

# **Endurance athletes' current and preferred ways of getting psychological guidance**

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# ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

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## Endurance Athletes' Current and Preferred Ways of Getting Psychological Guidance

Alister McCormick, Paul A. Anstiss, and David Lavalley

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**Abstract**

This study examined how people who participate in endurance events currently get guidance on psychological aspects of their events and their preferred ways for receiving guidance from researchers and practitioners, so that psychologists can use these ways to disseminate research-derived knowledge. People in the United Kingdom ( $N = 574$ ) who participated competitively or non-competitively in running (5km and greater), road cycling (time trials, road races, or sportives), or triathlon events completed an online survey. The main questions addressed ways they have intentionally used to find psychological guidance, how they have got guidance without intentionally looking for it, and their preferences for receiving guidance. The most common ways of intentionally finding guidance were looking on websites (48.1% of participants), asking other athletes (46.7%), and asking coaches (32.5%). Athletes most commonly tried to find guidance on coping, motivation, and managing nerves. Posts on social media (51.3%), spoken word (48.0%), and magazines (45.9%) were common ways of unintentionally getting guidance, and athletes (68.1%) and coaches (45.9%) were most often the source of unintentionally received guidance. Websites (49.5%) and online videos (41.8%) were the most preferred ways to receive guidance, although researchers and practitioners working with coaches (35.5%) and event organisers (34.8%), and magazines (34.7%) were also preferable. Psychologists are encouraged to disseminate guidance to endurance athletes using websites, online videos, social media, magazines, and by working with coaches and event organisers. The data can also inform the design of intervention efficacy and effectiveness trials that deliver interventions in these ecologically-valid and preferable formats.

*Keywords:* Cycling; knowledge translation; research dissemination; running; triathlon

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51 Psychology is relevant to, and has the potential to benefit, the general public (Kaslow,  
52 2015; Sommer, 2006). In the sport and exercise context, psychology research could be used to  
53 achieve a range of important outcomes relating to performance, health, and wellbeing, and  
54 could benefit people that include, but are not limited to, athletes, exercisers, coaches, parents,  
55 and practitioners in a variety of contexts (e.g., Brown & Fletcher, 2017; Gourlan et al., 2016).  
56 Sport and exercise psychologists who want research to benefit the people that it was intended  
57 for need to consider ways of disseminating information that lead to people finding and then  
58 engaging with it. "Dual dissemination" is an important consideration. It refers to disseminating  
59 research-derived knowledge to psychologists and academics, as well as other non-overlapping,  
60 general audiences such as those outside of academia (Sommer, 2006). These two forms of  
61 dissemination use different media (e.g., journal articles and conferences versus websites and  
62 magazine articles) and different styles of communication.

63 One population who could benefit from dual dissemination of psychology research are  
64 endurance athletes, who are broadly defined as people who participate in endurance events. A  
65 vast, and increasing, number of people recreationally participate in endurance events such as  
66 running events (e.g., parkruns, 10km runs, marathons), road cycling events (e.g., time trials,  
67 road races, sportives), and triathlons at sub-elite, competitive and non-competitive levels (e.g.,  
68 Scheerder, Breedveld, & Borgers, 2015; British Triathlon, 2018; parkrun UK, 2018). Although  
69 some people may be motivated by the opportunity to compete, many participate for reasons  
70 other than competition, such as to engage in more physical activity, as a personal challenge, to  
71 accompany a friend, or to raise money for charity (e.g., Lane, Murphy, & Bauman, 2008).  
72 Independent of their motives, psychological interventions can influence how well people  
73 perform in endurance events (McCormick, Meijen, & Marcora, 2015). For competitive  
74 athletes, efficacious psychological interventions could determine important competitive

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75 outcomes, such as their positions in the standings. For non-competitive participants, efficacious  
76 psychological interventions could influence whether they cope with the demands of training  
77 for an event, attend and finish an event, and achieve a personal best time, as well as their  
78 associated cognitions and emotions. For example, performance improvements may increase  
79 feelings of competence after the event, which could predict continued training and participation  
80 in events (Ryan, Frederick, Lepas, Rubio, & Sheldon, 1997), as well as associated health  
81 benefits (e.g., Chomistek, Cook, Flint, & Rimm, 2012).

