

A RANDOMIZED CONTROL TRIAL OF THE 5R^S PROGRAM

1 **Harnessing the power of ‘us’: A randomized wait-list controlled trial of the 5R Shared**
2 **Leadership Development Program (5R^S) in basketball teams**

3
4
5

6 Niels Mertens^a, Filip Boen^a, Niklas K. Steffens^b, S. Alexander Haslam^b, Mark Bruner^c, Jamie
7 B. Barker^d, Matthew J. Slater^e, & Katrien Fransen^a

8
9

Initial submission: 03/08/2020

10 Major review: received on 21/11/2020; resubmitted on 04/02/2021

11 Minor review: received on 05/03/2021; resubmitted on 09/03/2021

12 Accepted: 11/03/2021

13

14 Author Note: ^a Department of Movement Sciences, KU Leuven, Tervuursevest 101, box 1500,
15 3001 Leuven, Belgium; ^b School of Psychology, University of Queensland, St Lucia, QLD
16 4072, Australia; ^c School of Physical and Health Education, Nipissing University, North Bay,
17 ON P1B 8L7, Canada; ^d School of Sport, Exercise, and Health Sciences, Loughborough
18 University, Leicestershire, LE11 3TU, UK; ^e School of Life Sciences and Education,
19 Staffordshire University, Stoke-on-Trent, ST4 2DF, UK.

20

21 Correspondence concerning this article should be addressed: Niels Mertens, Department of
22 Movement Sciences, KU Leuven, Tervuursevest 101, box 1500, 3001 Leuven (Belgium),
23 Telephone: +32 16 328874, Fax: +32 16 329196, E-mail: Niels.Mertens@kuleuven.be

24

25

26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

Abstract

High-quality leadership has been established as a key factor driving a team's competitive advantage. Besides the role of the coach, recent research has emphasized the importance of leadership provided by athletes within a team (i.e., athlete leaders). To unlock the potential benefits of athlete leadership, the development of leaders is therefore essential. The 5R Shared Leadership Program (5R^S) aims to identify promising leaders within a team, on different athlete leadership roles, both on and off the field. After the appointment of the leaders, their identity leadership skills to build and strengthen a sense of 'we' and 'us' are further developed. The design of the present research consisted of a randomized wait-list controlled trial to test the effectiveness of a train-the-trainer approach to develop shared leadership within teams (i.e., 5R^S). We tracked 16 competitive basketball teams throughout a competitive season. While eight teams (four female and four male teams) received 5R^S during the first half of the season (i.e., experimental condition), the other eight teams received 5R^S during the second half of the season (i.e., wait-list control condition). Our findings highlight 5R^S's capacity to develop athlete leaders' ability to create a shared sense of 'us', build a stronger team identification, enhance the available social support in the team, help players to remain motivated and confident in their team's abilities, and nurture players' health. Moreover, 5R^S appeared to achieve this impact by using a train-the-trainer approach, regardless of whether the intervention was delivered during the first or second half of the season, and with generally consistent findings amongst male and female teams. The present study both advances the current field on in-group leadership development, and provides practitioners with guidance on how and when to apply 5R^S with the aim of improving team functioning and athletes' health.

Keywords: Athlete leadership; Peer leadership; Identity leadership; Social Identity;

Leadership development; Team functioning

51 **Introduction**

52 As leadership is one of the most studied topics in the social sciences (Antonakis et al.,
53 2004), it is no surprise that leadership has also been researched extensively in sports. Here,
54 research has shown that high-quality leadership constitutes an important driver of a team's
55 competitive advantage (e.g., De Backer et al., 2011; Hampson & Jowett, 2012; Van
56 Puyenbroeck et al., 2018). While the majority of research on sports leadership has focused on
57 the roles and impact of the coach on the team (Cotterill, 2012), during the last decade,
58 researchers have also established the importance of leadership by athletes within a team (for a
59 review, see Cotterill & Fransen, 2016).

60 **Athlete Leadership**

61 Defined by Loughhead et al. (2006, p. 144) as “athletes occupying a formal or informal
62 leadership role influencing team members towards a common goal”, athlete leaders can take
63 many forms. While formal athlete leaders are those players who are officially appointed in a
64 leadership role (e.g., as the team captain), informal athlete leaders are players emerging as
65 leaders through interactions with their teammates, even though their leadership status is not
66 formally recognized (Cotterill, 2012).

67 Besides this distinction based on formal (vs. informal) status, athlete leaders can also
68 be categorized according to the different roles that they occupy. Fransen et al. (2014b)
69 identified four distinct athlete leadership roles; the *task leader* who provides tactical and
70 technical advice; the *motivational leader* who encourages teammates; the *social leader* who
71 promotes a positive team atmosphere; and the *external leader* who represents the team **outside**
72 **of the immediate sporting environment** (e.g., club management, media, sponsors). Previous
73 researchers have suggested that in teams in which these four leadership roles are fulfilled,
74 team members identify more strongly with their team, are more motivated, and have more
75 confidence in their team's abilities, in ways that ultimately lead to better performance
76 (Cotterill & Fransen, 2016; Fransen et al., 2015c; 2014b). Furthermore, previous researchers

77 have demonstrated that teams with high-quality athlete leaders are characterized by the
78 following aspects: a stronger task-involving climate (in which athletes cooperate to master the
79 task at hand), a weaker ego-involving climate (in which athletes try to outperform other team
80 members), a psychologically safe environment, improved team work and team resilience
81 (Fransen et al., 2020b), and ultimately a better team performance (Fletcher & Arnold, 2011;
82 Fransen et al., 2016a; 2017).

83 **Identity Leadership**

84 What is it that enables leaders to provide high-quality leadership? The Social Identity
85 Approach to Leadership (Haslam et al., 2011; Tajfel & Turner, 1979) posits that leaders are
86 effective to the extent that they are able to create a social identity — a shared sense of ‘us’ —
87 in their team. This social identity reflects an individual’s sense of internalized group
88 membership. Specifically, this is a sense of self based on an awareness of membership to a
89 particular group, and the meaning that people attach to this membership (Tajfel, 1972). For
90 example, in the context of team sports, athletes or fans may derive a social identity from their
91 membership of a particular club or team (e.g., ‘as us Toronto Raptors players’ or ‘us, Real
92 Madrid supporters’). The principles of the social identity approach suggest that by perceiving
93 oneself and others in terms of a shared social identity (i.e., as ‘us, team members’), a person’s
94 cognitions, emotions, and behaviors will align with the values, norms, ideals, and goals of the
95 group.

96 This social identity, conceptualized as a shared sense of ‘us’, is central to mutual
97 influence processes that lie at the heart of effective leadership (Haslam et al., 2011). More
98 specifically, leadership is seen to be predicated upon a relationship between leaders and
99 followers as members of a social group. As a result, leaders and followers are bound together
100 by a common “we” or, in other words, by a social identity. The application of the social
101 identity approach to leadership therefore posits that, if leaders can create, embody, advance,
102 and embed a shared sense of ‘us’ in their teams, their ability to motivate others to work

103 towards our collective will improve substantially (Haslam et al., 2011; Steffens et al., 2014a).
104 This claim has been supported by a growing number of studies across a wide range of
105 contexts, which emphasize how identity leadership makes a real difference to the functioning
106 of teams and the athletes within them (e.g., performance, team work, team resilience, and
107 health: Fransen et al., 2020b; exercise group attendance: Steffens et al., 2019; sport
108 participation: Stevens & Cruwys, 2020).

109 **The 5R Shared Leadership Program**

110 Based on the above research, it can be concluded that an effective athlete leadership
111 development program should not only be able to identify the best leaders on different athlete
112 leadership roles, but should also ensure a further development of their identity leadership
113 skills. The recently developed 5R Shared Leadership Program (5R^S) aims to fulfill precisely
114 those needs (Fransen et al., 2020a). First, by using *Shared Leadership Mapping*, 5R^S identifies
115 which players within a team are perceived by the team as best suited for each leadership role
116 (i.e., task, social, motivational, external). This first step involves using social network analysis
117 to identify those team members who are consensually seen as already providing the best
118 leadership on a specific athlete leadership role. As a means to capture the entire leadership
119 structure in a team, social network analyses in the form of a Shared Leadership Mapping
120 procedure is then used to identify the best perceived athlete leaders within the team,
121 regardless of whether they are formally recognized as the team captain (Fransen et al., 2015b).
122 Shared Leadership Mapping achieves this by placing the group at the center of its analysis,
123 resulting in a network in which team members who appear to be most central are consensually
124 perceived as the ‘best’ leaders by their team members. An important aspect of this process is
125 the fact that it is grounded in the perceptions of team members, rather than those of coaches
126 (Fransen et al., 2020a), thus reflecting a bottom-up, rather than a top-down process. In this
127 way, Shared Leadership Mapping ensures that these newly appointed leaders have a
128 legitimate support base to maximize their effectiveness.

129 Second, after using the information gained from the Shared Leadership Mapping
130 procedure to identify and appoint the athlete leaders on each leadership role, 5R^S then seeks to
131 develop those leaders' identity leadership skills by taking the whole team through five
132 different phases; Ready, Reflecting, Realizing, Representing, and Reporting. We will
133 describe the aim of each of these phases in our Methods section, and how the present study
134 implemented these phases. Furthermore, each of these phases is described in detail by Fransen
135 et al. (2020a).

136 **Previous tests of 5R^S**

137 An initial examination of leadership development that focusses on building identity
138 leadership can be found in an intervention by Slater and Barker (2018). The researchers
139 investigated a partial implementation of 5R^S in an elite disability soccer team, where they
140 established a leadership team consisting of three staff members and four athletes. However,
141 the leadership team in the intervention was not identified by Shared Leadership Mapping, but
142 instead chosen by staff members. Furthermore, the researchers designed an intervention based
143 on only the three middle stages of the program (i.e., Reflecting, Representing, and Realizing).
144 Their results indicated that helping team leaders to build their skills to nurture a sense of 'us'
145 positively impacted athletes' identification with their team and the number of practice hours
146 they completed away from training camps. However, their sample consisted of only one team,
147 and no control group, limiting the generalizability of their findings.

148 Building and improving upon this work by Slater and Barker (2018), Mertens et al.
149 (2020) conducted the first experimental test of the effectiveness of 5R^S in basketball teams,
150 demonstrating the program's ability to strengthen the capacity of athlete leaders to improve
151 teammates' identification with their team, thereby helping them to remain motivated and
152 committed to the team goals and improving their well-being. It should be noted, though, that
153 this initial test had several limitations that limit the inferences that can be drawn. First, and
154 most importantly, the participant recruitment might have been subject to self-selection bias as

155 the researchers assigned the teams to either the experimental or control group based on
156 coaches' willingness to participate in 5R^S. As such, the intervention was conducted with
157 coaches who were more open to the ideas of shared leadership and social identity principles
158 (and perhaps already used them in practice). By contrast, coaches of the control condition had
159 not expressed an interest in these concepts. A second limitation of this initial test was that the
160 sample consisted only of male teams, providing no insight into whether female teams would
161 also benefit from 5R^S. Third, data collection was limited to the second half of a competitive
162 season, and so we do not know whether 5R^S would also be successful when conducted in the
163 first half of the season. A final limitation was that, the intervention was provided by a
164 research confederate with a strong theoretical background in areas fundamental to the
165 program. Thus, this initial study does not answer the question of whether 5R^S can also be
166 delivered by coaches and sport psychologists with less theoretical knowledge of the
167 program's core concepts — a question that is important to determine the program's
168 applicability and suitability for train-the-train approaches. Accordingly, in our present work,
169 we sought to address these four limitations.

170 **The Present Research**

171 The main aim of our study was to test the effectiveness of the 5R Shared Leadership
172 Program (5R^S). More specifically, our study aims to advance our understanding of the
173 effectiveness of 5R^S by using an experimental randomized wait-list control trial that can
174 resolve the issues discussed above. First, our study makes use of a wait-list control condition,
175 which enables us to include a homogeneous sample across experimental and control condition
176 consisting of only teams whose coaches explicitly agreed to participate in the complete 5R^S
177 program. These teams were then randomly allocated to either the intervention group or the
178 wait-list control group, with the latter group following the intervention in the second half of
179 the season. Second, we included an equal number of female and male teams to allow
180 comparison across gender. Third, we conducted the intervention both in the first half of the

181 season (i.e., intervention group) and in the second half of the season (waitlist-control group).
182 In addition to overcoming the limitations of the previous researchers, we investigated whether
183 delivering 5R^S successfully is something which can be facilitated using a train-the-trainer
184 approach.

185 *Main aims*

186 **Testing the Effectiveness of the 5R^S program.** Based on previous research (e.g.,
187 Fransen et al., 2020a; Mertens et al., 2020; Slater & Barker, 2018), we expected participation
188 in 5R^S to have a beneficial effect on a range of processes and outcomes during the first half of
189 the season (T1 – T2). Specifically, we expected the identity leadership skills of athlete leaders
190 to improve significantly as a result of participating in 5R^S, compared to a wait-list control
191 group (H1a). Furthermore, we expected 5R^S to positively affect players' team identification
192 (H1b), social support (H1c), intrinsic motivation (H1d), goal commitment (H1e), confidence
193 in their team's abilities (H1f), and their perception of their team's performance (H1g),
194 compared to players in the wait-list control group. Finally, we expected players to report
195 decreased feelings of burnout (H1h) and improved perceived health (H1i) after participating
196 in 5R^S, compared to a wait-list control group.

