of Sport Behavior*, *22*, 54-68.

Kirk, B. A., Schutte, N. S., & Hine, D. W. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences*, *45*, 432-436. doi:10.1016/j.paid.2008.06.010

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). The Guilford Press: New York.

Knight, C. J., & Holt, N. L. (2013a). Factors that influence parents' experiences at junior tennis tournaments and suggestions for improvement. *Sport, Exercise, and Performance Psychology*, *2*, 173-189. doi: 10.1037/a0031203

Knight, C. J., & Holt, N. L. (2013b). Strategies used and assistance required to facilitate children's involvement in competitive tennis: parents' perspectives. *The Sport Psychologist*, *27*, 281-291. doi: 10.1123/tsp.27.3.281

Laborde, S., Dosseville, F., & Allen, M. S. (2016). Emotional intelligence in sport and exercise: A systematic review. Scandinavian Journal of Medicine & Science in Sports, 26, 862-874. doi: 10.1111/sms.12510

Laborde, S., Dosseville, F., Guillén, F., & Chávez, E. (2014). Validity of the trait emotional intelligence questionnaire in sports and its links with performance satisfaction. *Psychology of Sport and Exercise*, *15*, 481-490. http://dx.doi.org/10.1016/j.psychsport.2014.05.001

622   Laborde S., You M., Dosseville F., & Salinas A. (2012). Culture, individual differences, and

623   situation: Influence on coping in French and Chinese table tennis players. *European*

624   *Journal of Sport Science*, *12*, 255-261. doi: 10.1080/17461391.2011.566367

625   Lazarus, R. S. (1991). *Emotion and adaptation*. New York, NY: Oxford University Press.

626   Lazarus, R. S. (2000). How emotions influence performance in competitive sports. T*he Sport*

627   *Psychologist*, *14*, 229-252. https://doi.org/10.1123/tsp.14.3.229

628   Lee, Y. H., & Chelladurai, P. (2016). Affectivity, emotional Labor, emotional exhaustion, and

629   emotional intelligence in coaching. *Journal of Applied Sport Psychology*, *28*, 170-184. doi:

630   10.1080/10413200.2015.1092481

631   Libbrecht, N., De Beuckelaer, A., Lievens, F., & Rockstuhl, T. (2014). Measurement

632   invariance of the Wong and Law emotional intelligence scale scores: Does the

633   measurement structure hold across Far Eastern and European countries? *Applied*

634   *Psychology*, *63*, 223-237. doi: 10.1111/j.1464-0597.2012.00513.x.

635   MacCann, C., Fogarty, G. J., Zeidner, M., & Roberts, R. D. (2011). Coping mediates the

636   relationship between emotional intelligence (EI) and academic achievement.

637   Contemporary Educational Psychology, 36, 60-70. doi:10.1016/j.cedpsych.2010.11.002

638   Marsh, H. W., Hau, K-T., & Wen, Z. (2004). In search of golden rules: Comment on

639   hypothesis-testing approaches to setting cutoff values for fit indexes and dangers of

640   overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*,

641   320-341. https://doi.org/10.1207/s15328007sem1103_2

642   Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and*

643   *Individual Differences*, *37*, 1401-1415. doi:10.1016/j.paid.2004.01.010

644   Mayer, J. D., & Salovey, P. (1995). Emotional intelligence and the construction and

645   regulation of feelings. *Applied and Preventive Psychology*, *4*, 197-208. doi:

646   10.1016/S0962-1849(05)80058-7

647   Mikolajczak, M. (2009). Going beyond the ability-trait debate: the three-level model of

648   emotional intelligence. *Electronic Journal of Applied Psychology*, *5*, 25-31.

649   McKenzie, T. L. & van der Mars, H. (2015). Top 10 research questions related to assessing

650   physical activity and its contexts using systematic observation. *Research Quarterly for*

651   *Exercise and Sport*, *86*, 13-29. doi: 10.1080/02701367.2015.991264

652   Nevitt, J., & Hancock, G.R. (2001). Performance of bootstrapping approaches to model test

653   statistics and parameter standard error estimation in structural equation modeling.