82         As many endurance athletes are sub-elite, they are unlikely to receive one-to-one  
83 psychology support. Alternative ways of disseminating psychology are therefore needed that  
84 help to maximise its reach and impact. Recently, literature has documented how “psyching  
85 teams” make psychology accessible to people in the context of mass-participation running  
86 events (Meijen, Day, & Hays, 2017). These teams use a variety of media such as webpages and  
87 webinars, workshops, written handouts, dinner speeches, and brief conversations with athletes  
88 to give evidence-based guidance. Research has yet to identify ways of disseminating  
89 psychology to endurance athletes that are preferable to them and more likely to be effective.

90         Although research has not examined dissemination of psychology to endurance  
91 athletes, research has examined dissemination of psychology and sport science to coaches and  
92 National Sport Organisations (NSOs) in various sports. Research on coaches' experiences with  
93 sport psychology (Gould, Damarjian, & Medbery, 1999; Pain & Harwood, 2004; Pope et al.,  
94 2015) and sport science (Martindale & Nash, 2013; Reade, Rodgers, & Hall, 2008; Reade,  
95 Rodgers, & Spriggs, 2008; Williams & Kendall, 2007) supports the following ways of  
96 disseminating research-derived knowledge: presenting at coaching courses, conferences, or  
97 workshops; writing summaries for sport-specific magazines, newsletters, or email lists;  
98 incorporating research-derived knowledge into coach accreditation material; and using  
99 websites. This research also shows that: guidance should be written in accessible, user-friendly

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100 language (e.g., using the language of the sport); content should be simple and concise; guidance  
101 should be concrete (e.g., through specific examples, activities, exercises, tools, and materials)  
102 and contextualised (e.g., to the sport and distance, competitive level, age, training versus  
103 competition); there should be practical examples of how to apply guidance; and it may be  
104 beneficial to limit time demands. However, coaches encounter the following barriers to finding  
105 and using research-derived knowledge: not knowing where to find sport science information;  
106 lack of time; inaccessible language (e.g., too complicated, academic, or specialised); unclear  
107 relevance; and content that could not be applied practically. Adding to the research on coaches,  
108 Holt et al. (2018) examined use of research in Canadian NSOs and identified barriers  
109 (disconnect between research and practice; understanding research and judging its credibility;  
110 lack of capacity in organisations) and facilitators (personal connections with a researcher or a  
111 sport scientist; formal meetings with stakeholders) to using research, and NSO suggestions for  
112 disseminating research (write short summaries with a practical focus; use a range of digital and  
113 social media to target specific groups; facilitate face-to-face interactions).

114 In addition to supporting psychologists with dual dissemination, the present study could  
115 inform the design of efficacy and effectiveness trials of psychological interventions for  
116 endurance athletes. Bishop (2008) proposed a model for sport science research that aims to  
117 improve sport performance in real-life sporting settings. This model has eight phases: 1)  
118 defining the problem; 2) descriptive research; 3) predictors of performance; 4) experimental  
119 testing of predictors; 5) determinants of key performance predictors; 6) intervention studies  
120 (efficacy trials); 7) barriers to uptake; and 8) implementation in a sporting setting (effectiveness  
121 trials). A substantial number of efficacy studies have examined the effects of psychological  
122 interventions (e.g., psychological skills training) on endurance performance in controlled  
123 settings (stage 6), and these studies have been systematically reviewed (McCormick et al.,  
124 2015). To improve real-life endurance performance, however, these interventions need to be