197 **Gender Differences.** Previous researchers have suggested that gender dynamics might
198 influence the impact of leadership development programs in an organizational context (Ely et
199 al., 2011). Moreover, gender has been shown to influence the perceived impact of athlete
200 leaders on their team's emotional state (Cotterill et al., 2020). Therefore, our second aim was
201 to explore whether (or not) the effects of participation in 5R^S are gender-specific.

202 *Exploratory aims*

203 Besides the core aims, our study explored two additional research questions, namely;
204 the long-term effectiveness of the intervention (Research Question 3); and the effect that
205 timing (i.e., first vs. second half of the season) has on the examined outcomes (Research
206 Question 4). Since the waitlist-control group received an intervention in the second half of the

207 season, we conducted an exploratory analysis of these aims by using the T1 – T2 timeframe of
208 the waitlist-control group as control group for these analyses.

209 More specifically, with respect to our third aim, we sought to explore the *long-term*
210 *effectiveness of the 5R^S program* that was completed during the first half of the competitive
211 season. We set out to explore this research question by comparing changes during the second
212 half of the season among participants in the experimental group (who thus received 5R^S in the
213 first half of the competitive season) in the aforementioned outcomes (H1) with changes
214 among participants in the wait-list control group (T1 – T2). In practical terms, this exploration
215 boils down to comparing the changes **during the second half of the season** in outcomes of a
216 group who received 5R^S **earlier in the season (i.e., the first half)**, with a group who did not yet
217 receive any form of 5R^S, thus allowing for an exploratory view of the long term-effects.

218 With respect to our fourth aim, we sought to explore *the effectiveness of the 5R^S*
219 *program that **was** completed during the second half of the competitive season* (as opposed to
220 the 5R^S program that was completed during the first half of the competitive season in H1).
221 More specifically, we compared the changes in the aforementioned outcomes (H1) among
222 participants completing 5R^S during the second half of the competitive season with changes
223 among participants in the wait-list control group (T1 – T2). In practical terms, this second
224 exploration results in a comparison of the changes in outcomes of a group who received 5R^S
225 in the second season-half, with a group who did not yet receive any form of 5R^S.

226 **Methods**

227 **Procedure**

228 An a-priori power analysis using Gpower 3 (Faul et al., 2007), based on the results of
229 a previous study with a similar experimental design (Fransen et al., 2018), indicated that 84
230 participants would be sufficient to detect a significant (condition X time) interaction effect
231 with a power of .96 and an alpha of .05. Given that we aimed to perform interaction analyses
232 for male and female teams separately, and given that in previous work researchers were able

233 to recruit an average of 12 participants per team, we decided to include 16 teams (i.e., eight
234 male and eight female teams). To obtain this number of teams, we contacted 28 head coaches
235 of both male and female competitive basketball teams (i.e., a response rate of 57%). The main
236 reason for non-participation was a perceived lack of time to complete the data collection and
237 the intervention.

238 The 16 teams whose coaches agreed to participate were randomly assigned to one of
239 two groups (both consisting of eight teams, four male and four female): the experimental
240 group (who completed the intervention at the start of the season) and a wait-list control group
241 (who completed the intervention at the start of the second half of the season). The 170 players
242 of the 16 teams whose coach agreed to participate were asked individually whether they
243 agreed to participate. All players agreed to do so and completed a consent form. The research
244 was approved by the ethical committee of the first author's university (G- 2017 11 996).

245 **Participants**

246 The players ($N = 170$) were on average 24.98 years old ($SD = 6.93$) and had played for
247 8.42 years ($SD = 6.84$) for their current team. Figure 1 contains an overview of the obtained
248 full data sets and relevant response rate for each time point. Across the duration of the study,
249 we were able to collect full data sets for 131 players in the first half of the season, 85 players
250 in the second half of the season, and 81 players over the entire season. The main reasons for
251 dropout were a mid-season coach replacement (i.e., one team changed their coach before T2,
252 three teams changed their coach before T3) and players who were not present at the point of
253 assessment (i.e., due to an injury, sickness, or personal reasons). Team sizes ranged from 9 to
254 18 players ($M = 12.19$, $SD = 2.74$). All teams were competitively active in the region of
255 Flanders, Belgium, and are considered to be 'semi-elite' according to the categorization by
256 Swann et al. (2015).

257 **Design**

258 We adopted a randomized wait-list control design and gathered data by administering
259 questionnaires at three time points (see Figure 1 for an overview). With respect to the content
260 of 5R^S, consistent with the program description provided by Fransen et al. (2020a), we
261 implemented three workshops which each took about 90 minutes: Readyng and Reflecting
262 (Workshop 1); Representing and Realizing (Workshop 2); and Reporting (Workshop 3).

263 Depending on the availability of the teams and their training schedule, we attempted to
264 deliver the first two workshops within a two-week time frame. All workshops were provided
265 by two research assistants (one male, one female) who are also licensed basketball coaches.
266 For clarity, we will refer to these research assistants as ‘trainers’ throughout the manuscript.
267 These two trainers were taught how to conduct the workshops by the first author of the study
268 who had a strong theoretical background in the literature that informs the 5R^S program and
269 previous practical experience in conducting 5R^S. More specifically, both trainers first
270 observed two 5R^S interventions delivered by the first author. Next, the first author taught the
271 two trainers every step of the 5R^S intervention, explaining the theoretical background and
272 ensuring that both understood the specific aim of every step. After both trainers were
273 confident in their understanding of 5R^S, they each delivered three practice sessions of 5R^S to
274 the respective other trainer and first author, who gave feedback to both trainers in order to
275 standardize and optimize how they delivered 5R^S.

276 During the first workshop, the trainer guided the team through the first two phases of
277 5R^S (i.e., Readyng and Reflecting). This workshop informed team members about the
278 importance and benefits of a shared identity, and provided practical exercises to discover their
279 own team’s shared identity by creating their personal ‘trademark’. This trademark is an idea
280 or visualization that encompasses all the team’s norms and values. As an example, one team
281 created the trademark of an anthill. This visualization emerged from the combination of
282 values they associated with ants (perseverance, teamwork, work ethic, etc.) with a play on

283 words from basketball jargon (“and one”^a). At the end of this first workshop, we then sought
284 to implement a structure of shared leadership. This leadership structure was based on the
285 results of the earlier conducted Shared Leadership Mapping, based on the data of the first
286 questionnaire. More specifically, players were asked to assess every team member’s
287 leadership quality in four leadership roles (i.e., task, motivational, social, and external leader)
288 on an 11-point Likert scale ranging between 0 (*very bad leader*) and 10 (*very good leader*).
289 Using this approach, we constructed four leadership networks for each team, one for each
290 leadership role. Using social network analyses according to the guidelines of Borgatti et al.
291 (2013), we computed the indegree centrality of each team member. This procedure resulted in
292 a measure that reflected the leadership quality of each individual team members as perceived
293 by other team members. Based on this information, we formally appointed the two best
294 perceived leaders in their respective role. This number of two leaders in each role was
295 suggested by Leo et al. (2019) to be the optimal number of athlete leaders. These authors also
296 revealed how teams without formal athlete leaders display poorer performance than teams in
297 which leadership is shared, highlighting the importance of leadership appointment. When
298 appointing athlete leaders, we allowed for an overlap between two leadership roles for each
299 individual team member (e.g., a player could both be a task leader and a motivational leader).
300 However, to ensure that leadership roles would be reasonably spread out across team
301 members, we opted to appoint no more than two leadership roles for any given player, even if
302 this team members was perceived as a good leader on a third additional role. This resulted in a
303 ‘leadership team’ for each team that ranged between 4 and 6 leaders (4.88 on average), out of
304 a maximum of eight ‘leadership positions’. Overall, 64% of all appointed leaders took up two
305 leadership roles, while 36% of all appointed leaders took up one leadership role.

^a An “and one” is a term used in basketball when an athlete makes a basket for two points while being fouled and is awarded a free throw for another possible point

306 During the second workshop (i.e., the Representing and Realizing phase), the team
307 was challenged to set goals to embed their team identity. The team was asked to identify task,
308 motivational, social, and external goals and develop strategies to reach those goals (e.g., to
309 improve on-field communication in defensive positions as a task goal, to organize an event for
310 sponsors as external goal). During this second workshop, the team's athlete leaders were
311 asked to take the lead in coordinating the process with respect to the goals related to their
312 leadership roles (e.g., task leaders coordinating the process on task-related goals). In this way,
313 the athlete leaders were taught hands-on how to practice identity leadership relevant to their
314 role.

315 The third and final workshop of the 5R^S Program (i.e., Reporting) aimed to evaluate
316 the progress towards the identified goals. Specifically, under the guidance of the respective
317 appointed athlete leaders, the team discussed whether they achieved their task, motivational,
318 social, and external goals, and to what extent the adopted strategies were effective. To provide
319 teams with enough time to obtain their identified goals, we conducted this workshop three
320 months after the previous phases and combined it with the post-intervention data collection.
321 For more detailed information about the underlying theory and content of 5R^S, we refer to the
322 conceptual outline by Fransen et al. (2020a).

323 **Measures**

324 For all constructs measured in this study (with exception of the health and
325 performance measures), participants rated their agreement with the listed statements, unless
326 indicated otherwise, on scales ranging from 1 (*completely disagree*) to 7 (*completely agree*).
327 We treated all included measures as unidimensional scales, and the Cronbach's alphas (α) and
328 McDonald's coefficient omega (ω) of each of the scales are reported in Table 1 on the
329 diagonal.

330 ***Manipulation check***

331 As an additional controlling measure to test for any differences in the quality of either
332 trainer, we allowed players to anonymously provide feedback on their experience of 5R^S after
333 the second workshop. This was done through a structured questionnaire, containing four
334 identical items for the first and second workshop (e.g., “I think this first workshop was
335 useful”; see Supplementary File A).

336 Furthermore, we included nine items specifically gauging whether participants
337 experienced the processes which are essential to 5R^S. More specifically, we created three
338 subscales to gauge the most important underlying aspects of the program: “athlete voice”,
339 “value clarity”, and “goal clarity”. To investigate the extent to which players felt they had a
340 say in the 5R^S processes, we included three items for *athlete voice* (e.g., “I had a say in
341 creating my team’s goals”). For *value clarity*, we included two items to examine whether
342 players experienced the process of clarifying their teams’ unique norms and values associated
343 with building a trademark during 5R^S (e.g., “I know my team’s norms and values”). To
344 investigate each players’ understanding of their team’s goals and strategies on how to reach
345 those goals, as created during the 5R^S process, we included three items for *goal clarity* (e.g.,
346 “I have a clear understanding of my team’s goals”). The internal consistency for all these
347 measures was shown to be very high, with both Cronbach’s alphas and McDonald's
348 coefficient omegas for all timepoints ranging from .80 to .94.

349 ***Identity leadership***

350 We used the 15-item Identity Leadership Inventory (Steffens et al., 2014b) to assess
351 the extent to which athlete leaders were perceived to nurture a sense of shared identity in their
352 teams. An example item was “The athlete leaders of my team embody what the team stands
353 for”. Steffens et al. (2014b) also describes the development and provides evidence for the
354 validity of this measurement. The scale had very high internal consistency at all data
355 collection points ($\alpha_{T1} = .92$, $\alpha_{T2} = .94$, $\alpha_{T3} = .96$; $\omega_{T1} = .92$, $\omega_{T2} = .94$, $\omega_{T3} = .96$).

356 ***Team identification***

357 We used the nine-item Social Identity Questionnaire for Sport developed by Bruner
358 and Benson (2018). A sample item is “I feel strong ties to other members of this team.” The
359 validity of this measurement to assess social identity in sport as a global construct is
360 evidenced by Bruner and Benson (2018). The internal consistency of the scale was high at all
361 data collection points ($\alpha_{T1} = .88$, $\alpha_{T2} = .90$, $\alpha_{T3} = .93$; $\omega_{T1} = .89$, $\omega_{T2} = .91$, $\omega_{T3} = .94$).

362 *Social support*

363 To assess the social support received from team members, we used a 4-item measure
364 proposed by Haslam et al. (2018), with an example item being “Do you receive the support
365 you need from your team members?” This measurement is a short version of a ten-item
366 measure validated by Haslam et al. (2005), shown by Steffens et al. (2016) to maintain
367 reliability if shortened to four items. The scale had high internal consistency at all data
368 collection points ($\alpha_{T1} = .89$, $\alpha_{T2} = .92$, $\alpha_{T3} = .95$; $\omega_{T1} = .90$, $\omega_{T2} = .92$, $\omega_{T3} = .95$).

369 *Intrinsic motivation*

370 The intrinsic motivation subscale of the Behavioral Regulation in Sport Questionnaire,
371 developed and validated by Lonsdale et al. (2008), was included to assess players’ intrinsic
372 motivation. We chose to include only this subscale because intrinsic motivation represents the
373 hallmark of volitional functioning (Ryan & Deci, 2000, 2017) and to ensure the questionnaire
374 is kept at a manageable length allowing players to remain focused. This subscale consisted of
375 two items: “I play basketball because it is fun” and “I play basketball because I like it”. The
376 internal consistency of the scale was acceptable ($\alpha_{T1} = .90$, $\alpha_{T2} = .72$, $\alpha_{T3} = .84$).

