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Coach identity leadership behaviours are positively associated with athlete resource appraisals: The mediating roles of relational and group identification.

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Abstract

Background: There is growing evidence identifying the positive effects of sport and exercise leaders engaging in identity leadership. Yet we have limited knowledge of how identity leadership is associated with athletes' resource appraisals (e.g., self-efficacy) and performance, the underpinning mechanisms that explain such relationships, and changes in relationships across a sporting season.

Methods: In Study 1, 412 amateur and professional athletes completed seven questionnaires directly prior to athletic competition in a cross-sectional design. In Study 2, 136 athletes completed seven questionnaires directly before competition, and one questionnaire directly after competition both at the start and the end of the athletic season.

Results: In Study 1, relational identification and group identification mediated the positive relationship between identity leadership and self-efficacy, control, approach goals and social support. In Study 2, identity leadership at the start of the season predicted self-efficacy at the end of the season through relational identification. Group identification did not significantly mediate the identity leadership-resource appraisal relationship. Perceived social support at the start of the season predicted greater performance satisfaction at the end of the competitive season.

Conclusions: Findings provide evidence that sport coaches' engagement in identity leadership is key to forming a shared social identity, which in turn, is broadly adaptive for stress appraisals and performance satisfaction both cross sectionally and longitudinally.

Keywords: *Leadership; Social Identity; Identification; Appraisal; Performance*

57 Social identity theorizing has identified that group processes are central to cognition
58 and behaviour (Tajfel & Turner, 1979; Turner et al., 1987). A significant part of group
59 processes (e.g., communication, commitment to group goals) stem from the leader (Haslam et
60 al., 2011), and this is particularly salient within competitive sport, where it is often the
61 individual representing the group that inspires athletes to unite and mobilize their efforts (see
62 Rees et al., 2015). Recent theorizing into the social identity approach to leadership (Haslam
63 et al., 2011; Steffens et al., 2014a) has endeavoured to identify how such leaders influence a
64 group and create a cohesive and unified environment. When this cohesive environment is
65 created, members will define the self as characteristic of an in-group (e.g., a sport team),
66 seeing themselves as not just “I” but as one of “us”. Organizational evidence has indicated
67 that a leader who creates a shared social identity enhances follower trust (Giessner & van
68 Knippenberg, 2008), job performance (Zhu et al., 2015) and the perceived effectiveness and
69 charismatic tendencies of the leader (van Knippenberg & van Knippenberg, 2005).

70 Identity leadership comprises of four principles (Haslam et al., 2011; Steffens et al.,
71 2014a), whereby leaders: (1) represent the unique qualities that define the group that they
72 lead (i.e., they need to be “one of us”—prototypical); (2) advance and promote the core
73 interests of the group (i.e., they need to “do it for us”—advancement); (3) bring people
74 together by creating a shared sense of “we” and “us” (i.e., they need to craft a sense of us—
75 entrepreneur); and (4) organise events and activities that give weight to the group's existence
76 (i.e., they need to make us matter—impresarioship). In recent years, growing evidence in
77 sport and exercise settings has supported the assertion that leaders who create, embody,
78 advance, and embed a collective sense of “us” are more effective. For example, successful
79 performance directors at the London 2012 Olympic games consistently communicated a
80 positive, distinctive, and enduring sense of social identity in their media communication
81 (Slater et al., 2015). Further, engagement in identity leadership (vs. not) has been associated

82 with greater intentional and behavioral mobilization of effort (Slater et al., 2018). In addition
83 to sport coaches, team captains embodying identity leadership are perceived to have greater
84 influence, instill team confidence, and strengthen group identification and task cohesion
85 (Steffens et al., 2014a: Study 4). Researchers have also identified that perceived leader-
86 entrepreneurship bolsters physical performance and effort within cycling trials (Stevens et al.,
87 2019a). In exercise settings too, leaders that are perceived to create a sense of “us” enhance
88 attendance and participation in sport and exercise classes (Stevens et al., 2019b).

89 The mechanisms through which this enactment of identity leadership influences
90 variables such as performance, effort and attendance include both relational (i.e., coach) and
91 group identification. Stevens and colleagues (2019b) found that the enactment of identity
92 leadership has a positive effect on sport and exercise attendance through group identification.
93 Group identification refers to the extent to which individuals feel an emotional attachment
94 and a sense of belonging to groups of which they are part (Tajfel & Turner, 1979). Zhu and
95 colleagues (2015) identified that leaders who strengthen follower group identification are
96 likely to improve follower job performance too. Specifically, because leaders can influence
97 followers to internalize a group as part of their self-concept, this becomes the basis for
98 follower attitude, behaviour, and mobilization to engage with the group they identify with,
99 and in turn, perform better. As an antecedent to group level identification as an influence on
100 variables such as attendance and performance, relational identification with a leader has been
101 found to play a role too. Sluss and Ashforth (2007, p. 15) defined relational identification as
102 “a (partial) definition of oneself in terms of a given role-relationship-what the relationship
103 means to the individual”. Sluss and Ashforth (2007) posited that to identify with a collective
104 (i.e. group identification), an individual must identify with the individuals that embody and
105 sustain the role-relationship. Simply, an individual is likely to see the collective (i.e. group
106 identification) as an extension of the dyadic role-relationship (Sluss & Ashforth, 2007).

107 Echoing this argument, Sluss and colleagues (2012) evidence that strong relational
108 identification with a leader can, in turn, positively influence group identification. Further,
109 these effects are more pronounced when the leader is highly prototypical of an organisation.
110 A heightened level of relational identification has been shown to influence follower creativity
111 (Gu et al., 2015), perceptions of social support (White et al., 2020), and positive appraisals of
112 motivated performance situations (i.e., important/stress-inducing events such as a competitive
113 sport match; Slater et al., 2018). Compared to poor relational identification, perceiving a
114 strong relational identification with a leader positively influences follower efficacy, perceived
115 control, approach goals, and cognitive performance within competitive (non-sport) situations
116 (Slater et al., 2018). Equally, it has also been evidenced that a sense of relational
117 identification with a leader can be inferred from a follower's social identification with a
118 group that unites follower and leader, in turn influencing charisma (Steffens et al., 2014b). To
119 this tune, evidence points to both relational identification with a leader influencing group
120 identification (Sluss et al., 2012), and group identification in turn influencing relational
121 identification (Steffens et al., 2014b). Accordingly, both identification with a leader and
122 group can influence psychological- and performance-related variables. To elucidate
123 inconsistencies, researchers have not yet identified: (1) whether the full identity leadership
124 theoretical model influences psychological resources (i.e., the four identity leadership
125 principles); (2) whether relational and group identification are evidence based mechanisms
126 (i.e., serial mediators) of the identity leadership-resource appraisal relationship; and (3)
127 whether identity leadership and psychological stress variables are meaningfully related within
128 an ecologically valid competitive sporting environment. In other words, an investigation of
129 whether identity leadership influences psychological resources (i.e. self-efficacy, control,
130 approach goals, and avoidance goals) through identification (relational and group) within
131 team-based sporting environments would contribute to identity leadership theory.