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149           The survey was administered using Google Forms. Best-practice principles of survey  
150 design were followed throughout (Choi & Pak, 2005; Fowler, Jr, 2014). The survey instructions  
151 and questions were spread across 14 pages, so that each page was uncluttered. Similar question  
152 forms were used throughout, so that participants mostly performed similar tasks that involved  
153 selecting one or more option from a list. Simple, specific wording was used. Fewer words were  
154 used where possible, without compromising clarity. Definitions of important terms such as  
155 “psychological”, “guidance”, and “event” were provided at the beginning of the survey,  
156 participants were consistently reminded of them, and the brief definition of guidance (“advice  
157 or information”) was included in the questions. Instructions were incorporated into the  
158 questions, to make it likely that they would be read. Most questions were closed questions that  
159 provided a selection of options, as well as the opportunity to provide “other” answers or choose  
160 not to answer. All questions relating to the main research questions were closed questions. The  
161 advantages of closed questions are that they place less demands on respondents, respondents  
162 more reliably perform the task of answering, answers are more comparable across respondents,  
163 the researcher can more reliably interpret the answers, and there is greater likelihood of enough  
164 people giving a particular answer to be analytically interesting (Fowler, Jr, 2014). Two open  
165 questions were included, where the possible answers were wide-ranging and we did not want  
166 to limit responses to those anticipated. When asking about preferences, the question asked  
167 about participants’ own preferences, rather than their perceptions of others’ preferences. The  
168 survey questions most closely related to the research aims were included first, to minimise  
169 impact of response fatigue. The closed responses for the main questions were randomised, and  
170 the closed responses for other questions were randomised where logical (e.g., competitive  
171 levels were in ascending order). The final survey is summarised below (Final Survey section),  
172 and can be supplied upon request. Shortened wording of the most commonly selected response



173 options are presented in the Results, with the full wording of all options presented in Appendix  
174 A.

175 **Pilot Study**

176 Five researchers with expertise in endurance sports provided comments on the survey  
177 and its questions<sup>1</sup>. Following ethical approval by the department ethics committee, six males  
178 and five females who met the eligibility criteria piloted the survey (their data are included in  
179 the results). They were asked to complete the survey and think aloud while they prepared their  
180 responses. After the four main questions, participants were asked to say in their own words  
181 what they thought the question was asking and to explain how they chose their answers over  
182 others, in order to check participants understood and answered the questions as intended. They  
183 were also asked whether it was clear what the question was asking, whether it was clear what  
184 they had to do, and whether any answers were missing from the option list (Fowler, Jr, 2014).  
185 Following their completion of the survey, they were asked to comment on the clarity of the  
186 layout, ease of understanding and answering questions, question spacing, readability, clutter,  
187 and anything else they wanted to raise (Fowler, Jr, 2014). Piloting led to the following changes:  
188 one question about non-deliberate finding of guidance was divided into two questions relating  
189 to who provided the guidance, and how it was provided; keywords were capitalised to  
190 emphasise them (e.g., "In the last 12 MONTHS"); additional instructions were given (e.g., to  
191 carefully read definitions); and minor wording changes were made for greater clarity. Piloting  
192 indicated that the overall layout was clear, the survey was attractively presented, questions  
193 were generally easy to understand, and tasks were easy to complete. In relation to the main  
194 questions, participants correctly understood the questions and how to prepare answers, and they  
195 found the questions and how to answer them clear. They reported that the main questions were  
196 lengthy, but appreciated that the length benefited clarity. Two closed-answer options were  
197 added based on suggestions.