654   *Structural Equation Modeling, 8,* 353-377. doi:10.1207/S15328007SEM0803_2

655   Omli, J., & LaVoi, N. M. (2012). Emotional experiences of youth sport parents I: Anger.

656   *Journal of Applied Sport Psychology*, *24*, 10-25. doi: 10.1080/10413200.2011.578102

657   Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence

658   in personality factor space. *British Journal of Psychology*, *98*, 273-289. doi:

659   10.1348/000712606X120618

660   Ribeiro, J. L. P., & Rodrigues, A. P. (2004). Questões acerca do coping: A propósito do

661   estudo de adaptação do Brief COPE. [Some questions about coping: The study of the

662   Portuguese adaptation of the Brief COPE]. *Psicologia, Saúde & Doenças*, *5*, 3-15.

663   Rodrigues, N., Rebelo, T., & Coelho, J. V. (2011). Adaptação da Escala de Inteligência

664   Emocional de Wong e Law (WLEIS) e análise da sua estrutura factorial e fiabilidade

665   numa amostra portuguesa [Adaptation of the Wong and Law Emotional Intelligence

666   Scale, factorial analysis and reliability of the Portuguese version]. *Psychologica*, *55*,

667   189-207.

668   Ross, A. J., Mallett, C. J., & Parkes, J. F. (2015). The influence of parent sport behaviours on

669   children's development: Youth coach and administrator perspectives. *International*

670   *Journal of Sports Science and Coaching*, *10*, 605-621. doi: 10.1260/1747-9541.10.4.605

671 Salovey, P., Bedell, B. T., Detweiler, J. B., & Mayer, J. D. (1999). Coping intelligently:

672   Emotional intelligence and the coping process. In C.R. Snyder (Ed.), *Coping: The*

673   *psychology of what works* (pp. 141-164). New York: Oxford Press.

674 Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and*

675   *Personality*, *9*, 185-211. doi:0.2190/DUGG-P24E-52WK-6CDG

676 Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., &

677   Dornheim, L. (1998). Development and validation of a measure of emotional

678   intelligence. *Personality and Individual Differences*, *25*, 167-177. doi: 10.1016/S0191-

679   8869(98)00001-4.

680 Tamminen, K. A., Poucher, Z. A., & Povilaitis, V. (2017). The car ride home: An interpretive

681   examination of parent-athlete sport conversations. *Sport, Exercise, and Performance*

682   *Psychology*, *6*, 325-339. doi: http://dx.doi.org/10.1037/spy0000093

683 Teques, P., Serpa, S., Rosado, A., Silva, C. & Calmeiro, L. (2018). Parental involvement in

684   sport: Psychometric development and empirical test of a theoretical model. *Current*

685   *Psychology*, *37*, 234-249. doi:10.1007/s12144-016-9507-2

686 Williams, J., & MacKinnon, D. P. (2008). Resampling and distribution of product methods

687   for testing indirect effects in complex models. *Structural Equation Modeling*, *15*, 23-51.

688   doi: 10.1080/10705510701758166

689 Wong, C., & Law, D. S. (2002). The effects of leader and follower emotional intelligence on

690   performance and attitude: An exploratory study. *Leadership Quarterly*, *13*, 243-274.