132 In the current paper, the notion of psychological resources (i.e., self-efficacy, control,
133 approach and avoidance goals) stem from the Theory of Challenge and Threat States in
134 Athletes (TCTSA; Jones et al., 2009). Jones et al. (2009) proposed that when psychological
135 resources meet or exceed perceived situational demands, an individual is likely to approach
136 competition in a *challenge* state, which is adaptive for sports performance and well-being
137 (Turner et al., 2014). In contrast, when psychological resources do not meet or exceed
138 perceived situational demands, an individual is likely to approach competition in a *threat*
139 state, which is maladaptive for sports performance (Jones et al., 2009; Meijen et al., 2020;
140 Turner et al., 2014). These psychological resources are appraisals of an individual's level of
141 skill, knowledge and ability in the order to meet or surpass the demands of the situation
142 (Blascovich et al., 2003). Collectively, researchers have found that an athlete who is self-
143 efficacious, perceives control over their actions and has approach goals, is more likely to be
144 challenged by a stressful performance situation, performing better as a result (e.g., Turner et
145 al., 2012; Turner et al., 2014). Within the TCTSA, avoidance goals (i.e. motivated towards
146 avoiding incompetence) have also been conceptualised as a resource, though being a
147 contributor towards threat responses and poorer performance rather than challenge responses
148 and enhanced performance (Jones et al., 2009). Moving beyond individual resources (i.e.
149 self-efficacy, perceived control and approach goals and avoidance goals), within the revised
150 TCTSA (TCTSA-R: Meijen et al., 2020), social support has been conceptualised as a
151 resource appraisal. This addition follows advances in research that has considered social
152 support a key contributor to the stress process (Blascovich et al., 2003; Blascovich &
153 Mendes, 2000; Dixon & Turner, 2018; Meijen et al., 2020). Empirical research has identified
154 that social support improves sport coaches' stress related coping (Dixon & Turner, 2018).
155 Though proposed as part of the stress process (Meijen et al., 2020), and evidence identifying
156 the benefits of social support (Dixon & Turner, 2018), it is yet to be operationalised as a

157 resource appraisal in published research. As part of the coping process, the identity leadership
158 perspective extends on the premise that a dyadic relationship can predict appraisals by
159 considering the dynamicity of a group. A leader can endorse a shared social identity—by
160 behaving in-line with the 4 principles of identity leadership—consequently, athletes develop
161 interpersonal connections with the leader and therefore the group that they are part of
162 (Haslam et al., 2011). With previous reviews suggesting that shared social identities can
163 influence cognitive appraisals (Slater et al., 2016), we suggest that identity leadership can
164 influence athletes' appraisals of a sporting event through developing connections with a
165 leader and group. Formally, we examine the following hypotheses in Study 1:

166 H1: There will be a positive atemporal association between perceived identity
167 leadership and self-efficacy, perceived control, approach goals, and social support, and a
168 negative association with avoidance goals.

169 H2: The atemporal association between perceived identity leadership and resource
170 appraisals will be mediated by relational and group identification.

171 Regarding performance, previous researchers have found mixed evidence regarding
172 how psychological states (e.g., resource appraisals) relate to sports performance. In the
173 TCTSA (Jones et al., 2009) and TCTSA-R (Meijen et al., 2020) it is posited that when self-
174 efficacy, perceived control, approach focus and perceptions of support meet or exceeds
175 perceived demands, an individual is likely to show a challenge response, in turn positively
176 influencing performance and well-being. In-line with this thinking, researchers have
177 evidenced that considering the appraisal of the event carries implications for performance
178 (González-Morales, & Neves, 2015; Moore et al., 2012). Specifically, challenge-based
179 appraisals have been found to positively influence subjective performance (Nicholls et al.,
180 2012). That said, some researchers have found that psychological resources do not
181 significantly relate to performance (Turner et al., 2012). To add to the inconsistency, Slater

182 and colleagues (2018) found mixed effects for both resource appraisals and cardiovascular
183 indices (of challenge and threat) on cognitive performance. Specifically, perceiving a
184 stronger identification with a leader was concordant with greater resource appraisals,
185 mobilization of effort, and cognitive performance on a concentration grid activity (Study 2).
186 Yet, no such findings were apparent on a separate cognitive task (Study 3). These mixed
187 results urged Slater and colleagues (2018) to call for future research to investigate the
188 relationships between identity leadership, resource appraisals and performance in more
189 ecologically valid settings. Given that leadership success is evaluated over time, Slater and
190 colleagues (2018) also evidenced the need for longitudinal field investigations into the
191 influence of identity leadership.

192 In the current research, we aim to address Slater and colleagues' (2018) calls, and
193 bring together leadership (Haslam et al., 2011) and stress theory (Meijen et al., 2020), by
194 examining whether athletes' perceptions of their coach's identity leadership can predict
195 resource appraisals, and performance satisfaction across an athletic season. We also
196 investigate whether relational and group identification mediate these temporal relationships.
197 Identifying to what extent sport coaches influence appraisal and performance holds
198 implications for theoretical development given that leadership is not currently considered in
199 the predominant theory (Jones et al., 2009; Meijen et al., 2020). Formally, we examine the
200 following hypotheses in Study 2:

201 H3: There will be a positive temporal association between perceived identity
202 leadership and self-efficacy, perceived control, approach goals and social support, and a
203 negative association with avoidance goals.

204 H4: The temporal association between perceived identity leadership and resource
205 appraisals will be mediated by relational and group identification.

206 H5: Identity leadership, relational identification, group identification and resource
207 appraisals at wave one will account for a significant proportion of variance in performance
208 satisfaction at wave two, when controlling for wave one performance satisfaction.

209 **Overview of studies**

210
211 The present research uses both a cross-sectional and longitudinal design in
212 understanding the influence of identity leadership, being an approach taken in comparable,
213 recent research (Stevens et al., 2020). Study 1, to our knowledge, is the first to examine the
214 atemporal mechanisms (i.e., relational and group identification) by which engagement in
215 identity leadership by sport coaches predicts athletes' resource appraisals in the lead up to a
216 competitive event. Extending our first study, in Study 2 we longitudinally examine
217 associations between identity leadership, relational and group identification, resource
218 appraisals, and sports performance (i.e. satisfaction) in two waves across an athletic season.
219 By assessing variables longitudinally, we can identify whether perceptions of leadership
220 influence athletes' resource appraisals through the mechanisms of relational and group
221 identification across a season. Further, we identify the antecedents that contribute towards
222 sports performance over a competitive season. By recognising the influence of these social
223 processes on resource appraisals (Study 1 and 2) and performance (Study 2), we aim to
224 advance stress (Meijen et al., 2020) and leadership (Haslam et al., 2011) theory.

225 **Study 1**

226 **Participants and Design**

227
228 We adopted an atemporal cross-sectional design to investigate indirect effects of
229 identity leadership on resource appraisals when approaching competition. Four hundred and
230 twelve athletes ($M_{\text{age}} = 23.86 \pm 5.38$; 299 males; white British, $n = 383$) of various sporting
231 experience ($M_{\text{years}} = 11.29 \pm 6.46$) within amateur (64%) and professional sport (36%) took
232 part in the study. Athletes competed across 34 sports, including; football ($n = 89$), rugby ($n =$

233 42), lacrosse ($n = 21$), hockey ($n = 24$) netball ($n = 20$), cricket ($n = 19$), ultimate frisbee ($n =$
234 12), swimming ($n = 10$), dance ($n = 4$), tennis ($n = 5$), american football ($n = 4$), athletics ($n =$
235 4), hurling ($n = 2$), basketball ($n = 23$), cheerleading ($n = 4$), kickboxing ($n = 3$), handball (n
236 = 4), futsal ($n = 15$), volleyball ($n = 18$), badminton ($n = 5$), water polo ($n = 13$), airsoft ($n =$
237 2), ice hockey ($n = 7$), karate ($n = 2$), gymnastics ($n = 2$), softball ($n = 8$), golf ($n = 4$), archery
238 ($n = 1$), mixed martial arts ($n = 1$), running ($n = 20$), korfbal ($n = 3$), curling ($n = 2$),
239 equestrian ($n = 9$) and boxing ($n = 10$).

240 **Procedure**

241 Following institutional ethical approval, convenience and snowball sampling
242 techniques were adopted, contacting coaches via emails, word of mouth, and social media.
243 Convenience sampling was achieved by liaising with athlete groups. Snowball sampling was
244 achieved by encouraging athletes on completion to send details of the study to other potential
245 athletes that may be interested. Once approved by the team coach (via convenience sampling)
246 and athletes (via snowball sampling) a Qualtrics survey was sent to the athletes within an
247 hour of competition. All surveys were completed on the participants' electronic device. To
248 ensure participants filled the forms authentically, the athletes were asked questions which
249 were reversed coded, and were asked how imminent commencement of competition was.
250 Those who did not fill the forms authentically were removed from analyses.