377 *Team confidence*

378 We included the five-item Observational Collective Efficacy Scale for Sports (Fransen
379 et al., 2014a; “My team has the ability to demonstrate a strong work ethic”). The validity of
380 this measurement was established by Fransen et al. (2014a) in sport teams. The scale had high

381 internal consistency at all data collection points ($\alpha_{T1} = .82$, $\alpha_{T2} = .84$, $\alpha_{T3} = .89$; $\omega_{T1} = .83$, $\omega_{T2} =$
382 $.85$, $\omega_{T3} = .89$).

383 ***Goal commitment***

384 We included a five-item scale developed by Klein et al. (2001) to assess participants'
385 commitment to the team's goals (e.g., "I am strongly committed to pursuing our team's
386 goals"). Klein et al. (2001) also evidenced the validity of this measurement as a self-report
387 measure of goal commitment. The scale had an acceptable internal consistency ($\alpha_{T1} = .79$,
388 $\alpha_{T2} = .78$, $\alpha_{T3} = .83$; $\omega_{T1} = .80$, $\omega_{T2} = .78$, $\omega_{T3} = .82$).

389 ***Team performance***

390 Players indicated their team's performance during the previous month on a single-item
391 11-point Likert scale ranging from 0 (*very poor*) to 10 (*very good*).

392 ***Burnout***

393 We used the 15-item Athlete Burnout Scale to assess players' feelings of burnout
394 (Raedeke & Smith, 2001). An example item is: "I feel physically exhausted from my sport
395 participation". Raedeke and Smith (2001) also demonstrated this measurements validity in a
396 sports setting. The internal consistency of the scale was acceptable ($\alpha_{T1} = .78$, $\alpha_{T2} = .82$, $\alpha_{T3} =$
397 $.84$; $\omega_{T1} = .88$, $\omega_{T2} = .90$, $\omega_{T3} = .90$).

398 ***Health***

399 Following the suggestion of Khan et al. (2014), we assessed participants' health using
400 three items from the internationally-used core module of the Centers for Disease Control and
401 Prevention Health Related Quality of Life Measure. After reading the stem "Since the start of
402 the season, how would you describe your...", participants rated their physical health, their
403 state of mind, and their energy levels on scales from 1 (*very bad*) to 7 (*very good*). The scale
404 had an acceptable internal consistency ($\alpha_{T1} = .68$, $\alpha_{T2} = .72$, $\alpha_{T3} = .80$; $\omega_{T1} = .72$, $\omega_{T2} = .73$, $\omega_{T3} =$
405 $.83$).

406 **Statistical analyses**

407 To answer our research questions, we conducted multilevel regression modelling,
408 thereby accounting for the clustered nature of our data (i.e., players belonging to teams),
409 while investigating 2 (time) × 2 (group) within-between analyses to test all hypothesized
410 interaction effects. More specifically, we included time as a Level 1-predictor, team as a
411 Level 2-predictor, and a random intercept as a Level 3-predictor to control for variability
412 between the teams due to nesting of the data.

413 **Results**

414 Means, standard deviations, correlations, and Cronbach alphas of all variables are
415 presented in Table 1. A visualization of every outcome, displaying the total means of both
416 groups at each time point can be found in Figure 2.

417 **Manipulation Check**

418 First, to test for any differences in the quality of either trainer, we calculated a
419 compound score, gauging the quality of each workshop. After performing an independent
420 samples *t*-test, no significant differences emerged between the quality of the workshops
421 provided by both trainers (first workshop: $t_{(54)} = -.39$; $p = .70$; second workshop: $t_{(54)} = .18$; p
422 = .86; see Supplementary File A).

423 Second, to investigate whether our implementation of 5R^S was successful, we used the
424 data of T1 and T2 (see Figure 1). This allowed us to compare the experimental group (who
425 participated in 5R^S between T1 and T2), with the wait-list control group (who had not
426 participated in 5R^S at this time) through the investigation of 2 × 2 interaction effects. Results
427 revealed significant interaction effects for all scales (athlete voice: $\beta = .56$, $p < .01$; value
428 clarity: $\beta = .31$, $p < .05$; goal clarity: $\beta = .38$, $p < .01$; see Table 2). More specifically,
429 participation in 5R^S enhanced players' perceptions that they had a say in team processes and
430 helped to maintain players' understanding of team norms, values and goals, compared to a
431 control group.

432 **Main Aims**433 ***Tests of Aim 1: The Effectiveness of the 5R Shared Leadership Program***

434 We examined the data collected at T1 and T2 to assess the effectiveness of 5R^S (see
435 Figure 1). This allowed us to compare the experimental group (who received 5R^S between T1
436 and T2), with the wait-list control group (who had not yet received 5R^S at this time). The
437 results are presented in Table 2, and key findings are discussed below.

438 Our analysis revealed a significant interaction effect for perceptions of leaders'
439 identity leadership, supporting H1a. More specifically, the findings indicated that
440 participation in 5R^S increased leaders' ability to create a shared sense of 'us' within their
441 team, compared to athlete leaders in the wait-list control group ($\beta = .60, p < .001, R_{\epsilon}^2 = .14$).
442 In line with H1b, participation in 5R^S maintained players' identification with their team while
443 players' team identification decreased in the control group ($\beta = .55, p < .001, R_{\epsilon}^2 = .12$).
444 Participation in 5R^S increased players' perceived social support, compared to the control
445 group ($\beta = .63, p < .001, R_{\epsilon}^2 = .12$), thereby confirming H1c. H1d was supported, as
446 participants who took part in 5R^S maintained their levels of intrinsic motivation in contrast to
447 the decreasing motivation of participants in the control group ($\beta = .64, p < .001, R_{\epsilon}^2 = .38$).
448 However, no support was found for H1e, as our analyses revealed no significant interaction
449 effect for players' commitment to team goals. In line with H1f, participation in 5R^S helped
450 participants to maintain confidence in their team's abilities in contrast to players in the control
451 condition who experienced a decrease in their team confidence over the course of the season
452 ($\beta = .63, p < .001, R_{\epsilon}^2 = .23$). In contrast to H1g, there was no significant interaction effect for
453 players' perception of the team's performance. Finally, in line with H1i, our analysis revealed
454 that after 5R^S, players reported that they had lower levels of burnout (H1h; $\beta = -.47, p < .001,$
455 $R_{\epsilon}^2 = .27$) and improved health (H1i; $\beta = .64, p < .001, R_{\epsilon}^2 = .15$), compared to players in the
456 wait-list control group.

457 ***Tests of Aim 2: Gender Differences***

458 Additionally, we found that the results were generally consistent across male and
459 female teams. Table 3 differentiates between the results for male and female participants. The
460 results for both male and female teams are in line with the overall results for eight out of nine
461 outcomes, with two noteworthy discrepancies (see Appendix A for detailed results). First, in
462 female teams, we did not find a significant interaction effect for players' perceptions of the
463 social support that they received. Second, in male teams, we did observe a significant
464 interaction effect for players' perception of the team's performance ($\beta = -1.32, p < .01, R_{\epsilon}^2 =$
465 $.09$), with players in the experimental group reporting a stronger decrease in the team's
466 performance compared to players in the control group. Overall though, considering the
467 patterns across all dependent variables, it can be concluded that 5R^S had a similar effect on
468 both male and female teams.

469 **Exploratory Aims**

470 ***Tests of Aim 3: Follow-up Effects of 5R^S***

471 To explore the follow-up effects of 5R^S, we focused on the data from T2 and T3 of the
472 experimental group (who had received 5R^S between T1 and T2). More specifically, we
473 investigated the 2 X 2 interaction effects comparing T2 and T3 from the experimental group
474 with our control data (i.e., T1 and T2 from the wait-list control group, as indicated in the
475 introduction).

476 No significant interaction emerged from these analyses for goal commitment or team
477 performance (see Table 4), which was in-line with the analyses on the short-term effect of
478 5R^S. Furthermore, we did not find a significant interaction for the identity leadership skills of
479 athlete leaders, nor for the perceived social support in teams, indicating no further changes
480 after the effect of 5R^S from earlier in the season occur. Moreover, the analyses revealed
481 significant interactions for team identification ($\beta = .45, p < .001, R_{\epsilon}^2 = .18$), intrinsic
482 motivation ($\beta = .62, p < .001, R_{\epsilon}^2 = .34$), team confidence ($\beta = .47, p < .001, R_{\epsilon}^2 = .25$),

483 burnout ($\beta = -.58, p < .001, R_{\epsilon}^2 = .30$), and health ($\beta = .52, p < .001, R_{\epsilon}^2 = .16$), in favor of the
484 experimental group, pointing at continued additional benefits from 5R^S, even in the long term.
485 In conclusion, this exploration seems to indicate that, for most variables, the effect of 5R^S
486 generated during the first half of the competitive season was maintained and even further
487 increased through the rest of the season.^b

488 *Tests of Aim 4: Effect of Timing of the 5R Shared Leadership Program*

489 While the data evidenced the effectiveness of 5R^S in the first half of the season, we
490 explored whether 5R^S was equally effective when delivered in the second half of the season.
491 For this purpose, we investigated the 2 X 2 interaction effects for comparing T2 and T3 of the
492 wait-list group (that completed the intervention in the second half) with the control data (i.e.,
493 T1 – T2 of the same wait-list control group). The results are presented in Table 5.

494 Our results revealed significant interaction effects for identity leadership skills ($\beta =$
495 $.43, p < .01, R_{\epsilon}^2 = .08$), team identification ($\beta = .73, p < .001, R_{\epsilon}^2 = .18$), received social
496 support ($\beta = .50, p < .01, R_{\epsilon}^2 = .11$), intrinsic motivation ($\beta = 1.10, p < .001, R_{\epsilon}^2 = .39$), team
497 confidence ($\beta = .71, p < .001, R_{\epsilon}^2 = .21$), burnout ($\beta = -1.01, p < .001, R_{\epsilon}^2 = .34$), and health (β
498 $= 1.08, p < .001, R_{\epsilon}^2 = .23$). These findings emphasize that participation in 5R^S also entails all
499 these benefits when being conducting in the second half of the season. However, no
500 significant differences for goal commitment emerged. The only notable difference with our
501 findings on the effects of 5R^S in the first half of the competitive season was a significant
502 improvement in perception of team performance ($\beta = .75, p < .01, R_{\epsilon}^2 = .05$) when 5R^S was
503 conducted in the second half of the season.

504 Exploring the differences in timing of 5R^S, we wanted to take our analysis one step
505 further by directly contrasting 5R^S delivered during either the first or the second half of the

^b As an additional exploration, we also performed these analyses for male and female teams separately. Most of these results were similar to the overall results (Appendix B). More specifically, in female teams, eight out of nine outcomes were in line with the overall findings. For male teams, this was seven out of nine outcomes (see Table 3 for a full comparison between overall results and gender specific results).

506 season. More specifically, we compared T1 to T2 from the experimental group with T2 to T3
507 from the wait-list control group. The results of these analyses can be found in Table 6. These
508 analyses revealed no significant interaction effect for the identity leadership skills of athlete
509 leaders, team identification, social support, team confidence, or goal commitment. However, a
510 significant interaction effect was found for players' intrinsic motivation ($\beta = .48, p < .001, R^2_{\epsilon} = .21$),
511 perception of team performance ($\beta = .85, p < .001, R^2_{\epsilon} = .06$), burnout ($\beta = .55, p < .001, R^2_{\epsilon} = .16$),
512 and health ($\beta = .40, p < .05, R^2_{\epsilon} = .12$). More specifically, participants who
513 completed 5R^S during the second half of the competitive season became more motivated, felt
514 that their team's performance increased more, indicated reduced feelings of burnout, and
515 reported a stronger improvement in health than participants who completed 5R^S during the
516 first half of the competitive season. Overall, this pattern suggests that 5R^S has a similar,
517 though potentially stronger, effect when delivered in the second half of the season than when
518 it is delivered in the first half of the season. ^c

519 Discussion

520 Our present study offers a unique contribution to the literature by providing an
521 experimental exploration into the effectiveness of the 5R Shared Leadership Program. More
522 specifically, our experimental design improves upon earlier work investigating the
523 effectiveness of 5R^S (Mertens et al., 2020) by using a randomized wait-list controlled trial and
524 using both female and male teams.

^c In order to further explore gender differences, we performed both of these analyses concerning the effect of timing for either gender separately. First, with respect to the interaction in the wait-list control group, comparing its T2 and T3 with T1 and T2, the gender specific findings were generally in line with the overall results (Appendix C). More specifically, for eight out of nine outcomes both male and female teams showed the same patterns consistent with the overall findings reported above. Second, the results of comparison of both 5R^S programs (i.e., in the experimental and the wait-list control group) for both female and male teams were also similar to the overall results (Appendix D). More specifically, seven out of nine outcomes were in line with the overall findings. Table 3 contains a comparison between overall results and gender specific results

525 Aim 1: The Effectiveness the 5R Shared Leadership Program

526 The primary goal of the present research (H1) was the investigation of the
527 effectiveness of 5R^S over the course of four months on team functioning and player health. In
528 line with previous work (Cotterill & Fransen, 2016; Fletcher & Arnold, 2011; Fransen et al.,
529 2017; Mertens et al., 2020), our findings demonstrate the beneficial effect that 5R^S has on
530 sport teams by developing the ability of athlete leaders to create and advance a shared sense
531 of ‘us, thereby building players’ team identification. Moreover, participation in the program
532 also delivers benefits beyond identity leadership skills and team identification by enhancing
533 the social support available in the team, and helping players to remain motivated and to
534 believe in the abilities of their team. Perhaps even more importantly, and in line with recent
535 theorizing on the Social Cure (Haslam et al., 2018; Jetten et al., 2012), our results provided
536 initial evidence of the benefits of 5R^S on player’s perceived health. More specifically,
537 participation in 5R^S does not only improve players’ assessment of their own health, but also
538 seems to be able to reduce players’ burnout, and indeed these effects on health and burnout
539 were at least as large as those for other outcomes.