691   doi: 10.1016/S1048-9843(02)00099-1
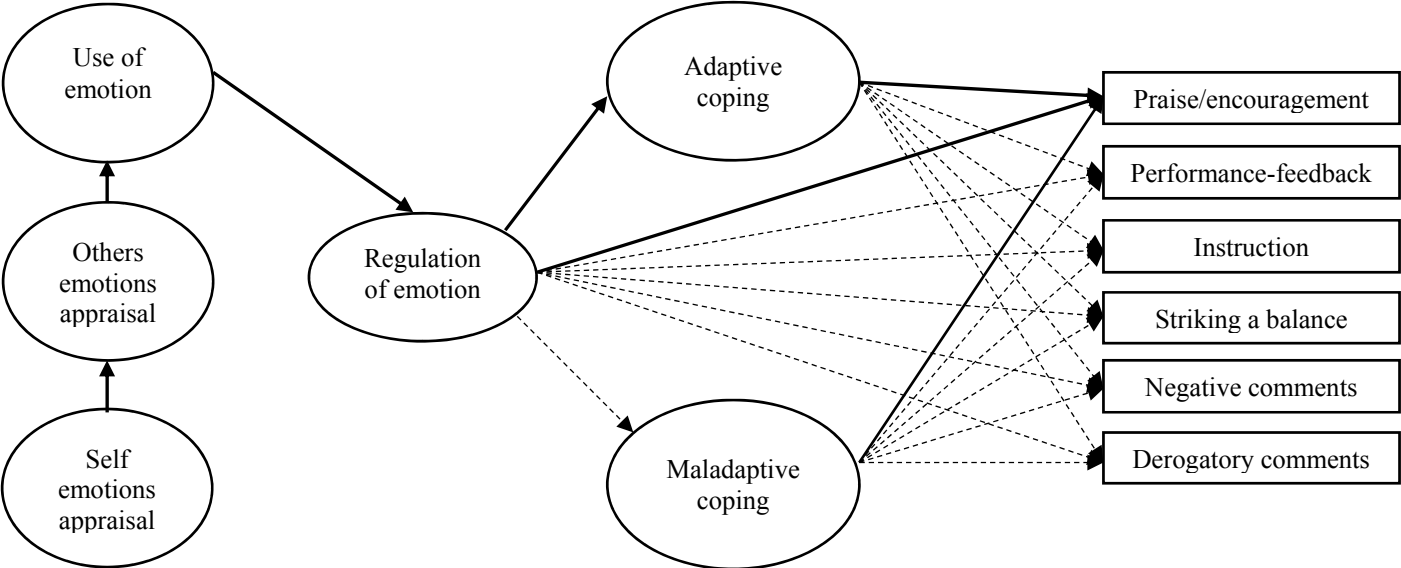
Figure 1. The hypothesized path model for the relationships between parents' emotional intelligence, coping strategies and sideline behaviors during their child's soccer games. *Note*. Positive paths in continuous lines; Negative paths in dashed lines.
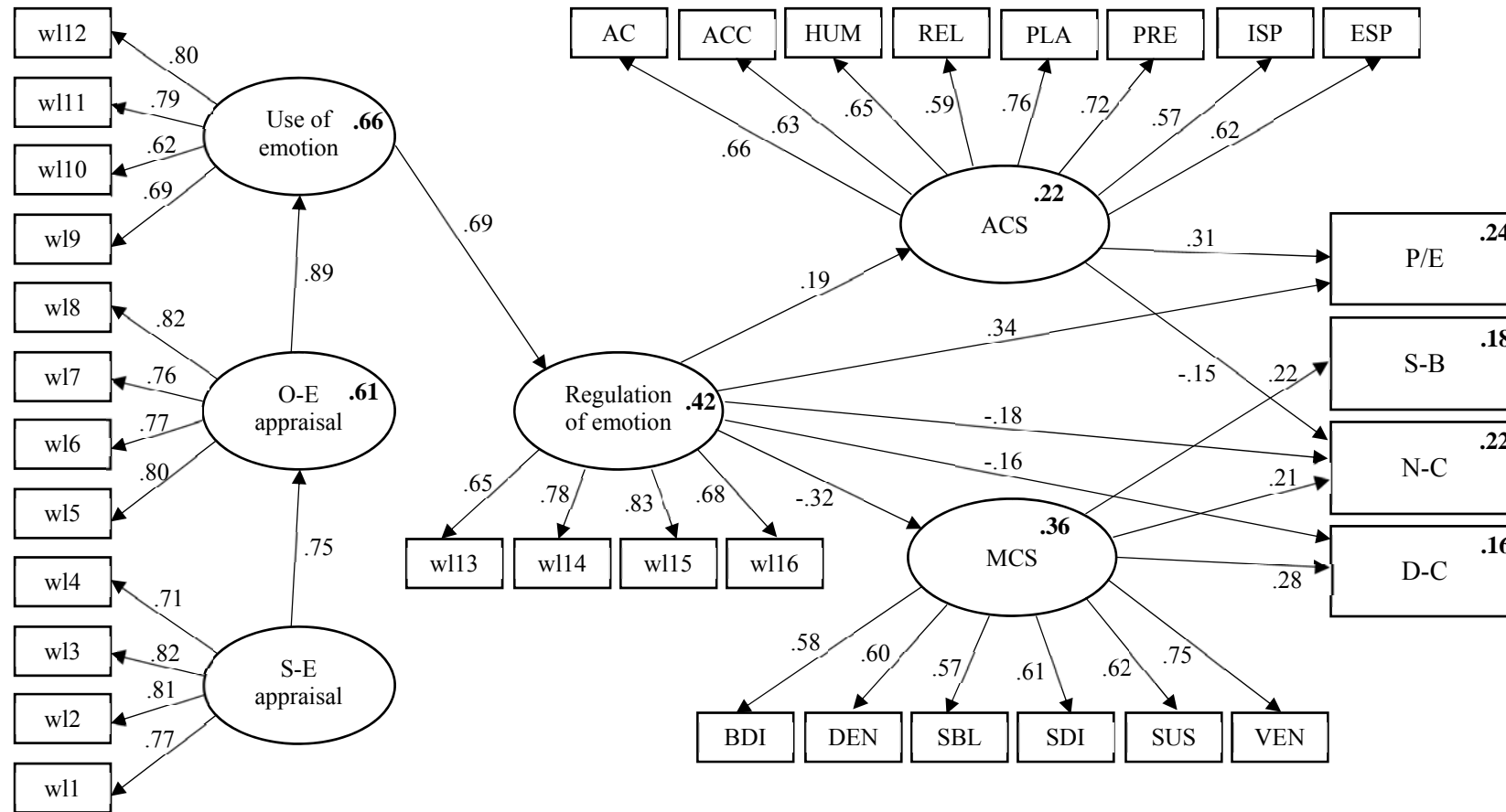
Figure 2. The revised path model. *Note*. All the standardized path coefficients are significant at the .05 level. In bold are the coefficients of determination (R²). Non-significant paths were excluded for visual simplicity. ACS = adaptive coping, AC = active coping, ACC = acceptance, HUM = humor, REL = religion, PLA = planning, PRE = positive reframing, ISP = instrumental support, ESP = emotional support; MCS = maladaptive coping, BDI = behavioral disengagement, DEN = denial, SBL = self-blame, SDI = self-distraction, SUS = substance use, VEN = venting; P/E = praise/encouragement, S-B = striking a balance, N-C = negative comments, D-C = derogatory comments.