198 **Final Survey**

199           The survey was 14 pages. Pages 1-3 addressed research aims and eligibility criteria.  
200 Participants needed to be at least 18 years old and to have taken part competitively or non-  
201 competitively in one or more running events (5km upwards), road cycling events (time trials,  
202 road races, or mass-participation events) or triathlon events (any distance) within the last 12  
203 months. Page 4 defined events (“planned or organised public occasions where many runners,  
204 cyclists, or triathletes take part either competitively or non-competitively”), and used examples  
205 to clarify the definition (competitions and races, organised public events such parkruns, charity  
206 events such as Race for Life, and mass-participation events such as 10km runs). Page 5  
207 collected informed consent, and Page 6 asked participants to read each section’s definitions,  
208 introductions, and questions carefully. Page 7 defined *guidance* (“advice or information”) and  
209 *psychological* (“Psychological relates to the MENTAL side of your sport, particularly your  
210 thoughts, feelings, motivation, and behaviours”). Twelve examples of what psychological  
211 guidance could relate to were provided (e.g., How to set good GOALS for training or events;  
212 Ways of coping with PAIN, FATIGUE, and DISCOMFORT). Page 8 clarified the difference  
213 between deliberately looking for guidance (e.g., by asking people) and being given or  
214 becoming aware of guidance without looking for it on purpose (e.g., happening to read about  
215 it). Pages 9-14 included the survey questions, with pages 9-11 focusing on the research aims,  
216 and 12-14 collecting information about respondents. The four main questions relating to the  
217 research aims are presented exactly below (Fowler, Jr, 2014):

- 218           1. Below is a list of ways that people find guidance (i.e., advice or information). There is  
219           also an "I have NOT tried to find guidance" option. In the last 12 MONTHS, what ways  
220           have you used to find guidance on PSYCHOLOGICAL parts of training for, preparing  
221           for, or performing in running, road cycling, or triathlon events? We are asking about  
222           your DELIBERATE attempts to find guidance (i.e., through looking for it on purpose),

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223 and not guidance that you have become aware of without looking for it. Please select  
224 ALL answers that apply to you.

225 2. Below is a list of ways that you may have been given guidance or become aware of  
226 guidance (i.e., advice or information) WITHOUT looking for it on purpose. In the last  
227 12 MONTHS, through what ways have you been given guidance or become aware of  
228 guidance on PSYCHOLOGICAL parts of training, preparing, or performing, without  
229 looking for it on purpose? Please select ALL answers that apply to you.

230 3. Below is a list of people who may have given you guidance or made you aware of  
231 guidance (either in person or not in person) WITHOUT you looking for it on purpose.  
232 In the last 12 MONTHS, which people have given you or made you aware of guidance  
233 on PSYCHOLOGICAL parts of training, preparing, or performing, without you  
234 looking for it on purpose? Please select ALL answers that apply to you.

235 4. There are different ways that psychology experts (practitioners or researchers who have  
236 knowledge and qualifications that relate to psychology) could provide psychological  
237 guidance. They are listed below, and they include ways of finding guidance on purpose  
238 and not on purpose. There is also a "NONE of these options are preferable to me"  
239 option. Please think about which of these ways would be most preferable TO YOU  
240 PERSONALLY (please assume that the guidance will NOT cost money, other than the  
241 possible costs of your coaching or a magazine). In other words, if experts wanted to  
242 provide YOU with psychological guidance, how would you prefer them to do it? Select  
243 UP TO 3 preferred ways.<sup>2</sup>

244 An open-ended follow-up question after Question 1 asked what respondents were trying to find  
245 out by looking for psychological guidance. An open-ended follow-up question after Question  
246 4 offered respondents the opportunity to explain other ways that guidance could be provided.



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272 101 (17.6%) had participated in all three of them. The mean number of selected event  
273 categories—representing combinations of overall sport (e.g., cycling), event type (e.g.,  
274 individual time trials) and distance (e.g., 10 mile or 25 mile)—was 4.00 ( $SD = 2.20$ ).