540 In contrast to our expectations, our data showed no support for the idea that 5R^S has a
541 positive effect on players’ commitment to team goals. We therefore note, however, that a
542 differential interpretation of the questions could explain these non-significant findings. More
543 specifically, when filling out these questions at T1, participants in both conditions might have
544 thought of some generic, unspecified team goal (e.g., winning the competition, playing “better
545 defense”, etc.). However after the completion of 5R^S — which aims to identify clear task,
546 motivational, social, and external goals — participants in the experimental group might have
547 adopted higher standards with respect to the quality and diversity of the team’s goals.
548 Consequently, these participants might have completed the same questions with a different
549 understanding at T2.

550 Furthermore, we also did not find any effects on performance as a result of
551 participation in 5R^S. This finding is in contrast to previous researchers investigating the
552 relationship between high-quality leadership and team performance (Fransen et al., 2015a;
553 Fransen et al., 2016b; Mertens et al., 2018). However, most experiments investigating that
554 relationship adopted a much shorter study design (e.g., over the course of a few hours) and
555 used newly composed teams. In contrast, our present design tracked existing teams over the
556 course of an entire competitive season, possibly allowing other factors to influence a team's
557 performance (e.g., star players falling injured, the strength of opposing teams, etc.).

558 **Aim 2: Gender Differences**

559 The second aim of our study was to provide a deeper insight in potential differences in
560 the impact of 5R^S on either male or female teams. While some differences emerged (i.e., one
561 or two out of nine outcomes per gender, per aim, differed from the overall results), our overall
562 conclusion is that 5R^S has a very similar effect on both male and female teams (see Appendix
563 A, B, C, and D for detailed results on gender specific analyses; Table 5 for an overview
564 comparing gender specific analyses with overall results). In contrast to previous researchers in
565 an organizational context (Ely et al., 2011), the 5R^S approach in our study achieved a very
566 similar effect on both men's and women's teams without requiring specific adaptations for
567 gender.

568 **Exploratory Aims**

569 ***Aim 3: Follow-up effects of the 5R^S***

570 Our data suggest that, for most variables, the effect 5R^S had during the first half of the
571 season was retained for the whole season. More specifically, while continued improvement of
572 identity leadership skills might need more sustained development than only three workshops
573 over the course of two weeks, the effect achieved by 5R^S on team identification, intrinsic
574 motivation, team confidence, burnout, and health lasts beyond the season-half during which it
575 is provided. Indeed, our longitudinal design thereby addressed the need for such long-term

576 investigations described earlier by Fletcher and Wagstaff (2009). To the authors' knowledge,
577 Slater and Barker's (2018) investigation of an elite disability soccer team is the only other
578 study to have investigated leadership development from a social identity perspective over the
579 course of a whole competitive season. Building upon this previous work, our study serves as
580 the first whole season investigation of an identity leadership development program tracking
581 multiple teams in an experimental design, including a range of outcomes across both males
582 and females.

583 *Aim 4: Timing of 5R^S*

584 Our findings seem to indicate that 5R^S has a beneficial effect regardless of whether it
585 is provided at the start of or half-way through the season. This finding is especially important
586 for practitioners (e.g., sport psychology consultants, coaches), as it suggests that practitioners
587 can fit this program in their unique team considerations and planning, starting off the season
588 using 5R^S or using it halfway through the season.

589 An interesting remark with respect to the timing of implementing 5R^S is that our
590 exploratory findings could be interpreted in such a way that 5R^S might have a potentially
591 stronger effect during the second half of the season, as compared to the first half of the season
592 (Table 6). Specifically, the changes experienced by players undergoing 5R^S during the second
593 half of the season in intrinsic motivation, perception of team performance, burnout, and
594 health, are stronger than the changes of players undergoing 5R^S during the first half of the
595 season. However, Figure 2 can help visualize a potential explanation for this phenomenon.
596 Specifically, these variables appear to naturally experience a drop during the first half of the
597 season, while 5R^S appears to prevent this drop in the first half. During the second half of the
598 season, 5R^S appears to 'restore' these variables close to what participants who received 5R^S in
599 the first half of the season experience near the end of the season. In other words, when solely
600 considering the direct comparison, the findings suggest that when 5R^S is implemented in the
601 second season half, this would lead to 'better' changes. However, the relevant variables in

602 question appear to reach a similar value at the end of the season, regardless of the timing of
603 5R^S. We therefore conclude that 5R^S is beneficial regardless of whether it is provided in the
604 early or latter half of the season.

605 **Strengths, Limitations, and Future Research Directions**

606 Our current experimental design with a wait-list control group is characterized by a
607 number of significant strengths. By including a wait-list control group, we were able to
608 identify the unique effect of the 5R^S program among coaches open to the idea of shared
609 leadership and team identification. Moreover, by adopting a train-the-trainer approach, we
610 provide evidence of the applicability of 5R^S, opening the possibility of large-scale rollout of
611 the program. Another benefit of our design is the fact that we investigated actual basketball
612 teams (instead of creating teams out of random players, e.g., Fransen et al., 2016b) during a
613 whole competitive season (instead of an experimental setup with a one hour duration),
614 enhancing the transferability to other real-world settings. In addition, due to the longitudinal
615 nature of our study, implementing 5R^S at two different time points, our design also provides
616 some preliminary insight multiple exploratory aims by investigating 5R^S follow-up effects,
617 timing, gender differences, and the possibility of training people in providing 5R^S.

618 Besides the strengths of our study, a number of limitations should be noted too. The
619 most important limitation is the fact that we compared our intervention group to a no-
620 treatment control group (instead of a control group who received a different kind of
621 intervention). This was mainly due to the time restrictions when implementing 5R^S in eight
622 teams simultaneously. Future researchers could validate the reliability of our findings by
623 examining the intervention against a group also receiving reasonable alternative treatment
624 (Shadish et al., 2002).

625 Another limitation is that we were not able to include data from beyond one
626 competitive season. Future researchers could consider tracking teams over the course of
627 multiple seasons. In doing so, we could obtain more detailed information on how 5R^S affects

628 teams over time. Additionally, in the present wait-list control design, we did not include a
629 control group that remained a control group across the entire season but only for the first half
630 of the season. Future researchers could implement a control group and track this for the entire
631 season.

632 Additionally, while the present study included a simple indicator of team performance,
633 this was only represented by a (subjective) single-item question. This was done because
634 measuring ‘objective’ performance indicators on a team level is often complex, as a given
635 team’s ranking does not always positively correlate to their performance (e.g., a team might
636 be ‘expected’ to end in a top three position, while being in ‘only’ sixth place). Nevertheless,
637 future research could try to implement more frequent and controllable measures (e.g., team
638 effort). By doing so, future researchers could more accurately control for team performance,
639 and consider investigating the influence of team quality on the effect of 5R^S.

640 Finally, future researchers could investigate the effect of 5R^S in different settings.
641 First, 5R^S should be tested in other team sports, to verify its generalizability across sports.
642 Furthermore, 5R^S could potentially be beneficial to individual sports, as while those athletes
643 might not compete together, they often do train together as one team. Additionally, given how
644 in-group leadership and team identity principles are evidenced in both sports teams and
645 organizational teams (e.g., Cotterill & Fransen, 2016; Pearce et al., 2007; Zhu et al., 2018),
646 future research could conduct an experimental test of 5R^S in organizational teams, thereby
647 further building on the initial case study conducted by Fransen et al. (2020a).

648 **Implications for Practice**

649 An important consideration is the fact that we were able to train people in delivering
650 5R^S. As indicated before, the trainers who delivered the 5R^S in our study were not
651 psychologists, but movement scientists enrolled in a master in training and coaching with a
652 background in basketball coaching. Consequently, the 5R^S program as evaluated here can be
653 considered as an application of the “train-the-trainer” approach. More specifically, both

654 trainers in the present study had no previous experience with the program and were taught
655 how to conduct these workshops over the course of a few weeks. Nevertheless, they both
656 delivered 5R^S in a way that led to significant changes in their respective teams. This outcome
657 is pertinent for both researchers and practitioners who would like to perform 5R^S on a larger
658 scale, as they could train different people in providing a quality version of the program. The
659 previous work by Carron et al. (1997) on indirect team-building interventions is especially
660 relevant to our suggestion to provide 5R^S as a train-the-trainer program,. Specifically, the
661 present research implemented an indirect manner of providing 5R^S to the teams, by first
662 training the trainer, before the two trainers delivered 5R^S to the teams. Nevertheless, when
663 comparing our method of ‘train-the-trainer’ with the indirect team-building processes as
664 described by Carron and colleagues, we should also highlight that **a notable difference exists**
665 between both methods. Most importantly, the present research provided 5R^S through an
666 individual who previously had no connection to the team, as opposed to the work by Carron et
667 al. (1997), which focuses on employing the coach of a sport team to provide team building.

668 Practitioners working with sport teams should consider the flexibility of 5R^S. Our
669 study only included three workshops to perform the program, of which two workshops
670 provided in two weeks contained the bulk of the intervention. Besides the fact that this
671 program does not require too much of a time investment, it is also applicable both at the start
672 and half-way through the season, leaving many options for fitting this program in a team’s
673 specific planning. Besides the flexibility of timing, 5R^S also addresses multiple issues that
674 team’s might be struggling with. For example, 5R^S can not only help to set up a structure of
675 shared leadership, it can also develop in-group leadership skills.

676 **Conclusion**

677 Overall, we can conclude that the 5R Shared leadership Program is beneficial not only
678 for developing high-quality leadership in sport teams but also for improving team functioning,
679 and nurturing players’ health. More importantly, 5R^S can achieve these benefits using a train-

680 the-trainer approach, opening the possibility of wider application by both researchers and
681 practitioners. Results also showed that 5R^S seems to achieve these benefits, regardless of the
682 intervention's timing during the season and the team's predominant gender. These findings
683 both advance the current field on in-group leadership development, and provide practitioners
684 with guidance on how and when to apply 5R^S with the aim of improving team functioning and
685 players' health.

686 **Acknowledgements**

687 We would like to thank Ewout Himpe and Joke Lakiere for their assistance in the data
688 collection. Furthermore, we would like to thank dr. Stef Van Puyenbroeck for his advice
689 regarding the statistical analyses. This research did not receive any grant from funding
690 agencies in the public, commercial, or not-for-profit sectors.

691 **References**

- 692 Antonakis, J. E., Cianciolo, A. T., & Sternberg, R. J. (2004). *The nature of leadership*. Sage
693 Publications, Inc.
- 694 Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing Social Networks*. Sage
695 Publications.
- 696 Bruner, M. W., & Benson, A. J. (2018). Evaluating the psychometric properties of the Social
697 Identity Questionnaire for Sport (SIQS). *Psychology of Sport and Exercise*, 35, 181-
698 188. <https://doi.org/10.1016/j.psychsport.2017.12.006>
- 699 Carron, A. V., Spink, K. S., & Prapavessis, H. (1997). Team building and cohesiveness in the
700 sport and exercise setting: Use of indirect interventions. *Journal of Applied Sport
701 Psychology*, 9(1), 61-72. <https://doi.org/10.1080/10413209708415384>
- 702 Cotterill, S. T. (2012). *Team psychology in sports: Theory and practice*. Routledge.
- 703 Cotterill, S. T., Clarkson, B. G., & Fransen, K. (2020). Gender differences in the perceived
704 impact that athlete leaders have on team member emotional states. *Journal of Sports
705 Sciences*, 38(10), 1181-1185. <https://doi.org/10.1080/02640414.2020.1745460>
- 706 Cotterill, S. T., & Fransen, K. (2016). Athlete leadership in sport teams: Current
707 understanding and future directions. *International Review of Sport and Exercise
708 Psychology*, 9(1), 116-133. <https://doi.org/10.1080/1750984x.2015.1124443>
- 709 De Backer, M., Boen, F., Ceux, T., De Cuyper, B., Hoigaard, R., Callens, F., Fransen, K., &
710 Vande Broek, G. (2011). Do perceived justice and need support of the coach predict
711 team identification and cohesion? Testing their relative importance among top
712 volleyball and handball players in Belgium and Norway. *Psychology of Sport and
713 Exercise*, 12(2), 192-201. <https://doi.org/10.1016/j.psychsport.2010.09.009>
- 714 Ely, R. J., Ibarra, H., & Kolb, D. M. (2011). Taking gender into account: theory and design
715 for women's leadership development programs. *Academy of Management Learning &
716 Education*, 10(3), 474-493. <https://doi.org/10.5465/amle.2010.0046>