251 **Measures**

252 **Identity leadership.** The Identity Leadership Inventory (ILI) is a 15-item questionnaire
253 that measures the four principles of identity leadership (Steffens et al. 2014a). The ILI is a
254 robust measure of identity leadership and has been validated across 20 countries (van Dick et
255 al., 2018). The questionnaire includes items such as “*My coach embodies what the team*
256 *stands for*” (Identity-prototypical, $\alpha = .92$), “*My coach stands up for the team*” (Identity-
257 advancement, $\alpha = .88$), “*My coach creates a sense of cohesion within the team*” (Entrepreneur

258 of identity, $\alpha = .93$), and “*My coach devises activities that bring the team together*”
259 (Impresario of identity, $\alpha = .91$). In-line with Stevens and colleagues’ (2019b), a global
260 identity leadership measure (comprised of all 15 items) demonstrated excellent internal
261 consistency (Cronbach’s $\alpha = .97$). Though a four-factor model of the ILI has been
262 conceptualized, Steffens and colleagues (2014a) identified that the intercorrelations between
263 the four principles have significant overlap. Given that this is the case, and to maintain
264 sufficient statistical power, subsequent analyses are run on global identity leadership.

265 **Group and relational identification.** A 3-item questionnaire was used to identify how
266 strongly athletes identified with their sport team (Slater et al., 2018): “*I feel a strong*
267 *connection with the team*”, “*I identify strongly with the team*” and “*I feel no connection with*
268 *the team*” (reverse scored). Responses were on a Likert scale from 1 (*not at all*) to 7 (*very*
269 *true*). This measure has been used by identity leadership researchers (e.g., Slater et al., 2018)
270 and demonstrated good reliability in the current study ($\alpha = .86$). The same three items and
271 scale used for group identification were edited, replacing the words “*the team*” to “*my*
272 *coach*”. These changes, in-line with Slater and colleagues’ (2018) procedure, identified an
273 athletes’ level of relational identification with the leader. The measure showed good internal
274 consistency ($\alpha = .89$).

275 **Self-efficacy.** Derived from the self-efficacy scale using Bandura’s (2006) guidelines,
276 two items measured how confident each athlete felt to perform well in the upcoming match
277 (Turner et al., 2012). Specifically, the questionnaire asked; “*In the next fixture, to what extent*
278 *do you feel confident that you can perform well?*” and “*In the next fixture, to what extent do*
279 *you feel confident that you can fulfil your potential?*”. Participants reported on a Likert scale
280 from 1 (*not at all*), to 5 (*very much so*). Cronbach’s alpha was acceptable ($\alpha = .76$).

281 **Perceived control.** Adapted from the Academic Control Scale (Perry et al., 2001;
282 Turner et al., 2012), a single item was used to identify perceived control over their upcoming

283 performance: “*The more effort I put into the following fixture, the better I will do?*”. Typical
284 of research measuring resource appraisals (e.g. Turner et al., 2014), the item was recorded on
285 a 5-point Likert-scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

286 **Achievement goals.** The Achievement Goal Questionnaire (AGQ: Conroy et al., 2003;
287 Turner et al., 2012) was used to identify an athlete’s motivational disposition towards
288 performance. This was condensed to a 4-item measure for brevity, with a single item for each
289 subscale. The scale in this capacity has been individually validated (Conroy et al., 2003) in
290 measuring resource appraisals (e.g., Slater et al., 2018; Turner et al., 2013). These 4 items
291 were used to create two subscales, approach (from mastery approach and performance
292 approach) and avoidance (from mastery avoidance and performance avoidance). Approach (α
293 = .64) and avoidance ($\alpha = .72$) subscales were internally consistent.

294 **Athletes’ received support.** A 22-item questionnaire identified an athlete’s perception
295 of received support (ARSQ: Freeman et al., 2014). This measure identifies 4 dimensions of
296 social support: emotional, esteem, informational, and tangible. All items followed from the
297 stem “*In the build up to the upcoming fixture, to what extent has someone*”... “*cheered you*
298 *up*” (emotional, $\alpha = .92$), “*comforted you*” (esteem, $\alpha = .94$), “*given you tactical advice*”
299 (informational, $\alpha = .93$), and “*helped manage your training sessions*” (tangible, $\alpha = .95$).
300 Freeman and colleagues (2014) found support for both a four-factor and a unidimensional
301 model. Much like Freeman and colleagues, Cronbach’s alpha for all subscales combined was
302 excellent ($\alpha = .96$). Given that the intercorrelations between the four principles have
303 significant overlap, and aiming to maintain sufficient statistical power, subsequent analyses
304 are run on overall social support.

305 **Task importance.** A single item identified whether the upcoming fixture is important
306 to them, from 1 (*not at all*) to 5 (*very much so*). This item is commonly used in TCTSA
307 research, providing valid data in measuring task importance (e.g., Slater et al., 2018; Turner

308 et al., 2014). Task importance is a prerequisite of challenge and threat responses (Jones et al.,
309 2009).

310 **Data analysis**

311

312 For main analyses, we identify the indirect effects of identity leadership on resource
313 appraisals when approaching competition (Chadha et al., 2019; Cohen et al., 2003).

314 Specifically, we identify the extent to which identification with a leader and group indirectly

315 effect the relationship between perceived identity leadership and self-efficacy, perceived

316 control, approach goals, avoidance goals and received support. Given that power analyses

317 calculations are necessary for robust research (Schinke et al., 2020), Monte Carlo estimations,

318 via the MARlab application (Schoeman et al., 2017) were conducted. For path a^1 , a^2 and d^{21}

319 parameter estimations between, and standard deviations of identity leadership (X) and group

320 identification (M2) reported by Stevens and colleagues (2018) within sports teams were used.

321 For paths b^1 , b^2 and c' , estimations are based on previous associations between identity

322 leadership parameters and resource appraisals (Slater et al., 2018). From this, small to

323 medium (R^2 ; b^1 , b^2 and $c' = .28$) associations for paths b^1 , b^2 and c' are anticipated (Slater et

324 al., 2018; Thoemmes et al., 2010). In line with previous studies (Stevens et al., 2019b), alpha

325 was set at .05, and 5000 replications were conducted. From this, sample size estimates for the

326 mediated paths indicated at least 135 participants to achieve a power of .80 ($a^1b^1 N = 92$, a^2b^2

327 $N = 125$, $a^1d^{21}b^2 N = 135$). Analyses were conducted via the lavaan package of R software (v.

328 4.0.0). Structural equation model estimates (with two serial mediators) are reported

329 alongside cluster-robust standard errors to control for non-independence of errors (i.e.

330 controlling for a suspected correlation between error terms within each sports team). Given

331 that (a) research has evidenced that relational identification informs social identification

332 (Sluss & Ashforth, 2007; Sluss et al., 2012), and (b) that relational identification can be

333 inferred as a result of group identification (Steffens et al., 2014b), both mediators (i.e.,

334 relational and group identification) are tested as mediator 1 and mediator 2. Simply, relational
335 identification is placed in the models as mediator one, with group identification being placed
336 as mediator two. Then, group identification is placed in the models as mediator one, with
337 relational identification being placed as mediator two. Robust clustering enabled calculation
338 of 95% confidence intervals (CI's) for all indirect effects. If the CI does not cross zero, a
339 significant indirect effect has occurred (Zhao et al., 2010). Further, a good-fitting model is
340 required to interpret paths of a structural model (Imai et al., 2010). Hence, the robust
341 comparative fit index (i.e., the discrepancy between the data and the hypothesized model;
342 CFI), the standardised root mean square residual (i.e., standardized difference between the
343 observed correlation and the predicted correlation; SRMR), and the robust root mean square
344 error of approximation (i.e., absolute measure of fit; RMSEA) were reported. Values close to
345 .08 for the robust RMSEA and .06 for the robust SRMR are indicative of a good model fit.
346 Equally, values close to .95 for CFI (Hu & Bentler, 1999) constitute good model fit. An
347 intercorrelation matrix (see Table 1) identified that intercorrelations between variables
348 (excluding the four identity leadership principles) were below the .80 cut-off (Barry &
349 Feldman, 1985). See Figure 1 for a generic model of the serial multiple mediation with two
350 mediators.