275 The mean combined amount of time that participants reported running, cycling, or  
276 swimming during a typical week was 8.26 hours ( $SD = 4.79$ ) when the survey was completed  
277 (between May and September 2017). Highest current competitive levels (including age group)  
278 were non-competitive ( $n = 193, 33.7%$ ), club ( $n = 273, 47.6%$ ), university ( $n = 3, 0.52%$ ),  
279 county ( $n = 22, 3.84%$ ), national ( $n = 35, 6.11%$ ), and international ( $n = 47, 8.20%$ ). None were  
280 professional. Approximately half ( $n = 296, 51.7%$ ) considered themselves to have a coach who  
281 they can get instruction from, and 101 (17.6%) considered themselves to be (or have been) a  
282 coach. Their main motives for participating in events were as a challenge ( $n = 440, 76.7%$ ), to  
283 become fitter or remain fit ( $n = 421, 73.3%$ ), to benefit their health ( $n = 328, 57.1%$ ), to socialise  
284 as part of a community ( $n = 275, 47.9%$ ), the exercise feels pleasurable or satisfying ( $n = 236,$   
285  $41.1%$ ), to benefit their weight ( $n = 203, 35.4%$ ), to benefit their self-esteem or self-worth ( $n =$   
286  $191, 33.3%$ ), and to compete or compare themselves against others ( $n = 175, 30.5%$ ).  
287 Respondents saw improving their performance as very important ( $n = 234, 40.8%$ ), moderately  
288 important ( $n = 298, 51.9%$ ), or not important ( $n = 42, 7.32%$ ).

289 These findings highlight that many people who could value guidance based on research-  
290 derived knowledge, and the benefits to their performance, are recreational and sub-elite and are  
291 therefore unlikely to receive one-to-one psychology support. They also suggest that the  
292 distinctions between runners, cyclists, and triathletes may over-simplify participation in  
293 endurance sports at sub-elite levels, as many people participate in numerous events, and  
294 researchers of these sports should consider the wider applications of the research to athletes'  
295 other endurance events. Previous research has typically encouraged disseminating research  
296 through sport-specific information (e.g., Martindale & Nash, 2013). For endurance athletes at

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297 sub-elite levels (e.g., non-competitive or club level), providing general guidance that can be  
298 adapted by the athlete to their numerous events could be preferable.

### 299 **Main Findings**

300 Most participants ( $n = 403$ , 71.1%) reported intentionally looking for guidance. The  
301 most common ways of finding guidance were looking on websites or blogs ( $n = 273$ , 48.1%),  
302 asking other athletes ( $n = 265$ , 46.7%), asking coaches ( $n = 184$ , 32.5%), looking in magazines  
303 ( $n = 165$ , 29.1%), looking in books ( $n = 149$ , 26.3%), and watching online videos ( $n = 146$ ,  
304 25.7%). Content analysis of qualitative responses suggested that there were three particularly  
305 common areas that people had sought psychological guidance on in the previous 12 months.  
306 The most commonly cited area of guidance was coping ( $n = 149$ ), which most notably included  
307 coping with the physical demands of the exercise (e.g., pain, exertion, fatigue, discomfort),  
308 unwanted thoughts and emotions (e.g., thoughts of quitting, frustration), setbacks (e.g., change  
309 in weather conditions, a series of poor performances), and injuries (e.g., managing and dealing  
310 with a chronic long-term injury). The second most commonly cited area was motivation ( $n =$   
311 93), which related to ways of increasing and maintaining training and event motivation. The  
312 third most cited area was dealing with nerves ( $n = 66$ ), particularly before an event. These  
313 findings are consistent with research on the demands experienced by recreational endurance  
314 athletes across various events (McCormick, Meijen, & Marcora, 2016), and they are consistent  
315 with potential barriers to effective self-regulation in endurance athletes (McCormick, Meijen,  
316 Anstiss, & Jones, 2018). They also reflect areas that sport psychologists are capable of  
317 providing evidence-based guidance on (e.g., McCormick et al., 2015). That is, sport  
318 psychologists could prioritise disseminating evidence-based information to endurance athletes  
319 on these areas, such as part of psyching team activities. Other areas were focus/concentration  
320 ( $n = 27$ ), confidence ( $n = 22$ ), setting goals ( $n = 14$ ), and boredom ( $n = 8$ ).