- 717 Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G* Power 3: A flexible statistical
718 power analysis program for the social, behavioral, and biomedical sciences. *Behavior*
719 *Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/bf03193146>
- 720 Fletcher, D., & Arnold, R. (2011). A qualitative study of performance leadership and
721 management in elite sport. *Journal of Applied Sport Psychology*, 23(2), 223-242.
722 <https://doi.org/10.1080/10413200.2011.559184>
- 723 Fletcher, D., & Wagstaff, C. R. D. (2009). Organizational psychology in elite sport: Its
724 emergence, application and future. *Psychology of Sport and Exercise*, 10(4), 427-434.
725 <https://doi.org/10.1016/j.psychsport.2009.03.009>
- 726 Fransen, K., Boen, F., Vansteenkiste, M., Mertens, N., & Vande Broek, G. (2018). The power
727 of competence support: The impact of coaches and athlete leaders on intrinsic
728 motivation and performance. *Scandinavian Journal of Medicine and Science in Sports*,
729 28(2), 725-745. <https://doi.org/10.1111/sms.12950>
- 730 Fransen, K., Decroos, S., Vande Broek, G., & Boen, F. (2016a). Leading from the top or
731 leading from within? A comparison between coaches' and athletes' leadership as
732 predictors of team identification, team confidence, and team cohesion. *International*
733 *Journal of Sports Science & Coaching*, 11(6), 757-771.
734 <https://doi.org/10.1177/1747954116676102>
- 735 Fransen, K., Haslam, S. A., Mallett, C. J., Steffens, N. K., Peters, K., & Boen, F. (2017). Is
736 perceived athlete leadership quality related to team effectiveness? A comparison of
737 three professional sports teams. *Journal of Science and Medicine in Sport*, 20(8), 800-
738 806. <https://doi.org/10.1016/j.jsams.2016.11.024>
- 739 Fransen, K., Haslam, S. A., Steffens, N. K., Mallett, C., Peters, K., Mertens, N., & Boen, F.
740 (2020a). All for us and us for all: Introducing the 5R Shared Leadership Program.
741 *Psychology of Sport and Exercise*, 51.
742 <https://doi.org/10.1016/j.psychsport.2020.101762>

- 743 Fransen, K., Haslam, S. A., Steffens, N. K., Vanbeselaere, N., De Cuyper, B., & Boen, F.
744 (2015a). Believing in us: Exploring leaders' capacity to enhance team confidence and
745 performance by building a sense of shared social identity. *Journal of Experimental*
746 *Psychology: Applied*, 21(1), 89-100. <https://doi.org/10.1037/xap0000033>
- 747 Fransen, K., Kleinert, J., Dithurbide, L., Vanbeselaere, N., & Boen, F. (2014a). Collective
748 efficacy or team outcome confidence? Development and validation of the
749 Observational Collective Efficacy Scale for Sports (OCESS). *International Journal of*
750 *Sport Psychology*, 45(2), 121-137. <https://doi.org/10.7352/ijsp.2014.45.121>
- 751 Fransen, K., McEwan, D., & Sarkar, M. (2020b). The impact of identity leadership on team
752 functioning and well-being in team sport: Is psychological safety the missing link?
753 *Psychology of Sport and Exercise*, 51.
754 <https://doi.org/10.1016/j.psychsport.2020.101763>
- 755 Fransen, K., Steffens, N. K., Haslam, S. A., Vanbeselaere, N., Vande Broek, G., & Boen, F.
756 (2016b). We will be champions: Leaders' confidence in 'us' inspires team members'
757 team confidence and performance. *Scandinavian Journal of Medicine and Science in*
758 *Sports*, 26(12), 1455-1469. <https://doi.org/10.1111/sms.12603>
- 759 Fransen, K., Van Puyenbroeck, S., Loughhead, T. M., Vanbeselaere, N., De Cuyper, B., Vande
760 Broek, G., & Boen, F. (2015b). The art of athlete leadership: Identifying high-quality
761 leadership at the individual and team level through Social Network Analysis. *Journal*
762 *of Sport & Exercise Psychology*, 37(3), 274-290. [https://doi.org/10.1123/jsep.2014-](https://doi.org/10.1123/jsep.2014-0259)
763 [0259](https://doi.org/10.1123/jsep.2014-0259)
- 764 Fransen, K., Van Puyenbroeck, S., Loughhead, T. M., Vanbeselaere, N., De Cuyper, B., Vande
765 Broek, G., & Boen, F. (2015c). Who takes the lead? Social network analysis as
766 pioneering tool to investigate shared leadership within sports teams. *Social Networks*,
767 43, 28-38. <https://doi.org/10.1016/j.socnet.2015.04.003>

- 768 Fransen, K., Vanbeselaere, N., De Cuyper, B., Vande Broek, G., & Boen, F. (2014b). The
769 myth of the team captain as principal leader: Extending the athlete leadership
770 classification within sport teams. *Journal of Sports Sciences*, 32(14), 1389-1397.
771 <https://doi.org/10.1080/02640414.2014.891291>
- 772 Hampson, R., & Jowett, S. (2012). Effects of coach leadership and coach–athlete relationship
773 on collective efficacy. *Scandinavian Journal of Medicine and Science in Sports*.
774 <https://doi.org/10.1111/j.1600-0838.2012.01527.x>
- 775 Haslam, C., Jetten, J., Cruwys, T., Dingle, G., & Haslam, S. A. (2018). *The new psychology of*
776 *health: Unlocking the social cure*. Routledge. <https://doi.org/10.4324/9781315648569>
- 777 Haslam, S. A., O'Brien, A., Jetten, J., Vormedal, K., & Penna, S. (2005). Taking the strain:
778 Social identity, social support, and the experience of stress. *British Journal of Social*
779 *Psychology*, 44(3), 355-370. <https://doi.org/https://doi.org/10.1348/014466605X37468>
- 780 Haslam, S. A., Reicher, S. D., & Platow, M. J. (2011). *The new psychology of leadership:*
781 *Identity, influence and power*. Psychology Press.
- 782 Jetten, J., Haslam, C., & Haslam, S. A. (2012). *The social cure: Identity, health and well-*
783 *being*. Psychology Press.
- 784 Khan, S. S., Hopkins, N., Tewari, S., Srinivasan, N., Reicher, S. D., & Ozakinci, G. (2014).
785 Efficacy and well-being in rural north India: The role of social identification with a
786 large-scale community identity. *European Journal of Social Psychology*, 44(7), 787-
787 798. <https://doi.org/10.1002/ejsp.2060>
- 788 Klein, H. J., Wesson, M. J., Hollenbeck, J. R., Wright, P. M., & DeShon, R. P. (2001). The
789 assessment of goal commitment: A measurement model meta-analysis. *Organizational*
790 *Behavior and Human Decision Processes*, 85(1), 32-55.
791 <https://doi.org/10.1006/obhd.2000.2931>
- 792 Leo, F. M., García-Calvo, T., González-Ponce, I., Pulido, J. J., & Fransen, K. (2019). How
793 many leaders does it take to lead a sports team? The relationship between the number

- 794 of leaders and the effectiveness of professional sports teams. *PLoS ONE*, 14(6),
795 e0218167. <https://doi.org/10.1371/journal.pone.0218167>
- 796 Lonsdale, C., Hodge, K., & Rose, E. A. (2008). The behavioral regulation in sport
797 questionnaire (BRSQ): instrument development and initial validity evidence. *Journal*
798 *of Sport & Exercise Psychology*, 30(3), 323-355. <https://doi.org/10.1123/jsep.30.3.323>
- 799 Loughead, T. M., Hardy, J., & Eys, M. A. (2006). The nature of athlete leadership. *Journal of*
800 *Sport Behavior*, 29, 142-158.
- 801 Mertens, N., Boen, F., Steffens, N. K., Cotterill, S. T., Haslam, S. A., & Fransen, K. (2020).
802 Leading together towards a stronger 'us': An experimental test of the effectiveness of
803 the 5R Shared Leadership Program (5R(S)) in basketball teams. *Journal of Science*
804 *and Medicine in Sport*, 23(8), 770-775. <https://doi.org/10.1016/j.jsams.2020.01.010>
- 805 Mertens, N., Boen, F., Vande Broek, G., Vansteenkiste, M., & Fransen, K. (2018). An
806 experiment on the impact of coaches' and athlete leaders' competence support on
807 athletes' motivation and performance. *Scandinavian Journal of Medicine and Science*
808 *in Sports*, 28(12), 2734-2750. <https://doi.org/10.1111/sms.13273>
- 809 Pearce, C. L., Conger, J. A., & Locke, E. A. (2007). Shared leadership theory. *The Leadership*
810 *Quarterly*, 19(5), 622-628.
811 <https://doi.org/http://dx.doi.org/10.1016/j.leaqua.2008.07.005>
- 812 Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete
813 burnout measure. *Journal of sport and exercise psychology*, 23(4), 281-306.
814 <https://doi.org/10.1123/jsep.23.4.281>
- 815 Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic
816 motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
817 <https://doi.org/10.1037//0003-066x.55.1.68>
- 818 Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in*
819 *motivation, development, and wellness*. Guilford Publications.

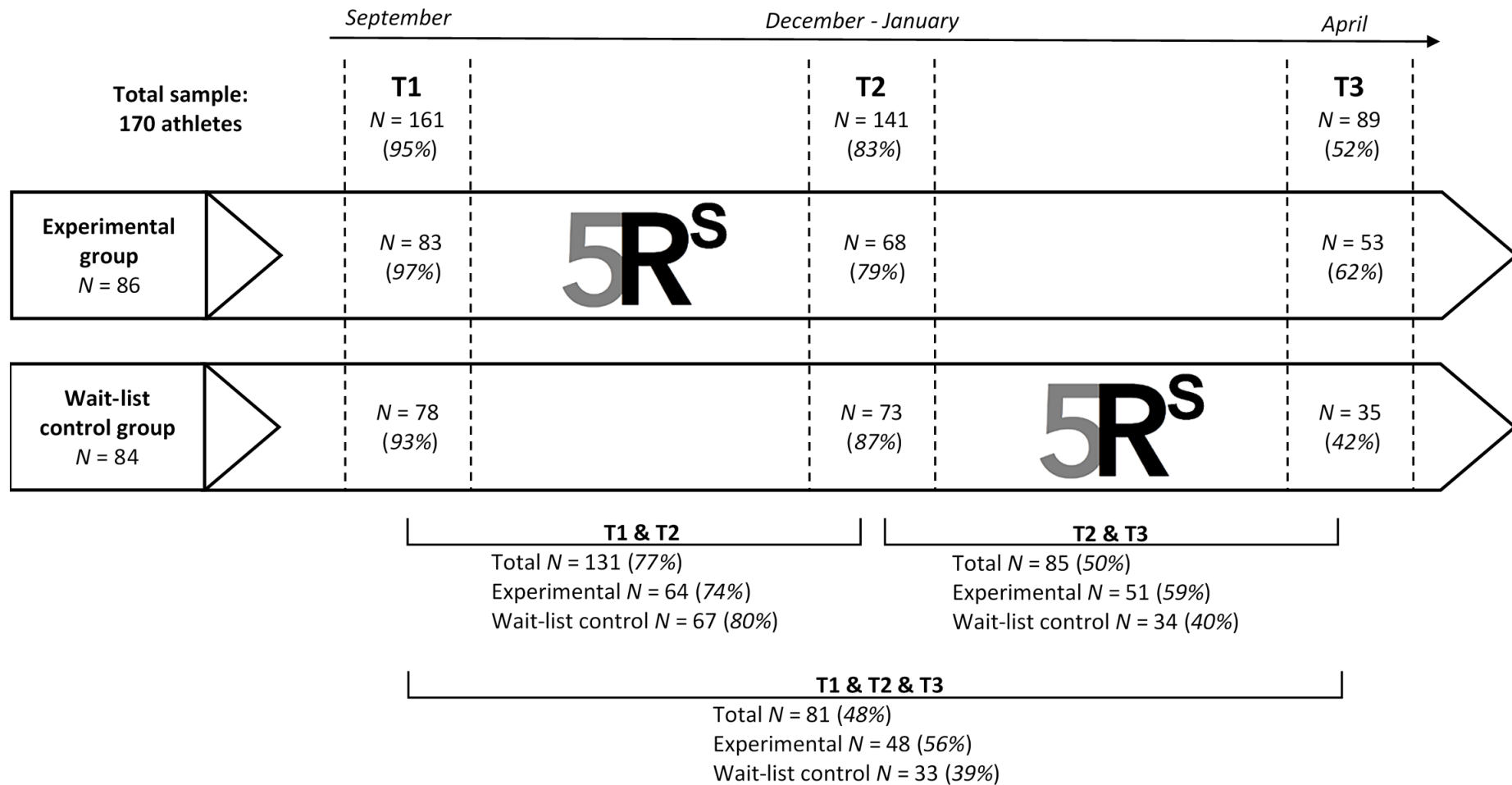
- 820 Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-*
821 *experimental designs for generalized causal inference*. Houghton, Mifflin and
822 Company.
- 823 Slater, M. J., & Barker, J. B. (2018). Doing social identity leadership: Exploring the efficacy
824 of an identity leadership intervention on perceived leadership and mobilization in elite
825 disability soccer. *Journal of Applied Sport Psychology*, 31(1), 65-86.
826 <https://doi.org/10.1080/10413200.2017.1410255>
- 827 Steffens, N. K., Haslam, S., Kerschreiter, R., Schuh, S., & Dick, R. (2014a). Leaders enhance
828 group members' work engagement and reduce their burnout by crafting social identity.
829 *German Journal of Research in Human Resource Management*, 28, 173-194.
830 <https://doi.org/10.1688/ZfP-2014-01-Steffens>
- 831 Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., Peters, K.
832 O., Ryan, M. K., Jetten, J., & Boen, F. (2014b). Leadership as social identity
833 management: Introducing the Identity Leadership Inventory (ILI) to assess and
834 validate a four-dimensional model. *The Leadership Quarterly*, 25, 1001-1024.
835 <https://doi.org/10.1016/j.leaqua.2014.05.002>
- 836 Steffens, N. K., Jetten, J., Haslam, C., Cruwys, T., & Haslam, S. A. (2016). Multiple social
837 identities enhance health post-retirement because they are a basis for giving social
838 support. *Frontiers in Psychology*, 7(1519). <https://doi.org/10.3389/fpsyg.2016.01519>
- 839 Steffens, N. K., Slade, E. L., Stevens, M., Haslam, S. A., & Rees, T. (2019). Putting the 'we'
840 into workout: The association of identity leadership with exercise class attendance and
841 effort, and the mediating role of group identification and comfort. *Psychology of Sport*
842 *and Exercise*, 45, 101544. <https://doi.org/10.1016/j.psychsport.2019.101544>
- 843 Stevens, M., & Cruwys, T. (2020). Membership in sport or exercise groups predicts sustained
844 physical activity and longevity in older adults compared to physically active matched