351 [insert Figure 1]

352 [insert Table 1]

353 **Results**

354 **Preliminary Analyses**

356 No missing data were revealed within all subscales. Following Smith's (2011)
357 guidelines, data-points with z scores greater than two were winsorized. This is a process in
358 which extreme values are replaced to reduce the influence of outliers on the data. Overall,
359 5.24% of the data were winsorized. The multicollinearity assumption was met, and cook's

360 distance values were less than 1. Variance inflation factor values (≤ 5.432) and tolerance
361 values ($\geq .184$) were acceptable (Hair et al., 1995). The independent errors assumption was
362 satisfied, with Durbin-Watson values (1.64 – 1.937) all within the ≥ 1 to ≤ 3 range (Field,
363 2017). Normally distributed errors, linearity and homoscedasticity assumptions were satisfied
364 across models.

365 **Perceived Importance.** Perceived importance is a prerequisite of challenge and threat
366 responses (Jones et al., 2009). A one-sample *t*-test indicated that athletes reported the
367 competition to be of significant importance (i.e., significantly different to zero, $t(412) =$
368 $94.34, p < .001, M = 4.16 \pm .90$).

369 **Serial Mediation Model Analyses**

370 When including relational identification as mediator 1, all models were a good fit
371 (Std. RMR $\leq .05$, RMSEA $< .08$, CFI $> .95$). When group identification was included as
372 mediator 1, all models were also a good fit (Std. RMR $\leq .06$, RMSEA $< .08$, CFI $> .95$).
373 Within the following analyses, global identity leadership forms the predictor variable (X),
374 with *relational identification* as mediator 1 (MV), and *group identification* as mediator 2
375 (MV). The dependent (Y) variable is the respective resource appraisal. Total effects of
376 identity leadership on resource appraisals were significant in most models (see Table 2). The
377 total effect for identity leadership on avoidance goals was not significant ($\beta = .04, 95\% \text{ CI} = -$
378 $.14, .22$).

379 There was a non-significant indirect effect for identity leadership on the resource
380 appraisals of self-efficacy, control, approach goals, avoidance goals and social support
381 through relational identification ($\beta \leq .08, 95\% \text{ CI} = -.23, .19$). There was a significant indirect
382 effect for identity leadership on self-efficacy, control and approach goals through group
383 identification ($\beta = .05, 95\% \text{ CI} = .01, .08$). No such effect was found for social support ($\beta =$
384 $.02, 95\% \text{ CI} = -.001, .05$) or avoidance goals ($\beta = -.02, 95\% \text{ CI} = -.05, .02$). Furthermore,

385 there was a significant indirect effect for identity leadership on self-efficacy, control,
 386 approach goals, and social support through both relational and group identification ($\beta \geq .03$,
 387 95% CI = .004, .10). No such effect was found for avoidance goals ($\beta = -.02$, 95% CI = -.06,
 388 .02). Further, there was a significant positive direct effect for identity leadership on self-
 389 efficacy, control, approach goals and social support ($\beta \geq .15$, $p \leq .013$) when both mediators
 390 were included in this order (i.e., relational and group identification). No significant direct
 391 effect was identified for avoidance goals ($\beta = .06$, $p = .63$).

392 When analyses were run with group identification placed before relational
 393 identification, all indirect effects through *both* mediators were non-significant (see
 394 supplementary file). Equally, when group identification was included as mediator 1, and
 395 relational identification at wave two as mediator 2, there was a significant direct effect of
 396 identity leadership on self-efficacy, control, approach goals and social support ($\beta \geq .15$, $p \leq$
 397 .003), and this association was mediated by group identification at wave two ($\beta \geq .05$, 95% CI
 398 = .007, .16; see supplementary file). A summary of standardised coefficients for total, direct
 399 and indirect effects of identity leadership on resource appraisals can be found in Table 4.
 400 Further, all mediation models in Study 1 (with mediators in both directions) can be found in
 401 the supplementary file.

402 [insert Table 2]

403 **Discussion**

404
 405 In-line with our expectations, in Study 1 we established that identity leadership is
 406 positively associated with self-efficacy, control, approach goals, and social support (H1).
 407 There was no significant negative association between identity leadership avoidance goals.
 408 The positive associations between identity leadership and self-efficacy, approach goals and
 409 perceived control were mediated by group identification. Relational, and in turn group
 410 identification (H2), mediated the positive association between identity leadership and self-

411 efficacy, control, approach goals and social support. Against our expectations, the positive
412 associations between identity leadership and self-efficacy, control, approach goals and social
413 support were not significantly mediated by relational identification. Further, the negative
414 associations between identity leadership and avoidance goals were not significantly mediated
415 by relational identification, group identification, or in serial (H2). When group identification
416 was added as mediator 1, and relational identification was added as mediator 2, all indirect
417 effects were non-significant. The non-significant reversed models' evidence that, supporting
418 Sluss and colleagues' findings (2012), a dyadic emotional connection with the leader is more
419 likely as a result of identity leadership, which then influences group level identification and
420 athletes' appraisals of events. Extending identity leadership and stress theory, Study 1
421 provides initial evidence that there is a positive relationship between identity leadership and
422 resource appraisals, which is explained by relational and therefore group identification. While
423 this is a useful step forward, Study 1 involved cross-sectional data, and thus, in Study 2, we
424 adopted a longitudinal design to assess these relationships at two waves at the start and the
425 end of an athletic season. Sport performance satisfaction indicators were also included in
426 Study 2 to assess whether social variables and an athlete's approach to competitive situations
427 is conducive to better perceived performances (Turner et al., 2012; Turner et al., 2014).

428 **Study 2**

429
430 Study 1 data indicated that there was a positive relationship between athletes'
431 perceptions of their coach's identity leadership, and the athletes' resource appraisals, and
432 these relationships were explained by relational and group identification. Extending
433 leadership theory, broadly, these findings show that those who perceive greater self-efficacy,
434 control, approach goals and social support perceive greater emotional connections with their
435 coach and team as a result of sport coaches' enactment of identity leadership principles.
436 Advancing Study 1, and to contribute theoretically to social identity and challenge and threat

437 approaches, in Study 2 we examined the relationships between identity leadership and
438 resource appraisals (with relational and group identification as mediators) over time. Given
439 an athlete's appraisal of a competitive event has implications for performance (González-
440 Morales & Neves, 2015), in Study 2, we additionally examined whether identity leadership,
441 identification (relational and group), and resource appraisals predicted performance
442 satisfaction across an athletic season.

443 **Method**

444 **Participants and Design**

445
446 A two-wave longitudinal design was adopted to investigate serial mediation models.
447 One-hundred and thirty-six athletes ($M_{\text{age}} = 24.73 \pm 5.39$; 118 males) of various sporting
448 experience ($M_{\text{years}} = 12.82 \pm 6.45$) within amateur (43%) and professional sport (57%) took
449 part. The sample included athletes who participated in football ($n = 81$), rugby ($n = 37$) and
450 netball ($n = 18$). Comparable with similar research (Stevens et al., 2020), a separate sample of
451 136 team sport athletes is assessed over time (whilst study 1 used a broader sample of athletes
452 [individual and team sports]) in order to understand the effects of identity leadership in a
453 targeted, under-researched population (within identity leadership research).

454 **Measures**

455 We used the same 7 questionnaires as in Study 1, prior to the competitive fixture. In
456 addition, after the fixture (within an hour), we measured perceived performance satisfaction
457 (Biddle, Hanrahan, & Sellars, 2001), with a single item: "*Please indicate how satisfied you
458 are with your performance in the match you have just participated in?*". This is a previously
459 validated questionnaire anchored at 1 (*totally dissatisfied*) to 10 (*totally satisfied*). Cronbach's
460 alpha on self-efficacy ($\alpha = .54$) at wave 2 was questionable. The results from these variables
461 should be interpreted with caution. All other subscales on all items across wave 1 and 2 were
462 at least acceptable ($\alpha \geq .79$).