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321           With consideration to unintentionally finding guidance, posts on social media and  
322 internet groups ( $n = 294$ , 51.3%), spoken word ( $n = 275$ , 48.0%), magazines ( $n = 263$ , 45.9%),  
323 websites or blogs ( $n = 219$ , 38.2%), and books ( $n = 193$ , 33.7%) were common ways. Athletes  
324 ( $n = 390$ , 68.1%) and coaches ( $n = 263$ , 45.9%) were most often the source of this guidance.  
325 Researchers and practitioners ( $n = 66$ , 11.5%), personal trainers ( $n = 64$ , 11.2%), and event  
326 organisers ( $n = 62$ , 10.8%) were less common sources of guidance. Websites and online blogs  
327 ( $n = 284$ , 49.5%) and online videos ( $n = 240$ , 41.8%) were the most preferred ways for  
328 researchers and practitioners to provide guidance. The other options, in order of preference,  
329 were researchers and practitioners working with coaches ( $n = 204$ , 35.5%) and event organisers  
330 ( $n = 200$ , 34.8%), magazines ( $n = 199$ , 34.7%), in-person presentations or workshops ( $n = 168$ ,  
331 29.3%), mobile phone applications ( $n = 132$ , 23.0%), podcasts ( $n = 129$ , 22.5%), and interactive  
332 online presentations or workshops ( $n = 121$ , 21.1%). Participants qualitatively suggested social  
333 media ( $n = 16$ ), which we took for granted as a means of promoting other forms of guidance.  
334 Results by gender, competitive level, and age are presented in Appendix B for the interested  
335 reader. The study did not aim to compare sub-groups, and specific differences between sub-  
336 groups, whilst likely, were not hypothesised.

337           Websites and blogs, online videos (e.g., YouTube), magazine articles, and interactions  
338 with athletes, coaches, and event organisers were common and preferable ways of athletes  
339 getting guidance. In the endurance research literature, verbal or written instructions,  
340 workbooks, and one-to-one work with a practitioner are common intervention methods (see  
341 McCormick et al., 2015). Ecologically-valid and preferable methods such as websites,  
342 magazine articles, online videos, and coach-delivered educational workshops have not been  
343 used in research. As highlighted in the current study, many endurance athletes who value  
344 performance enhancement perform recreationally, particularly at non-competitive and club  
345 levels. Many of these populations are unlikely to receive one-to-one psychology support.

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346 Websites and blogs, online videos, magazine articles, and working with coaches and event  
347 organisers are dissemination methods that could make psychology accessible to the masses,  
348 including athletes who are remotely located away from a university. They also offer athletes  
349 the opportunity to access psychology guidance in times and locations of their choosing, which  
350 is particularly important because endurance athletes often have little free time (McCormick et  
351 al., 2016). Similar approaches (e.g., magazine articles, online sources, coach education  
352 workshops) are also likely to be favourable methods for sharing guidance with the coaching  
353 community (Pope et al., 2015; Reade, Rodgers, & Hall, 2008; Reade, Rodgers, & Spriggs,  
354 2008; Williams & Kendall, 2007), and could be valuable for getting evidence-based guidance  
355 “into circulation” for coaches and athletes to share.

356 Endurance researchers interested in recreational populations (e.g., as a form of physical  
357 activity) are encouraged to test the efficacy of psychological interventions delivered in these  
358 formats. First, however, future research could explore the barriers, facilitators, and consumer  
359 preferences (e.g., specific features) that will influence whether these types of interventions are  
360 optimally effective. Athletes and coaches could be involved throughout the design and  
361 modification of an intervention, by providing input during the design of the intervention and  
362 feedback on prototypes (e.g., Bock, Heron, Jennings, Magee, & Morrow, 2013).