- 845 controls. *Annals of Behavioral Medicine*, 54(8), 557-566.
- 846 <https://doi.org/10.1093/abm/kaaa003>
- 847 Swann, C., Moran, A., & Piggott, D. (2015). Defining elite athletes: Issues in the study of
848 expert performance in sport psychology. *Psychology of Sport and Exercise*, 16, 3-14.
- 849 <https://doi.org/https://doi.org/10.1016/j.psychsport.2014.07.004>
- 850 Tajfel, H. (1972). La catégorisation sociale [Social categorization] (English, Trans.). In S.
851 Moscovici (Ed.), *Introduction à la Psychologie Sociale* (Vol. 1, pp. 272-302).
852 Larousse. (La catégorisation sociale)
- 853 Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G.
854 Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-
855 47). Brooks-Cole.
- 856 Van Puyenbroeck, S., Stouten, J., & Vande Broek, G. (2018). Coaching is teamwork! The role
857 of need-supportive coaching and the motivational climate in stimulating proactivity in
858 volleyball teams. *Scandinavian Journal of Medicine and Science in Sports*, 28(1), 319-
859 328. <https://doi.org/10.1111/sms.12895>
- 860 Zhu, J., Liao, Z., Yam, K. C., & Johnson, R. E. (2018). Shared leadership: A state-of-the-art
861 review and future research agenda. *Journal of Organizational Behavior*, 39(7), 834-
862 852. <https://doi.org/10.1002/job.2296>
- 863

A RANDOMIZED CONTROL TRIAL OF THE 5R^S PROGRAM

864 *Figure 1*

865 Visual overview of the wait-list controlled trial. The number of observed participants is indicated for each timepoint and group. The relevant
 866 response rate is presented between parentheses in italics. The response rates are provided both for all athletes (i.e., compared at each timepoint or
 867 overlap of timepoints with the total sample) and for each separate group (i.e., compared at each timepoint or overlap of timepoints with the
 868 number of athletes in the relevant group).



A RANDOMIZED CONTROL TRIAL OF THE 5R^S PROGRAM

869 *Figure 2*

870 Visualization of the total mean of all outcomes at each timepoint, for both the experimental

871 group and wait-list control group.

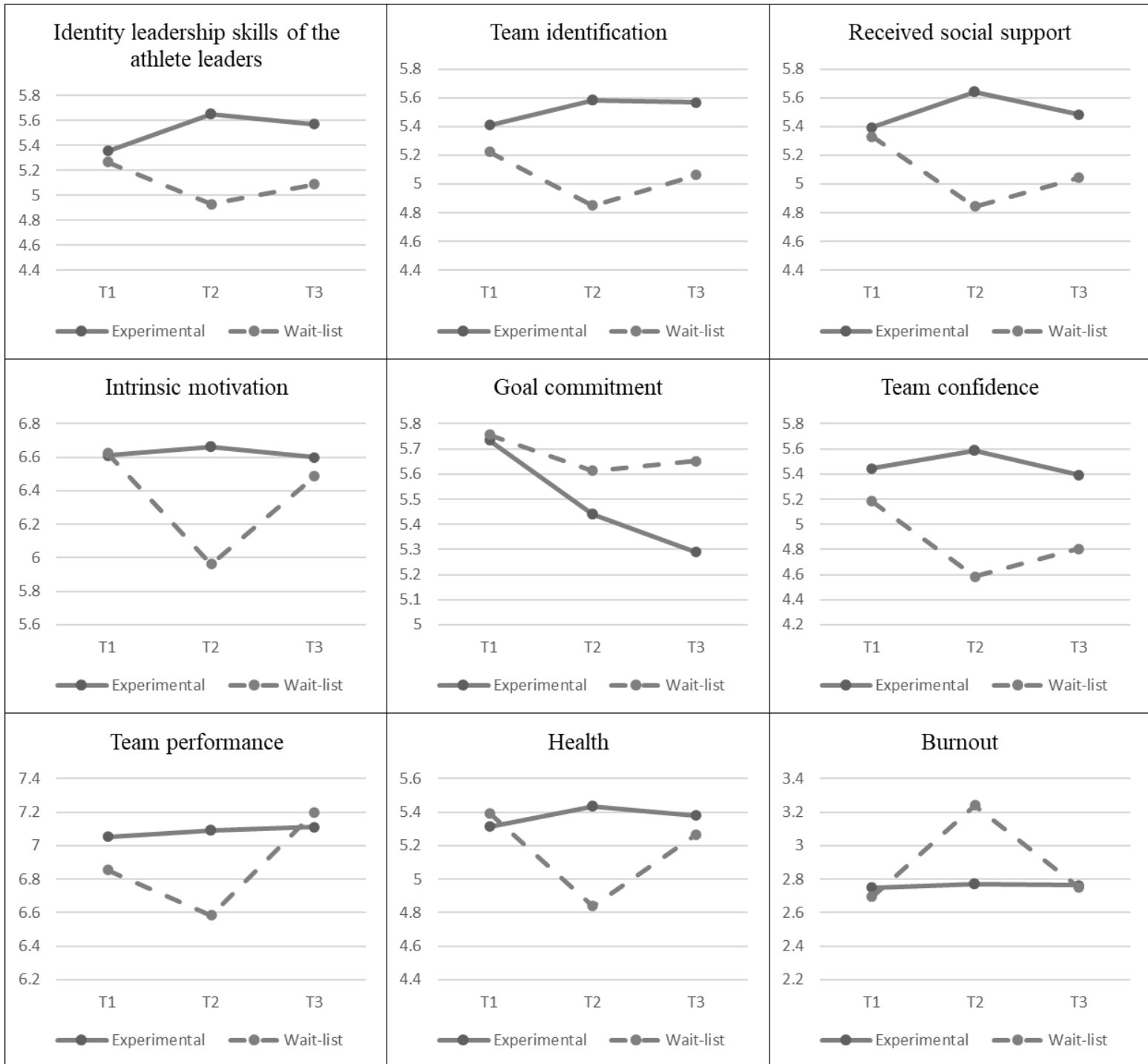


Table 1

Means, standard deviations, and correlations between all variables included in the questionnaire (part 1). Cronbach's alphas and McDonald's coefficient omega are presented in italics on the diagonal (α/ω).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. T1 Manipulation check: athlete voice	4.42	1.50	<i>(.91/.92)</i>																
2. T2 Manipulation check: athlete voice	4.81	1.49	.58***	<i>(.93/.94)</i>															
3. T3 Manipulation check: athlete voice	5.17	1.46	.58***	.74***	<i>(.94/.94)</i>														
4. T1 Manipulation check: value clarity	5.82	.88	.48***	.32***	.38***	<i>(.84/°°)</i>													
5. T2 Manipulation check: value clarity	5.74	1.00	.30***	.51***	.47***	.55***	<i>(.91/°°)</i>												
6. T3 Manipulation check: value clarity	5.96	.94	.43***	.52***	.68***	.55***	.59***	<i>(.90/°°)</i>											
7. T1 Manipulation check: goal clarity	5.69	.96	.48***	.35***	.37***	.60***	.54***	.53***	<i>(.81/.80)</i>										
8. T2 Manipulation check: goal clarity	5.57	1.14	.28***	.59***	.45***	.40***	.68***	.61***	.57***	<i>(.89/.89)</i>									
9. T3 Manipulation check: goal clarity	5.64	1.04	.39***	.48***	.73***	.51***	.60***	.82***	.58***	.65***	<i>(.87/.88)</i>								
10. T1 Identity leadership of athlete leaders	5.31	.77	.32***	.29***	.29***	.55***	.48***	.44***	.58***	.41***	.50***	<i>(.92/.92)</i>							
11. T2 Identity leadership of athlete leaders	5.28	.92	.28***	.47***	.47***	.36***	.57***	.54***	.30***	.51***	.51***	.57***	<i>(.94/.94)</i>						
12. T3 Identity leadership of athlete leaders	5.38	1.00	.31***	.49***	.62***	.40***	.44***	.63***	.39***	.47***	.71***	.53***	.61***	<i>(.96/.96)</i>					
13. T1 Team identification	5.32	.89	.37***	.26***	.24***	.43***	.34***	.36***	.38***	.33***	.30***	.49***	.38***	.35***	<i>(.88/.89)</i>				
14. T2 Team identification	5.14	.98	.27***	.41***	.38***	.31***	.49***	.47***	.25***	.45***	.40***	.41***	.62***	.54***	.61***	<i>(.90/.91)</i>			
15. T3 Team identification	5.35	1.08	.33***	.36***	.49***	.40***	.40***	.57***	.33***	.43***	.58***	.43***	.45***	.72***	.67***	.75***	<i>(.93/.94)</i>		
16. T1 Received social support	5.36	.94	.21***	.32***	.29***	.39***	.41***	.33***	.41***	.39***	.39***	.50***	.42***	.37***	.49***	.43***	.46***	<i>(.89/.90)</i>	
17. T2 Received social support	5.22	1.13	.25***	.50***	.40***	.27***	.53***	.43***	.26***	.55***	.45***	.44***	.59***	.51***	.41***	.70***	.55***	.52***	<i>(.92/.92)</i>
18. T3 Received social support	5.31	1.30	.23*	.34***	.41***	.32***	.46***	.44***	.29***	.48***	.53***	.45***	.48***	.63***	.49***	.64***	.77***	.53***	.68***
19. T1 Intrinsic motivation	6.62	.71	.16*	.09	.14	.13	.13	.22*	.29***	.15	.21*	.27***	.31***	.17	.33***	.16*	.19	.23**	.15
20. T2 Intrinsic motivation	6.30	.87	.17*	.26***	.23*	.16	.22***	.23*	.10	.24***	.27**	.30***	.42***	.23*	.31***	.31***	.25*	.29***	.34***
21. T3 Intrinsic motivation	6.55	.59	.09	.18	.28***	.24*	.17	.38***	.20*	.25*	.43***	.39***	.30**	.46***	.34**	.28**	.51***	.17	.29**
22. T1 Team confidence	5.32	.90	.24***	.24***	.18	.31***	.32***	.28**	.36***	.23***	.33***	.56***	.44***	.34**	.37***	.36***	.33**	.53***	.47***
23. T2 Team confidence	5.07	1.09	.19*	.40***	.37***	.26***	.51***	.46***	.28***	.48***	.48***	.43***	.66***	.49***	.24**	.56***	.40***	.42***	.68***
24. T3 Team confidence	5.16	1.11	.29***	.37***	.47***	.40***	.48***	.42***	.33***	.40***	.59***	.47***	.49***	.66***	.28**	.46***	.55***	.42***	.53***
25. T1 Goal commitment	5.75	.92	.24***	.22**	.12	.32***	.45***	.41***	.43***	.40***	.29***	.52***	.41***	.23*	.42***	.27**	.30**	.39***	.31***
26. T2 Goal commitment	5.53	1.00	.30***	.37***	.23*	.23**	.50***	.41***	.34***	.55***	.39***	.32***	.43***	.32***	.18*	.30***	.27**	.24**	.43***
27. T3 Goal commitment	5.43	1.03	.32***	.35***	.38***	.32***	.38***	.60***	.46***	.53***	.64***	.45***	.42***	.56***	.21*	.31**	.50***	.31**	.35**
28. T1 Perception of team performance	6.96	1.45	.27***	.01	.01	.15	.17	.13	.30***	.05	.18	.25**	.12	.04	.31***	.01	-.00	.31***	.08
29. T2 Perception of team performance	6.83	1.54	.03	.26***	.17	.08	.33***	.16	.17*	.37***	.25*	.12	.22*	.17	.11	.28**	.11	.21*	.30***
30. T3 Perception of team performance	7.15	1.42	.17	.11	.21*	.23*	.22*	.32***	.33***	.29**	.44***	.27*	.11	.21*	.06	-.01	.08	.33**	.15
31. T1 Burnout	2.72	.86	-.23***	-.22**	-.19	-.16*	-.21**	-.28**	-.32***	-.23***	-.28***	-.39***	-.35***	-.29**	-.43***	-.25**	-.31**	-.38***	-.21*
32. T2 Burnout	3.01	.97	-.28***	-.30***	-.20	-.15	-.30***	-.22*	-.21**	-.35***	-.30***	-.39***	-.41***	-.34**	-.33***	-.39***	-.35***	-.30***	-.34***
33. T3 Burnout	2.76	.91	-.08	-.13	-.17	-.06	-.21*	-.24*	-.19	-.29***	-.36***	-.28**	-.38***	-.36***	-.28**	-.25*	-.44***	-.28**	-.27**
34. T1 Self-assessed health	5.35	.94	.11	.14	.16	.15*	.17*	.22*	.23***	.28***	.27**	.28***	.34***	.31**	.25**	.26**	.32***	.27***	.16
35. T2 Self-assessed health	5.12	1.02	-.02	.25***	.16	.07	.22**	.27**	.11	.31***	.31***	.24**	.35***	.37***	.17*	.42***	.36***	.27**	.35***
36. T3 Self-assessed health	5.34	1.04	.03	.20*	.19	.05	.21*	.18	.23*	.32***	.31***	.35***	.310**	.38***	.22*	.32**	.37***	.31**	.23*

* $p < .05$; ** $p < .01$; *** $p < .001$;

° as 'Performance' was a single-item question, no Cronbach's alpha could be calculated;

°° for one- or two-item variables, no McDonald's coefficient omega could be calculated

Means, standard deviations, and correlations between all variables included in the questionnaire (part 2).