463 **Procedure**

464 Following institutional ethical approval, convenience and snowball sampling
465 techniques were adopted, contacting coaches via email, word of mouth, and social media.
466 Once approved by the team's coach (via convenience sampling) and athletes (via snowball
467 sampling), paper surveys were given to the athletes within an hour of competition. Wave 1
468 surveys were handed out within the first two weeks of the season. On the first page it was
469 noted that this was a two-wave study, and that the procedure will be repeated towards the end
470 of the season. If consent was not granted, athletes were thanked for their consideration.
471 Athletes then completed demographic information and the 7 questionnaires. After the
472 competition fixture, within an hour of completion, the players were asked to rate their
473 performance. Wave 2, which was an exact replication of the above, was completed in the
474 final two weeks of the season (8 months later).

475 **Data Analysis**

476 Main analyses involved two stages. First, serial mediation analyses (Cohen et al.,
477 2003) were conducted. We tested whether identification (relational and group) at wave 2
478 mediated the relationship between perceived identity leadership at wave 1 and resource
479 appraisals at wave 2. Like Study 1, initially, relational identification at wave 2 formed
480 mediator 1, and group identification at wave 2 formed mediator 2. Then, mediators were
481 reversed, placing group identification at wave two as mediator 1, and relational identification
482 at wave 2 as mediator 2. Typical when assessing longitudinal autoregressive models, wave 1
483 repeated variables were used as controls (Adachi & Willoughby, 2015). As with Study 1, for
484 indirect effects, analyses were conducted via the lavaan package of R software (v. 4.0.0).
485 Structural equation model estimates (with two serial mediators) are reported using the
486 Satorra-Bentler correction (see Chou et al., 1991) alongside cluster-robust standard errors to
487 control for non-independence of errors (i.e. controlling for a suspected correlation between

488 error terms within each sports team) and multivariate non-normality. Robust clustering was
489 enabled, with statistical significance of indirect effects being determined using 95% CI's
490 (Zhao et al., 2010). Retaining the power analyses used for study 1¹, sample size estimates for
491 the mediated paths indicated at least 135 participants to achieve a power of .80 across all
492 paths ($a^1b^1 N = 92$, $a^2b^2 N = 125$, $a^1d^2b^2 N = 135$). Further, mediational research assessing
493 the longitudinal associations between identification (Stevens et al., 2019b; Wakefield, Bowe,
494 Kellezi, Butcher, & Groeger, 2020) and dependent variables has used similar participant
495 numbers to the present study ($N = 186$, Stevens et al., 2018; $N = 122$, Wakefield et al., 2020).
496 Second, typical of challenge and threat research within ecologically valid settings
497 (Blascovich et al., 2004; Turner et al., 2012), hierarchical multiple regression analyses (via R
498 software 4.0.0) were conducted to identify whether facets of social factors and resource
499 appraisals at wave one predicted wave 2 performance satisfaction.

500 Results

501 Preliminary Analyses

502 Missing values analyses revealed that all missing data at both time points were
503 missing completely at random ($\chi^2 \geq .322$, $p \geq .149$), with .1% of overall data responses being
504 missing. From this, multiple imputations were conducted, and following Smith's (2011)
505 guidelines, data-points with z scores greater than two were winsorized. Across all regression
506 models, Cook's distance values were less than 1, the multicollinearity assumption was met
507 and variance inflation factor (≤ 1.094) and tolerance values ($\geq .914$) were acceptable (Hair et
508 al., 1995). Independent errors (Durbin-Watson, 1.767 – 2.308), normally distributed errors,
509 linearity, and homoscedasticity assumptions were satisfied across models. The assumption of
510 multivariate normality (Mardia Skewness $< .05$) was violated across all endogenous

¹ The monte carlo power estimations using the current software packages do not account for control variables as part of power analyses (Schoeman, Boulton, & Short, 2017). The present power calculation should be considered an approximate estimate. That said, these results ensure confidence that our final sample ($N = 136$) for study 2 was sufficient for mediation analyses.

511 variables. In dealing with this, the Satorra-Bentler model was run, and robust-cluster standard
512 errors are reported (see Chou et al., 1991). Intercorrelation matrices for wave 1 and wave 2
513 can be seen in Table 3.

514 **Perceived Importance.** Two one-sample *t*-tests indicated that athletes (at both waves)
515 reported the competition to be of significant importance (i.e., significantly different to zero:
516 wave 1, $t(145) = 48.69, p < .001, M = 3.86 \pm .96$; wave 2, $t(135) = 57.35, p < .001, M = 4.01$
517 $\pm .82$). A paired samples *t*-test identified that there was a non-significant increase in
518 perceived importance from wave one to wave two, $t(135) = -1.55, p = .123$.

519 [insert Table 3]

520 **Serial Mediation Model Analyses**

521 When including relational identification as mediator 1, self-efficacy, approach goals,
522 avoidance goals and social support models were an acceptable fit (Std. RMR $\leq .06$, Robust
523 RMSEA $< .08$, Robust CFI $> .90$). With mediators in this order, acceptable fit was not
524 identified within the control model (Std. RMR = $.06$, Robust RMSEA = $.13$, Robust CFI =
525 $.87$). When group identification was included as mediator 1, the self-efficacy, control,
526 approach, avoidance and social support models were an acceptable fit (Std. RMR $\leq .06$,
527 Robust RMSEA $< .08$, Robust CFI $> .90$). Within the following analyses, perceived identity
528 leadership at wave 1 forms the predictor variable (X), with *relational identification* at wave
529 two forming M1. *Group identification* at wave two formed M2 and respective resource
530 appraisal at wave two formed the Y variable. Lastly, all wave one variables were used as
531 covariates to control for stability effects. Total effects of identity leadership at wave one on
532 self-efficacy at wave two was significant ($p = .05$). All remaining total effects of identity
533 leadership at wave one on resource appraisals at wave two were non-significant. Complete
534 mediation models can be seen in the supplementary file.

535 **Self-efficacy and control.** There was a significant indirect effect for identity
536 leadership at wave 1 on self-efficacy and control at wave 2 through relational identification at
537 wave 2 ($\beta \geq .10$, 95% CI = .02, .20). There was a non-significant indirect effect for identity
538 leadership at wave 1 on self-efficacy and control at wave 2 through group identification at
539 wave 2 ($\beta < .001$, 95% CI = -.04, .03). Furthermore, there was a non-significant indirect
540 effect for identity leadership at wave 1 on self-efficacy and control at wave 2 through both
541 relational and group identification at wave 2 ($\beta \leq .01$, 95% CI = -.02, .04). Further, there was
542 a significant positive direct effect for identity leadership at wave 1 on self-efficacy at wave 2
543 ($\beta = .10$, $p = .03$).

544 **Approach goals, avoidance goals and social support.** There was a significant
545 indirect effect for identity leadership at wave 1 on social support at wave 2 through relational
546 identification at wave 2 ($\beta = .06$, 95% CI = .004, .12). The association between identity
547 leadership at wave 1 and approach goals, avoidance goals and social support at wave two was
548 not significantly mediated by group identification at wave two ($\beta \leq .04$, 95% CI = -.03, .09).
549 There was a significant indirect effect for identity leadership at wave 1 on approach goals at
550 wave 2 through both relational and group identification at wave 2 ($\beta = .07$, 95% CI = .02,
551 .13). Both relational and group identification at wave 2 did not significantly mediate the
552 relationship between identity leadership at wave 1 and social support at wave two ($\beta = -.01$,
553 95% CI = -.05, .02). Further, there was a non-significant direct effect for identity leadership
554 at wave 1 on approach goals, avoidance goals and social support at wave 2 ($\beta \leq .10$, $p > .05$;
555 see supplementary file).