Table 1

Descriptive statistics and bivariate correlations for all variables.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Self-emotions app	-											
2. Others-emotions app	.64**	-										
3. Use of emotion	.63**	.72**	-									
4. Regulation	.38**	.52**	.71**	-								
5. Adaptive coping	.04	.21*	.28**	.17**	-							
6. Maladaptive coping	-.35**	-.04	-.24**	-.33**	-.42**	-						
7. Praise/encouragement	.18**	.16**	.26**	.28**	.38**	-.12*	-					
8. Perform-feedback	-.19**	-.23**	-.19**	-.13*	-.10	.07	.36**	-				
9. Instruction	-.17**	-.22**	-.16**	-.12*	-.08	.08	.31**	.77**	-			
10. Striking balance	-.22**	-.28**	-.13*	-.32**	-.06	.23**	.21**	.72**	.75**	-		
11. Negative comms	-.08	-.14*	-.13*	-.18*	-.16*	.18**	.25**	.55**	.53**	.57**	-	
12. Derogatory comms	-.04	-.06	-.11*	-.17*	-.11*	.21**	.12	.39**	.39**	.23**	.47**	-
Mean	3.96	3.81	3.88	3.65	2.66	2.22	16.60	12.23	13.55	5.67	2.56	1.65
Standard deviation	0.69	0.71	0.65	0.67	0.52	0.50	6.30	5.16	7.89	1.89	1.12	1.03
Range	2.25-5.00	1.50-5.00	2.50-5.00	1.00-5.00	1.25-3.81	1.00-3.58	2-32	0-23	0-36	0-12	0-5	0-4

*Note. * p < .05, ** p < .01.*

Table 2

Standardized indirect effects and confidence intervals

Mediating paths	Estimate	95% CI	
		Lower	Upper
Emotion regulation → Adaptive coping → Praise/encouragement	.18	.10	.29
Emotion regulation → Adaptive coping → Negative comms	-.09	-.21	-.02
Emotion regulation → Maladaptive coping → Negative comms	-.12	-.25	-.02
Emotion regulation → Maladaptive coping → Derogatory comms	-.08	-.19	-.01

Note. 95% confidence intervals (CI) do not include zero for indirect effect significance.

	Target of comments																	
	Athletes						Coaches						Referees					
	P/E	FB	INS	SB	NC	DC	P/E	FB	INS	SB	NC	DC	P/E	FB	INS	SB	NC	DC
1																		
2																		
3																		
4																		
5																		
6																		
7																		
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Game:																		
Date:																		

Note. P/E = praise/encouragement, FB = Performance Feedback; INS = Instruction; SB = striking a balance, NC = negative comments, DC = derogatory comments.