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
18. T3 Received social support	(.95/.95)																		
19. T1 Intrinsic motivation	.16	(.90/°°)																	
20. T2 Intrinsic motivation	.23*	.64***	(.72/°°)																
21. T3 Intrinsic motivation	.37***	.48***	.55***	(.84/°°)															
22. T1 Team confidence	.39***	.31***	.34***	.35**	(.82/.83)														
23. T2 Team confidence	.50***	.19*	.36***	.31**	.64***	(.84/.85)													
24. T3 Team confidence	.58***	.18	.24*	.39***	.61***	.70***	(.89/.89)												
25. T1 Goal commitment	.19	.29***	.34***	.37***	.29***	.25***	.14	(.79/.80)											
26. T2 Goal commitment	.34**	.13	.23**	.24*	.18*	.35***	.22*	.59***	(.78/.78)										
27. T3 Goal commitment	.48***	.18	.18	.47***	.27**	.33***	.35***	.49***	.69***	(.83/.82)									
28. T1 Perception of team performance	.09	.28***	.21*	-.08	.33***	.24**	.15	.18*	.04	.02	°/°°								
29. T2 Perception of team performance	.16	-.05	.02	.03	.00	.32***	.21	-.01	.22*	-.01	.21*	°/°°							
30. T3 Perception of team performance	.17	-.03	-.03	-.06	.09	.15	.16	.00	.15	.26*	.25*	.50***	°/°°						
31. T1 Burnout	-.23*	-.44***	-.36***	-.50***	-.32***	-.16*	-.19	-.57***	-.36***	-.35***	-.28***	-.04	.09	(.78/.88)					
32. T2 Burnout	-.34**	-.26**	-.51***	-.50***	-.22**	-.32***	-.25*	-.47***	-.50***	-.40***	-.08	-.19*	-.01	.65***	(.82/.90)				
33. T3 Burnout	-.42***	-.32**	-.35***	-.55***	-.24*	-.22*	-.27**	-.48***	-.50***	-.55***	.04	-.12	-.10	.68***	.76***	(.84/.90)			
34. T1 Self-assessed health	.33**	.37***	.21*	.40***	.30***	.19*	.35**	.20**	.12	.29**	.11	.07	.03	-.41***	-.25**	-.42***	(.68/.72)		
35. T2 Self-assessed health	.31**	.14	.29***	.41***	.28**	.37***	.42***	.22**	.14	.22*	.08	.11	-.02	-.36***	-.42***	-.33**	.49***	(.72/.73)	
36. T3 Self-assessed health	.41***	.17	.17	.40***	.17	.21*	.29**	.17	.13	.29**	-.02	.34**	.16	-.42***	-.49***	-.51***	.57***	.57***	(.80/.83)

* $p < .05$; ** $p < .01$; *** $p < .001$;

° as 'Performance' was a single-item question, no Cronbach's alpha could be calculated;

°° for one- or two-item variables, no McDonald's coefficient omega could be calculated

Table 2

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept. The table displays interaction effects for the variables used for the manipulation check and all outcome variables between the two conditions at T1 and T2.

	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ξ}
	$M (SD)$ (T1)	$M (SD)$ (T2)	$M (SD)$ (T1)	$M (SD)$ (T2)					
Manipulation check: athlete voice	4.69 (1.51)	5.26 (1.37)	4.39 (1.29)	4.39 (1.52)	1.18**	.33	.56**	.21	.09
Manipulation check: value clarity	5.79 (.89)	5.85 (.86)	5.90 (.86)	5.66 (1.04)	.39	.23	.31*	.14	.04
Manipulation check: goal clarity	5.71 (.98)	5.68 (1.13)	5.80 (.77)	5.45 (1.16)	.39	.25	.38**	.16	.07
Identity leadership of athlete leaders	5.38 (.70)	5.66 (.74)	5.22 (.81)	4.91 (.95)	.88***	.19	.60***	.12	.14
Team identification	5.49 (.89)	5.54 (.88)	5.27 (.80)	4.76 (.90)	.52*	.21	.55***	.12	.12
Received social support	5.50 (.99)	5.62 (1.04)	5.35 (.75)	4.90 (1.11)	.79**	.25	.63***	.16	.12
Intrinsic motivation	6.72 (.57)	6.62 (.71)	6.68 (.54)	5.96 (.99)	.61***	.16	.64***	.10	.38
Team confidence	5.58 (.86)	5.59 (.88)	5.16 (.83)	4.57 (1.03)	.66**	.21	.63***	.13	.23
Goal commitment	5.81 (.84)	5.45 (.99)	5.79 (.96)	5.60 (1.03)	-.51*	.22	.18	.14	.09
Team performance	7.47 (1.30)	7.08 (1.58)	6.97 (1.10)	6.58 (1.42)	-.47	.46	.11	.29	.02
Burnout	2.60 (.86)	2.75 (.89)	2.65 (.84)	3.28 (.97)	-.34	.19	-.47***	.12	.27
Self-assessed health	5.37 (.97)	5.47 (.98)	5.41 (.90)	4.87 (.96)	.75**	.24	.64***	.15	.15

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3

An overview of all interaction effects ($\beta_{interaction}$) for all analyses performed in the present research, allowing for comparing gender differences with the overall results at a glance. Whenever a gender specific analyses resulted in an outcome differing from the overall analysis, we indicated it in **bold**.

Aim:	<i>Aim 1: Effectiveness of 5R^S (H1)</i>			<i>Aim 3: Retention of 5R^S</i>			<i>Aim 4a: Timing of 5R^S (analysis 1)</i>			<i>Aim 4b: Timing of 5R^S (analysis 2)</i>		
Comparison:	Experimental T1-T2	vs Wait-list T1-T2		Experimental T2-T3	vs Wait-list T1-T2		Experimental T1-T2	vs Wait-list T2-T3		Experimental T1-T2	vs Wait-list T2-T3	
$\beta_{interaction}$	Overall	Female	Male	Overall	Female	Male	Overall	Female	Male	Overall	Female	Male
Identity leadership of athlete leaders	.60***	.65***	.51*	.23	.21	.37	.43**	.33	1.14***	.17	.33*	.51
Team identification	.55***	.51**	.47*	.45***	.54**	.35	.73***	.84***	.73**	.20	.24	.08
Received social support	.63***	.35	1.34***	.33	.37	-.19	.50**	.44*	.65*	.11	.08	-.53
Intrinsic motivation	.64***	.65***	.68**	.62***	.68***	.57**	1.10***	1.12***	1.30**	.48***	.49***	.64*
Team confidence	.63***	.47**	.81***	.47***	.24	.84**	.71***	.36**	1.59***	.03	.11	-.72*
Goal commitment	.18	.18	.04	.03	.11	.03	.08	.05	.53	.27	.24	.44
Team performance	.11	.53	-1.32**	.20	.21	.60	.75**	.79**	1.53**	.85***	.21	2.75**
Burnout	-.47***	-.46**	-.47*	-.58***	-.53***	-.70**	-1.01***	-.94***	-1.35***	-.55***	-.49***	-.86***
Self-assessed health	.64***	.69***	.65*	.52***	.65***	.22	1.08***	1.27***	.47	.40*	.56**	-.20

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 4

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, investigating the interaction effects between the experimental group at T2 and T3 and the wait-list control group at T1 and T2.

	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
	$M (SD)$ (T2)	$M (SD)$ (T3)	$M (SD)$ (T1)	$M (SD)$ (T2)					
Identity leadership of athlete leaders	5.67 (.79)	5.58 (.85)	5.23 (.81)	4.91 (.96)	.15	.22	.23	.14	.08
Team identification	5.59 (.92)	5.56 (1.09)	5.28 (.85)	4.85 (.96)	.43	.28	.45***	.13	.18
Received social support	5.59 (1.08)	5.46 (1.18)	5.35 (.75)	4.90 (1.05)	.19	.28	.33	.17	.12
Intrinsic motivation	6.64 (.57)	6.61 (.55)	6.62 (.71)	5.96 (.99)	.57**	.19	.62***	.12	.34
Team confidence	5.51 (.94)	5.41 (.93)	5.16 (.83)	4.57 (1.03)	.33	.22	.47***	.14	.25
Goal commitment	5.41 (1.03)	5.29 (1.00)	5.79 (.96)	5.60 (1.03)	-.10	.24	.03	.15	.03
Team performance	7.15 (1.61)	7.10 (1.62)	6.97 (1.10)	6.58 (1.42)	.13	.49	.20	.30	.02
Burnout	2.73 (.87)	2.74 (.96)	2.65 (.84)	3.28 (.97)	-.56	.20	-.58***	.12	.30
Self-assessed health	5.41 (.97)	5.42 (1.07)	5.41 (.90)	4.87 (.96)	.50*	.25	.52***	.16	.16

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 5

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, exploring the effectiveness of the intervention in the wait-list control group.

	Wait-list control group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
	$M (SD)$ (T2)	$M (SD)$ (T3)	$M (SD)$ (T1)	$M (SD)$ (T2)					
Identity leadership of athlete leaders	4.99 (.81)	5.07 (.96)	5.23 (1.01)	4.91 (1.16)	.54**	.25	.43**	.15	.08
Team identification	4.83 (.97)	5.04 (1.22)	5.28 (.85)	4.85 (.96)	1.00***	.23	.73***	.14	.18
Received social support	5.00 (1.11)	4.99 (1.45)	5.35 (.75)	4.90 (1.05)	.55	.29	.50**	.18	.11
Intrinsic motivation	6.04 (.85)	6.47 (.65)	6.62 (.71)	5.96 (.99)	1.54***	.19	1.10***	.11	.39
Team confidence	4.71 (1.09)	4.75 (1.18)	5.16 (.83)	4.57 (1.03)	.83***	.26	.71***	.15	.21
Goal commitment	5.75 (1.14)	5.63 (1.07)	5.79 (.96)	5.60 (1.03)	.00	.23	.08	.14	.04
Team performance	6.83 (.92)	7.22 (1.13)	6.97 (1.10)	6.58 (1.42)	1.21**	.48	.75**	.28	.05
Burnout	3.14 (.94)	2.73 (.84)	2.65 (.84)	3.28 (.97)	-1.42***	.20	-1.01***	.12	.34
Self-assessed health	4.66 (1.00)	5.25 (1.00)	5.41 (.90)	4.87 (.96)	1.62***	.25	1.08***	.15	.23

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 6

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept. The table displays interaction effects between the experimental (T1 to T2, coded as 0 to 1) and the wait-list control group (T2 to T3, coded as 0 to 1) in order to contrast the 5R^s program delivered during the first half of the competitive season (i.e., the experimental group) with the 5R^s program delivered during the second half of the competitive season (i.e., the wait-list control group).

	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
	$M (SD)$ (T1)	$M (SD)$ (T2)	$M (SD)$ (T2)	$M (SD)$ (T3)					
Identity leadership of athlete leaders	5.38 (.70)	5.66 (.74)	4.91 (1.02)	5.04 (1.07)	.45*	.22	.17	.15	.08
Team identification	5.49 (.89)	5.54 (.88)	4.79 (.99)	5.04 (1.13)	-.12	.20	.20	.13	.03
Received social support	5.50 (.99)	5.62 (1.04)	4.99 (1.18)	5.08 (1.40)	.26	.26	.11	.18	.01
Intrinsic motivation	6.72 (.57)	6.62 (.71)	6.04 (.87)	6.46 (.68)	-.51**	.15	.48***	.10	.21
Team confidence	5.58 (.86)	5.59 (.88)	4.65 (1.13)	4.74 (1.12)	-.01	.23	.03	.16	.00
Goal commitment	5.74 (.83)	5.44 (.98)	5.61 (1.02)	5.65 (1.06)	-.61	.23	.27	.16	.10
Team performance	7.47 (1.30)	7.08 (1.58)	6.83 (.92)	7.22 (1.13)	-1.23*	.45	.85***	.32	.06
Burnout	2.60 (.86)	2.75 (.89)	3.11 (.94)	2.72 (.83)	.68**	.18	-.55***	.13	.16
Self-assessed health	5.37 (.97)	5.47 (.98)	4.68 (1.04)	5.26 (1.04)	-.29	.26	.40*	.18	.12

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix A

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, displayed separately for male teams and female teams. The table displays interaction effects between the experimental group and the wait-list control group at T1 and T2.