556 When analyses were run with group identification at wave two placed before
557 relational identification at wave two, all indirect effects through *both* mediators were non-
558 significant (see supplementary file). Equally, when group identification at wave two was
559 included as mediator 1, and relational identification at wave two as mediator 2, there was a

560 significant direct effect of identity leadership at wave one on self-efficacy ($\beta = .10, p = .03$),
561 and this was mediated by relational identification at wave two ($\beta = .12, 95\% CI = .06, .18$).
562 In assessing bi-directional relationships (e.g. self-efficacy at wave one predicting identity
563 leadership at time 2), no significant associations were found. A summary of standardised
564 coefficients for total, direct and indirect effects of identity leadership at wave one on resource
565 appraisals at wave two can be found in Table 4. Further, all mediation models in Study 2
566 (with mediators in both directions) can be found in the supplementary file.

567 [insert Table 4]

568 **Performance Satisfaction**

569 Within hierarchical multiple regression models, wave one performance satisfaction
570 was added at Step one, followed by identity leadership (Step 2), relational identification (Step
571 3), group identification (Step 4), and all resource appraisals (Step 5). For wave one
572 performance satisfaction (Step 1: $R^2 = .002, p > .05$), identity leadership (Step 2:
573 $R^2 = .01, p > .05$), relational identification (Step 3: $R^2 = .02, p > .05$) and group identification
574 (Step 4: $R^2 = .03, p > .05$), there was a non-significant proportion of variance accounted for
575 after each addition. For resource appraisals, a significant proportion of variance was
576 accounted for by the addition of step 5 (Step 5: $R^2 = .08, p < .05$). Specifically, wave one
577 social support was significantly associated with performance satisfaction at wave two
578 ($\beta = .40, p = .019$).

579 **Discussion**

580 Overall, Study 2 indicated mixed support for our hypotheses. In-line with
581 expectations, identity leadership at wave 1 was positively associated with self-efficacy at
582 wave 2 (H3), and this was mediated by relational (but not group, in simple or serial
583 mediation) identification at wave 2 (H4). Contrary to our expectations, identity leadership
584 was not associated with perceived control, approach goals or social support temporally (H3).

585 When group identification was added as the M1 variable, and relational identification as the
586 M2 variable, all indirect effects (i.e. through both group and relational identification) were
587 non-significant. Further, when assessing bi-directional relationships (e.g. self-efficacy at time
588 one predicting identity leadership at time two), all models were non-significant. With this
589 finding, the present research supports that perceptions of leadership serve as an antecedent to
590 the outcome, being athletes' resource appraisals. From this it can be argued that an
591 individual's appraisal of an event is based on feedback received from an individual's
592 subjective reality, inclusive of the leader (see Slater et al., 2018). In-line with our hypotheses,
593 perceived social support at the start of the season predicted greater performance satisfaction
594 at the end of the season (H5), but contrary to expectations, no other social factors or resource
595 appraisals did. Collectively, our findings evidence that sport coaches who are perceived to
596 display identity leadership at the start of the season are likely to positively influence athletes'
597 self-efficacy on approach to sporting competition at the end of the season. Further, the
598 association between identity leadership and self-efficacy is explained through a greater
599 relational connection with the coach.

600 **General Discussion**

601 The purpose of this programme of research was to examine the influence of athletes'
602 perceptions of sport coach's identity leadership on relational and group identification,
603 resource appraisals, and athletic performance. In sum, findings provided mixed support for
604 our hypotheses. In-line with H1, in Study 1, perceptions of coach identity leadership were
605 positively associated with athletes' self-efficacy, perceived control, approach goals, and
606 social support. In support of H2, relational and group identification (in this order) mediated
607 the positive association between identity leadership and self-efficacy, control, approach goals
608 and social support. Further, alone, group identification mediated the positive relationship
609 between identity leadership and self-efficacy, control and approach goals. In contrast to H2,

610 alone, relational identification did not significantly mediate the relationship between identity
611 leadership and all resource appraisals. Lastly, group identification did not significantly
612 mediate the positive relationship between identity leadership and social support. Overall,
613 identity leadership did not negatively associate with avoidance goals, nor was the relationship
614 mediated by relational nor group identification. In Study 2, supporting H3, perceptions of
615 coach's identity leadership at wave 1 were positively associated with athletes' self-efficacy
616 (but not control, approach goals, avoidance goals and social support) at wave 2. When
617 relational identification at wave 2 was included as a mediator, there was a positive
618 association between identity leadership at wave 1 and self-efficacy at wave 2 (H4). In
619 contrast to H4, in serial mediation models, relational and group identification at wave 2 did
620 not explain the relationship between identity leadership at wave 1 and resource appraisals at
621 wave 2. Further, when mediators were reversed (i.e., group identification placed before
622 relational identification), no significant indirect effects were identified. Thus, over time, a
623 strong relational identification with a leader did not, in turn, positively influence group
624 identification (Sluss & Ashforth, 2012), nor was a sense of relational identification inferred
625 from a follower's group identification (Steffens et al., 2014b). Regarding performance
626 satisfaction, supporting H5, perceptions of social support at the start of the season predicted
627 greater performance satisfaction at the end of the season. No other social factors or resource
628 appraisals at the start of the season predicted performance satisfaction at the end of the
629 season.

630 **Theoretical Contributions**

631 Overall, our two studies contribute to theory in three noteworthy ways. First,
632 extending leadership theory, across Study 1 and 2, broadly, we find evidence that perceptions
633 of coaches' identity leadership positively influenced athletes' resource appraisals towards
634 motivated performance situations as a result of a sense of connection with their coach and

635 sport team. One reason for this could be due to a sport coaches role in influencing athletes to
636 internalize their coach-athlete relationship as part of their self-concept (i.e., relational
637 identification), and this may have been the basis for athletes' attitude and behaviour,
638 mobilizing athletes to engage with the group they identify with, in turn appraising the
639 competition more adaptively (i.e., greater resources appraisals). Slater and colleagues (2018)
640 found similar results in that relational identification with a leader aided intentional
641 mobilization and resource appraisals. Extending Slater and colleagues' (2018) findings, our
642 research suggests that relational and group identification serve as mechanisms through which
643 identity leadership influences appraisals within an ecologically valid setting.

644 Second, Study 2 advances identity leadership theory by providing initial evidence
645 pointing to the temporal mechanisms behind sport team dynamics and athletes' stress
646 appraisals. We found that perceived identity leadership played a part in creating a strong
647 relationship between athlete and coach over time, in turn, predicting greater perceptions of
648 self-efficacy. That said, similar to Slater et al. (2018), we present inconsistent findings
649 regarding resource appraisals. A potential reason for this may be the meaning behind the
650 dyadic relationship (i.e., shared identity content; Slater, Coffee, Barker, Haslam, & Steffens,
651 2019), not explored in ours, nor Slater et al's (2018) study. The belief that a leader and
652 follower have similar ideas about the meaning of the group, such as being results-focused,
653 influences follower mobilization of efforts toward a performance task. As the leader and
654 followers share collective meaning (e.g., to approach tasks with confidence), dyadic
655 identification is likely to be endorsed, and thus psychological resources are likely to be
656 bolstered alongside enhanced mobilization (Slater et al., 2019). To this end, there is scope for
657 future research to identify whether shared identity content serves as the mechanism through
658 which resource appraisals are improved, and performance is enhanced.

659 Inconsistent with our first study, in Study 2, we found that identity leadership did not
660 contribute to creating a strong relationship between athlete and group over time, nor did
661 group identification predict elevated appraisals. Because perceived identity leadership
662 influenced relational identification, to then influence group identification in the serial
663 mediation models (Study 1), our evidence suggests that the emotional connection between
664 leader and athlete that was formed may supersede group identification, as per Sluss and
665 colleagues' (2012) propositions. In other words, self-efficacy may form as a result of
666 relational identification rather than group identification. In sum, evidence from Study 2
667 indicates that it is pivotal within competitive sport that sport coaches make every effort to
668 display identity leadership consistently across athletic seasons in order to retain and develop
669 relational identification, which in turn enhances perceptions of efficacy in their athletes. It
670 may be so that a leader's influence is bolstered as a result of a dyadic connection, (see Slater
671 et al., 2018) thus persuasion to engage in activities may be endorsed by a follower, improving
672 efficacy over time (Maddux, & Gosselin, 2003).