	<i>gender</i>	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
		<i>M (SD)</i> (T1)	<i>M (SD)</i> (T2)	<i>M (SD)</i> (T1)	<i>M (SD)</i> (T2)					
Identity leadership of athlete leaders	female	5.32 (.71)	5.63 (.76)	5.25 (.91)	4.90 (1.07)	.96***	.24	.65***	.16	.16
	male	5.54 (.67)	5.73 (.71)	5.20 (.71)	4.92 (.83)	.73*	.34	.51*	.20	.11
Team identification	female	5.61 (.95)	5.59 (.95)	5.23 (.84)	4.66 (1.03)	.49*	.25	.51**	.17	.17
	male	5.39 (.87)	5.57 (.78)	5.35 (.86)	5.06 (.83)	.68	.37	.47*	.22	.09
Received social support	female	5.58 (1.03)	5.49 (1.09)	5.35 (.82)	4.91 (1.22)	.26	.28	.35	.18	.11
	male	5.30 (.88)	5.96 (.85)	5.35 (.69)	4.88 (.85)	2.18***	.47	1.34***	.28	.24
Intrinsic motivation	female	6.75 (.61)	6.68 (.56)	6.69 (.71)	5.96 (.89)	.57***	.17	.65***	.11	.45
	male	6.63 (.46)	6.68 (.49)	6.54 (.71)	5.96 (1.11)	.78*	.33	.68**	.20	.31
Team confidence	female	5.48 (.90)	5.50 (.91)	5.09 (.94)	4.67 (1.12)	.49*	.23	.47**	.15	.13
	male	5.83 (.73)	5.82 (.78)	5.24 (.69)	4.46 (.93)	.88*	.42	.81***	.24	.33
Goal commitment	female	5.74 (.88)	5.32 (.95)	6.04 (.96)	5.76 (1.11)	-.60*	.28	-.18	.18	.14
	male	5.98 (.69)	5.78 (1.04)	5.53 (.91)	5.42 (.92)	-.16	.39	-.04	.23	.02
Team performance	female	7.51 (1.24)	7.58 (1.29)	7.46 (.71)	6.86 (1.06)	.58	.41	.53	.27	.06
	male	7.36 (1.47)	5.83 (1.58)	6.47 (1.22)	6.28 (1.69)	-2.70**	.97	-1.32**	.56	.09
Burnout	female	2.51 (.90)	2.66 (.86)	2.55 (.84)	3.17 (1.06)	-.32	.21	-.46**	.14	.29
	male	2.80 (.72)	2.97 (.94)	2.76 (.83)	3.40 (.86)	-.34	.38	-.47*	.22	.26
Self-assessed health	female	5.33 (1.02)	5.41 (1.07)	5.37 (.91)	4.75 (1.00)	.77**	.27	.69***	.18	.18
	male	5.45 (.84)	5.63 (.71)	5.46 (.90)	5.00 (.92)	.84	.48	.65*	.28	.11

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix B

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, displayed separately for male teams and female teams. The table displays interaction effects between the experimental group at T2 and T3 and the wait-list control group at T1 and T2.

	<i>gender</i>	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
		<i>M (SD)</i> (T2)	<i>M (SD)</i> (T3)	<i>M (SD)</i> (T1)	<i>M (SD)</i> (T2)					
Identity leadership of athlete leaders	female	5.64 (.80)	5.50 (.86)	5.25 (.91)	4.90 (1.07)	.07	.28	.21	.18	.08
	male	5.78 (.78)	5.84 (.80)	5.20 (.71)	4.92 (.83)	.45	.40	.37	.22	.11
Team identification	female	5.62 (.94)	5.58 (1.12)	5.23 (.84)	4.66 (1.03)	.52	.26	.54**	.17	.19
	male	5.47 (.86)	5.47 (1.02)	5.35 (.86)	5.06 (.83)	.34	.41	.35	.23	.18
Received social support	female	5.48 (1.11)	5.40 (1.25)	5.35 (.82)	4.91 (1.22)	.29	.32	.37	.21	.09
	male	5.96 (.90)	5.65 (.96)	5.35 (.69)	4.88 (.85)	-.12	.61	-.19	.34	.17
Intrinsic motivation	female	6.62 (.59)	6.60 (.58)	6.69 (.71)	5.96 (.89)	.63**	.20	.68***	.13	.38
	male	6.69 (.52)	6.65 (.43)	6.54 (.71)	5.96 (1.11)	.56	.42	.57**	.23	.30
Team confidence	female	5.48 (.96)	5.29 (.97)	5.09 (.94)	4.67 (1.12)	.04	.24	.24	.16	.17
	male	5.62 (.90)	5.80 (.65)	5.24 (.69)	4.46 (.93)	.93	.49	.84**	.28	.37
Goal commitment	female	5.33 (1.00)	5.20 (1.03)	6.04 (.96)	5.76 (1.11)	-.01	.28	.11	.18	.06
	male	5.65 (1.12)	5.60 (.86)	5.53 (.91)	5.42 (.92)	-.14	.50	.03	.28	.01
Team performance	female	7.54 (1.36)	7.29 (1.59)	7.46 (.71)	6.86 (1.06)	-.06	.44	.21	.29	.09
	male	5.82 (1.78)	6.45 (1.64)	6.47 (1.22)	6.28 (1.69)	-1.16	1.20	.60	.67	.01
Burnout	female	2.62 (.83)	2.69 (.94)	2.55 (.84)	3.17 (1.06)	-.46*	.21	-.53***	.13	.32
	male	3.09 (.94)	2.92 (1.03)	2.76 (.83)	3.40 (.86)	-.81	.47	-.70**	.26	.28
Self-assessed health	female	5.39 (1.02)	5.45 (1.11)	5.37 (.91)	4.75 (1.00)	.70**	.27	.65***	.17	.21
	male	5.46 (.82)	5.31 (.97)	5.46 (.90)	5.00 (.92)	-.02	.58	.22	.33	.14

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix C

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, displayed separately for male teams and female teams. The table displays interaction effects between the wait-list control group at T2 and T3 and at T1 and T2.

	<i>gender</i>	Wait-list control group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
		$M (SD)$ (T2)	$M (SD)$ (T3)	$M (SD)$ (T1)	$M (SD)$ (T2)					
Identity leadership of athlete leaders	female	5.06 (1.06)	4.99 (1.22)	5.25 (.91)	4.90 (1.07)	.32	.32	.33	.20	.08
	male	4.62 (.57)	5.46 (.65)	5.20 (.71)	4.92 (.83)	2.00***	.45	1.14***	.24	.22
Team identification	female	4.82 (1.00)	5.02 (1.28)	5.23 (.84)	4.66 (1.03)	1.13***	.30	.84***	.19	.19
	male	4.87 (.82)	5.15 (.87)	5.35 (.86)	5.06 (.83)	1.09*	.45	.73**	.25	.18
Received social support	female	5.02 (1.16)	4.98 (1.54)	5.35 (.82)	4.91 (1.22)	.45	.37	.44*	.23	.09
	male	4.92 (.83)	5.08 (.85)	5.35 (.69)	4.88 (.85)	.82	.62	.65*	.34	.14
Intrinsic motivation	female	6.14 (.64)	6.50 (.61)	6.69 (.71)	5.96 (.89)	1.53***	.19	1.12***	.12	.49
	male	5.50 (1.58)	6.33 (.88)	6.54 (.71)	5.96 (1.11)	2.01***	.49	1.30**	.27	.32
Team confidence	female	4.74 (1.15)	4.54 (1.18)	5.09 (.94)	4.67 (1.12)	.30	.29	.36**	.18	.14
	male	4.57 (.67)	5.37 (1.04)	5.24 (.69)	4.46 (.93)	2.43***	.59	1.59***	.32	.36
Goal commitment	female	5.87 (1.14)	5.66 (1.12)	6.04 (.96)	5.76 (1.11)	-.12	.27	.05	.17	.09
	male	5.07 (.96)	5.47 (.79)	5.53 (.91)	5.42 (.92)	-.97	.51	.53	.27	.05
Team performance	female	6.87 (.98)	7.15 (1.20)	7.46 (.71)	6.86 (1.06)	1.09**	.43	.79**	.27	.10
	male	6.60 (.55)	7.60 (.55)	6.47 (1.22)	6.28 (1.69)	-2.95**	1.30	1.53**	.70	.06
Burnout	female	3.02 (.97)	2.68 (.89)	2.55 (.84)	3.17 (1.06)	-1.28***	.20	-.94***	.13	.39
	male	3.78 (.35)	3.01 (.37)	2.76 (.83)	3.40 (.86)	-2.11***	.51	-1.35***	.28	.33
Self-assessed health	female	4.62 (1.01)	5.30 (1.00)	5.37 (.91)	4.75 (1.00)	1.93***	.27	1.27***	.17	.35
	male	4.92 (.94)	4.94 (1.05)	5.46 (.90)	5.00 (.92)	.48	.60	.47	.33	.14

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix D

The results of the multilevel regression modeling, including time as a level 1-predictor, condition as a level 2-predictor, and a level 3 random intercept, for both male and female teams separately. The table displays interaction effects between the experimental (T1 to T2, coded as 0 to 1) and the wait-list control group (T2 to T3, coded as 0 to 1) in order to contrast the 5R^s program delivered during the first half of the competitive season (i.e., the experimental group) with the 5R^s program delivered during the second half of the competitive season (i.e., the wait-list control group).

	<i>gender</i>	Experimental group		Wait-list control group		β_{time}	SE_{time}	$\beta_{interaction}$	$SE_{interaction}$	Pseudo R^2_{ϵ}
		<i>M (SD)</i> (T1)	<i>M (SD)</i> (T2)	<i>M (SD)</i> (T2)	<i>M (SD)</i> (T3)					
Identity leadership of athlete leaders	female	5.32 (.71)	5.63 (.76)	5.06 (1.06)	4.99 (1.22)	.64*	.25	.33*	.17	.09
	male	5.54 (.67)	5.73 (.71)	4.62 (.57)	5.46 (.65)	-.28	.40	.51	.31	.28
Team identification	female	5.61 (.95)	5.59 (.95)	4.82 (1.00)	5.02 (1.28)	-.25	.25	.24	.17	.03
	male	5.39 (.87)	5.57 (.78)	4.87 (.82)	5.15 (.87)	.10	.24	.08	.19	.20
Received social support	female	5.58 (1.03)	5.49 (1.09)	5.02 (1.16)	4.98 (1.54)	-.18	.30	.08	.20	.01
	male	5.30 (.88)	5.96 (.85)	4.92 (.83)	5.08 (.85)	1.29**	.44	-.53	.33	.36
Intrinsic motivation	female	6.75 (.61)	6.68 (.56)	6.14 (.64)	6.50 (.61)	-.57**	.16	.49***	.11	.21
	male	6.63 (.46)	6.68 (.49)	5.50 (1.58)	6.33 (.88)	-.55	.36	.64*	.27	.32
Team confidence	female	5.48 (.90)	5.50 (.91)	4.74 (1.15)	4.64 (1.18)	.13	.26	-.11	.18	.01
	male	5.83 (.73)	5.82 (.78)	4.57 (.67)	5.37 (1.04)	-.68	.46	-.72*	.35	.20
Goal commitment	female	5.74 (.88)	5.32 (.95)	5.87 (1.14)	5.66 (1.12)	-.65*	.28	.24	.19	.14
	male	5.98 (.69)	5.78 (1.04)	5.07 (.96)	5.47 (.79)	-.58	.38	.44	.29	.12
Team performance	female	7.51 (1.24)	7.58 (1.29)	6.87 (.98)	7.15 (1.19)	-.17	.42	.21	.29	.02
	male	7.36 (1.47)	5.83 (1.58)	6.60 (.55)	7.60 (.55)	-4.24***	1.06	2.75**	.80	.29
Burnout	female	2.51 (.90)	2.66 (.86)	3.02 (.97)	2.68 (.89)	.63**	.22	-.49***	.15	.12
	male	2.80 (.72)	2.97 (.94)	3.78 (.35)	3.01 (.37)	1.00**	.33	-.86***	.25	.34
Self-assessed health	female	5.33 (1.02)	5.41 (1.07)	4.62 (1.01)	5.30 (1.00)	-.48	.28	.56**	.19	.20
	male	5.45 (.84)	5.63 (.71)	4.92 (.94)	4.94 (1.04)	.41	.63	-.20	.46	.04

* $p < .05$; ** $p < .01$; *** $p < .001$

Supplementary File A

The items included in the structured questionnaire, allowing players to anonymously provide feedback on their experience of the 5R^S (i.e., identical questions about this first and second workshop).

- *I enjoyed following this first/second workshop as a team*
- *I think this first/second workshop was useful*
- *I believe that this first/second workshop will lead to better performance as a team*
- *I would suggest this first/second workshop to other teams*

Players rated their agreement with the listed statements on scales ranging from 1 (*completely disagree*) to 7 (*completely agree*). As players were free to respond anonymously, but were not obligated to, we collected 56 completed documents (36 from workshops by the first research confederate, 20 from workshops by the second research confederate). The items above, gauging the quality of each workshop, resulted in a Cronbach's alpha of .89 and .94 for the first and second workshop respectively. We then calculated a compound score, gauging the quality of each workshop. The following table contains the results of an independent samples T-test, contrasting the means of workshops provided by the first research confederate against the means of workshops provided by the second research confederate.

	Research confederate 1	Research confederate 2		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>df</i>
The first workshop's perceived quality.	4.78 (1.14)	4.89 (.91)	-.39	54
The second workshop's perceived quality.	5.37 (1.26)	5.31 (.78)	.18	54

* $p < .05$; ** $p < .01$; *** $p < .001$