673 Third, broadly, the findings from Study 1 and 2, reflecting two independent samples of
674 athletes, show that identity leadership and identification (with a leader and group) influences
675 athletes' self-efficacy, perceived control, approach goals, and social support, indicating
676 support for the propositions within the TCTSA-R (Meijen et al., 2020). Our research points to
677 social antecedents of stress appraisals, such as perceptions of leadership. Particularly, we
678 evidence that identity leadership may serve as a dispositional factor within the stress process,
679 influencing the transaction between the environment and the stress response. It is important
680 for an athlete to perceive that support is available from those who they share a strong
681 connection with (i.e., a leader or group) to in turn use opportunities for support in anticipating
682 motivated performance situations. This is particularly noteworthy given that leadership and
683 other social factors (e.g., number of positive group memberships) have been found to be vital

684 in other approaches to health/stress (e.g., the social cure; Haslam et al., 2018). Thus, our
685 findings support the notion of social resources, in that resources (friends; memberships in
686 clubs and organizations) have been found to attenuate stressful situations (Billings & Moos,
687 1981). In turn, these social resources predict greater overall performances as a result of
688 collective supportive climates (Peñalver et al., 2019), which are products of leadership (Zhu
689 et al., 2015). To this tune, our findings add to initial conceptualizations (Slater et al., 2016)
690 and evidence (Slater et al., 2018) that identity-based leadership serves as a significant
691 antecedent to resource appraisals on approach to motivated performance situations (Meijen et
692 al., 2020). Specifically, athletes believing that their coach shows identity leadership
693 behaviours is likely to be associated with greater self-efficacy, perceived control, approach
694 goals and perceived support cross sectionally (Study 1), and self-efficacy over time (Study 2).

695 As evidenced, some inconsistencies were found across our studies. In Study 1, group
696 identification, cross-sectionally, influenced the process through which perceived coach
697 identity leadership influenced athlete resource appraisals. Further, we found that perceptions
698 of identity leadership positively influenced relational identification, in turn, positively
699 influencing group identification and resource appraisals (excluding avoidance). However, in
700 Study 2, longitudinally, only relational identification (not group identification) proved
701 influential in the process through which perceptions of identity leadership at the start of the
702 season influenced resource appraisals at the end of the season (i.e., only self-efficacy).
703 Because our findings point to a relationship between perceptions of identity leadership and
704 psychological appraisals over time, practically, identity leadership interventions such as the
705 3R's (Haslam et al., 2011) may prove pivotal in improving athletes' competitive appraisals
706 and performance satisfaction. By this, leaders should aim to understand the social identities
707 within a group (i.e., *reflect*), act in line with group expectations and norms (i.e., *represent*),
708 and help set structures to achieve group goals (i.e., *realize*). In doing this, identification (i.e.

709 relational and group) is likely to be enhanced (Haslam et al., 2011), and competitive
710 appraisals and performance satisfaction improved. In response to Slater et al. (2018) and
711 Nicholls et al.'s (2012) calls, our data adds to previous findings, identifying that there are
712 psychological consequences of identity leadership (Study 1) over time (Study 2), and that
713 performance satisfaction can be influenced by social support across an athletic season (Study
714 2). Indeed, practically speaking, given the positive influence of social support at wave 1
715 predicting performance satisfaction at wave 2, we recommend that at the start of athletic
716 seasons, coaches and sport psychologists should look to develop social support interventions
717 (e.g., proactively during pre-season).

718 **Limitations and Future Research Directions**

719 Our studies are not without limitations. First, in both studies, we did not measure
720 athletes' appraisals of the event in the few seconds immediately before the event started due
721 to ethical reasons (Tenenbaum et al., 2002). Evidence has indicated that appraisals are fluid
722 (Blascovich & Mendes, 2000; Chadha et al., 2019), and thus, it is plausible that the appraisals
723 athletes reported an hour before the competition changed in the imminent seconds before the
724 start. Though we know reappraisal happens in the moments before competition, we captured
725 data as close to competition as feasible. Second, we based our research on stress theory
726 (Jones et al., 2009), but the polychotomous propositions of the TCTSA-R were not included
727 in this research (Meijen et al., 2020). By this without measuring Lazarusian appraisals of
728 motivational relevance (i.e., the intensity of the competitive stress response) and goal
729 congruence (i.e., the pursuit of goals that align with goals that the group intend to achieve;
730 Lazarus & Folkman, 1984), it was not possible to test the TCTSA-R in this study (Meijen et
731 al., 2020). There is merit in future studies identifying whether physiological reactivity to
732 stressful situations can be influenced by identity leadership and identification variables over
733 time, as well as researchers developing measurement tools that align with the TCTSA-R

734 (Meijen et al., 2020). Speaking of measurement, there has been evidence that single item
735 measures (i.e. AGQ; Conroy et al., 2003; Turner et al., 2012), compared to full-length scales,
736 may not be sufficient indicators of a construct, reducing reliability (Hays et al., 2012).
737 Although this is the case, the used scales have proven valid in measuring resource appraisals
738 (Slater et al., 2018; Turner et al., 2013). Although study 2 measured intraindividual
739 associations over time, there was a gender imbalance, and thus it may be beneficial for future
740 research to incorporate stratified sampling techniques ensure a gender balance (e.g. Fransen
741 et al., 2015). Those who took part in the study Finally, regarding performance, other pertinent
742 markers were not considered. Future research may benefit in taking a holistic perspective
743 when measuring performance, such as individual-objective (i.e., km ran, percentage pass
744 completion) parameters.

745 **Conclusion**

746 In the present research we examined whether the perceptions of sport coach's identity
747 leadership predicted athletes' resource appraisals cross-sectionally (Study 1) and
748 longitudinally (Study 2), and whether these relationships were explained by relational and
749 group identification. We also explored the influence of identity leadership on performance
750 satisfaction across a season (Study 2). Broadly, we find evidence that perceptions of identity
751 leadership influenced athletes' self-efficacy, perceived control, approach goals and perceived
752 support, through identification with both the coach and the team (Study 1). In addition, we
753 identified that perceptions of identity leadership at the start of a season was associated with
754 athletes' self-efficacy at the end of the season through relational (but not group) identification
755 (Study 2). Additionally, receiving social support at the start of the season positively predicted
756 increased performance satisfaction at the end of the season. These findings stimulate the need
757 for sport coaches to understand both: (1) the importance of displaying identity leadership
758 behaviours for their athletes' resource appraisals and performance satisfaction, and 2) how

759 relational and group identification may be key mechanisms through which resource
760 appraisals are optimized.

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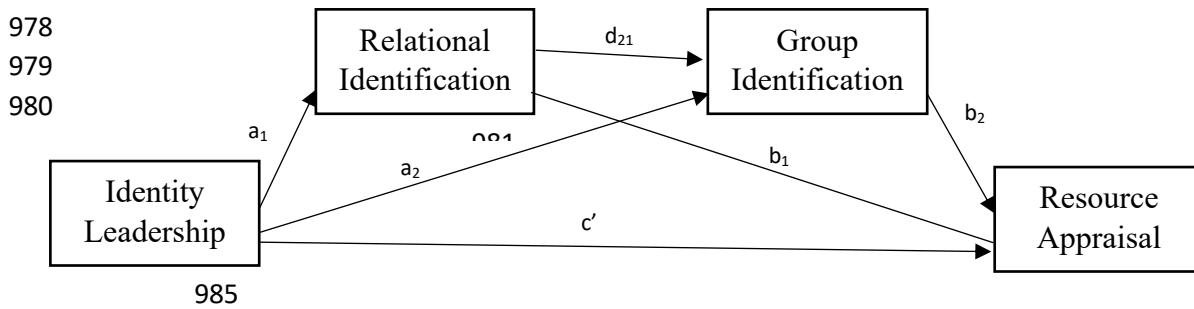
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976 **Figure 1**

977 Serial multiple mediation model with two mediators within study 1.



986 Notes: X—Independent variable; Y—Dependent. Variable; M1, M2—Mediators. a_1 , a_2 , b_1 ,
 987 b_2 , d_{21} , c' —Regression coefficients.

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Table 1

Study 1 Scale Reliabilities, Descriptive Statistics and Inter-correlations

	Mean +/- SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Prototypical	5.08 +/- 1.32	.92											
2. Advancement	5.16 +/- 1.27	.87*	.88										
3. Entrepreneurship	4.71 +/- 1.53	.79*	.74*	.93									
4. Impresarioship	4.69 +/- 1.53	.71*	.71*	.83*	.91								
5. Global Identity Leadership	4.92 +/- 1.27	.91*	.90*	.93*	.90*	.97							
6. Relational Identification	5.16 +/- 1.45	.76*	.72*	.73*	.67*	.79*	.89						
7. Group Identification	5.61 +/- 1.09	.50*	.48*	.49*	.46*	.53*	.56*	.86					
8. Self-efficacy	3.95 +/- .86	.45*	.44*	.41*	.40*	.47*	.45*	.48*	.76				
9. Control	4.16 +/- .79	.44*	.42*	.40*	.40*	.46*	.41*	.47*	.59*	---			
10. Approach	5.62 +/- 1.12	.41*	.41*	.31*	.30*	.39*	.37*	.37*	.50*	.42*	---		
11. Avoidance	4.45 +/- 1.56	.08	.11*	.04	.07	.08	.03	-.01	.02	-.01	.42*	---	
12. Overall Support	4.13 +/- 1.26	.45*	.44*	.51*	.47*	.51*	.46*	.36*	.34*	.39*	.26*	.13*	.96

Note: $p \leq .05^{**}$, $p \leq .01^*$

Table 2

Summary of Total, Direct and Indirect Effects Study 1

	Self-Efficacy	Control	Approach	Avoidance	Social Support
Total Effect	$\beta = .21^*$	$\beta = .23^*$	$\beta = .24^*$	$\beta = .04$	$\beta = .41^*$
Direct Effect	$\beta = .15^*$	$\beta = .18^*$	$\beta = .18^*$	$\beta = .06$	$\beta = .38^*$
Relational Identification	$\beta = .06$	$\beta = .003$	$\beta = .06$	$\beta = -.04$	$\beta = .08$
Group Identification	$\beta = .05^*$	$\beta = .05^*$	$\beta = .05^*$	$\beta = -.02$	$\beta = .02$
Relational*Group Identification	$\beta = .06^*$	$\beta = .06^*$	$\beta = .05^*$	$\beta = -.02$	$\beta = .03^*$
Group*Relational Identification	$\beta = .008$	$\beta \leq .001$	$\beta = .008$	$\beta = -.005$	$\beta = .01$

Note: $p \leq .05^*$, Relational*Group Identification = Relational identification as mediator 1, and group identification as mediator 2. Group*Relational Identification = Group identification as mediator 1, and relational identification as mediator 2.

Running head: IDENTITY LEADERSHIP, APPRAISALS, AND PERFORMANCE

Table 3

Study 2 Pearson's correlations coefficients (r) between the variables across timepoints

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Prototypical	-	.86*	.80*	.76*	.93*	.70*	.39*	.58*	.44*	.50*	18**	.48*	.46*	.39*	.32*	.45*	.27*	.10
2. Advancement	.88*	-	.79*	.74*	.93*	.69*	.40*	.65*	.40*	.52*	.17**	.48*	.46*	.34*	.32*	.44*	.23*	.08
3. Entrepreneur	.74*	.66*	-	.84*	.93*	.68*	.39*	.65*	.46*	.48*	.17**	.47*	.46*	.40*	.38*	.47*	.24*	-.00
4. Embedder	.62*	.63*	.79*	-	.89*	.61*	.34*	.60*	.41*	.46*	.21**	.46*	.43*	.38*	.36*	.45*	.29*	.04
5. Global identity leadership	.92*	.89*	.90*	.84*	-	.74*	.43*	.68*	.46*	.54*	.19**	.51*	.49*	.41*	.38*	.49*	.28*	.06
6. Relational Identification	.84*	.77*	.78*	.72*	.88*	-	.64*	.57*	.45*	.48*	-.02	.37*	.35*	.25*	.20**	.32*	.27*	.11
7. Group Identification	.42*	.43*	.46*	.44*	.51*	.54*	-	.41*	.31*	.47*	-.14	.23*	.18*	.03	.01	.12	.16	.16
8. Self-efficacy	.47*	.43*	.43*	.40*	.50*	.43*	.45*	-	.51*	.53*	.20**	.40*	.38*	.26*	.18**	.32*	.27*	.16
9. Control	.51*	.41*	.34*	.31*	.46*	.46*	.43*	.65*	-	.53*	.07	.40*	.39*	.20**	.16	.30*	.19**	.07
10. Approach	.46*	.45*	.36*	.33*	.46*	.36*	.43*	.54*	.58*	-	.23*	.43*	.36*	.28*	.26*	.35*	.21**	.19**
11. Avoidance	.36*	.30*	.38*	.28*	.38*	.26*	.29*	.40*	.40*	.71*	-	.21**	.08	.21**	.22*	.19**	.15	.06
12. Emotional	.46*	.36*	.46*	.40*	.49*	.47*	.41*	.49*	.56*	.53*	.46*	-	.87*	.74*	.62*	.87*	.24*	.11
13. Esteem	.42*	.32*	.51*	.42*	.48*	.44*	.4*	.47*	.51*	.47*	.47*	.87*	-	.77*	.68*	.91*	.25*	.09
14. Informational	.31*	.29*	.44*	.36*	.40*	.38*	.27*	.25*	.35*	.22*	.34*	.62*	.66*	-	.72*	.90*	.24*	.08
15. Tangible	.25*	.24*	.36*	.28*	.33*	.31*	.16	.17*	.23*	.04	.22**	.43*	.47*	.74*	-	.87*	.11	.02
16. Overall Support	.42*	.35*	.52*	.43*	.49*	.47*	.36*	.40*	.47*	.34*	.42*	.83*	.86*	.90*	.81*	-	.24*	.06
17. Performance Satisfaction	.24*	.21*	.13	.20**	.23*	.30*	.18**	.19**	.21**	.26*	.16	.21**	.20**	.18**	.05	.18**	-	.03

Note: Wave 1 correlations are below the diagonal, and wave 2 correlations are above the diagonal, $p \leq .05^{**}$, $p < .01^*$

Table 4

Summary of Total, Direct and Indirect Effects Study 2

	Self-Efficacy	Control	Approach	Avoidance	Social Support
Total Effect	$\beta = .11^*$	$\beta = -.001$	$\beta = .06$	$\beta = .07$	$\beta = .02$
Direct Effect	$\beta = .10^*$	$\beta = -.002$	$\beta = -.01$	$\beta = .10$	$\beta = .03$
Relational Identification	$\beta = .10^*$	$\beta = .11^*$	$\beta = .03$	$\beta = .03$	$\beta = .06^*$
Group Identification	$\beta = -.01$	$\beta = -.001$	$\beta = -.08$	$\beta = .04$	$\beta = .02$
Relational*Group Identification	$\beta = .01$	$\beta = .001$	$\beta = .07^*$	$\beta = -.03$	$\beta = -.01$
Group*Relational Identification	$\beta = -.02$	$\beta = -.02$	$\beta = -.004$	$\beta = -.004$	$\beta = -.01$

Note: $p \leq .05^*$, Relational*Group Identification = Relational identification at wave two as mediator 1, and group identification at wave two as mediator 2. Group*Relational Identification = Group identification at wave two as mediator 1, and relational identification at wave two as mediator 2.