363 Researchers who complete projects relevant to endurance athletes, as well as athletes  
364 in other sports, are encouraged to provide evidence-based guidance through the ways  
365 highlighted by the current findings, namely using websites and blogs, social media, magazines,  
366 and by working with coaches and event organisers. Although endurance athletes do receive  
367 guidance through these ways already, the guidance may not be evidence-based. The results of  
368 the present study also highlight the value of providing guidance in multiple ways (e.g.,  
369 webpages with embedded online videos and downloadable content), as there were many  
370 preferable delivery formats (see also Gould et al., 1999). Sport science research demonstrates



371 that: the language used should be accessible and user-friendly; content should be kept concise  
372 and simple; guidance should be made concrete through specific examples, activities, exercises,  
373 tools, and materials (rather than just informational content); and downloadable resources such  
374 as workbooks and activities are likely to be helpful (e.g., Martindale & Nash, 2013).  
375 Researchers may find it helpful to work with endurance athletes and coaches (e.g., using focus  
376 groups) so that guidance is accessible to its users (e.g., using the language of the sport). As  
377 explained above, providing general guidance that can be adapted by the athlete to their  
378 numerous events could be preferable for sub-elite athletes.

379         There are barriers to disseminating research-derived knowledge in these ways (see  
380 Kaslow, 2015). In particular, psychologists may need to learn “public speak”, which requires  
381 different skills to “journal speak” (Sommer, 2006). To disseminate to the public, a psychologist  
382 would need to explain information in a way that is scientifically-informed, succinct but  
383 accurate, clear and understandable, creative and engaging, memorable, relevant, and conveys  
384 the “so what” of psychological research (see Kaslow, 2015). In addition, psychologists may  
385 need training for some dissemination methods, such as using online videos. For support,  
386 psychologists who work in universities could collaborate with colleagues in departments such  
387 as marketing, media, or communications, who may be more experienced in these forms of  
388 dissemination. Psychologists could also collaborate with people who run endurance websites,  
389 podcasts, and other media. When disseminating by collaborating with non-psychologists or  
390 speaking with journalists, there are important ethical considerations to consider (see McGarrah,  
391 Alvord, Martin, & Haldeman, 2009). For example, it is important that psychologists have an  
392 opportunity to review information (e.g., edited interviews or resources) to ensure that it is  
393 accurate before it is published. Finally, Twitter and online blogs are accessible and either free  
394 or relatively inexpensive ways of reaching the general public. They allow psychologists to  
395 ensure that research is represented accurately, whilst also facilitating bi-directional

396 communication that addresses misunderstandings and allows nuanced discussions (Weinstein  
397 & Sumeracki, 2017).

398         With consideration to research limitations, the data presented reflects the ways that  
399 respondents get, and would prefer to get, guidance. Respondents are likely to differ from non-  
400 respondents in qualities such as availability of time, interests in the research area and getting  
401 psychological guidance, and attitudes towards sport psychology (McCormick, Meijen, &  
402 Marcora, 2018). Although it is not possible to accurately quantify the percentages of endurance  
403 athletes who get, or would prefer to get, guidance in particular ways at the population level,  
404 the data will nevertheless be useful for helping researchers and practitioners to disseminate  
405 psychology in ways that are more likely to benefit endurance athletes.

406         In conclusion, psychology researchers and practitioners are encouraged to engage in  
407 dual dissemination (Sommer, 2006) and share guidance with endurance athletes using  
408 websites, social media, magazines, and by working with coaches and event organisers. The  
409 data can inform the design of intervention efficacy and effectiveness trials that are conducted  
410 with athletes under the constraints of the sporting setting.

411 **Notes**

412 <sup>1</sup> Thank you to Dr Carla Meijen, Dr Andy Kirkland, Dr Noel Brick, Professor Andy Lane, and  
413 Dr David Marchant for their helpful comments.

414 <sup>2</sup> Selecting three was intended to encourage discrimination in the selection of responses. If  
415 participants selected more than three, all selected options were included in the data analysis.

416

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## Appendix A

### Full Wording of Response Options

#### Question 1

Below is a list of ways that people find guidance (i.e., advice or information). There is also an “I have NOT tried to find guidance” option. In the last 12 MONTHS, what ways have you used to find guidance on PSYCHOLOGICAL parts of training for, preparing for, or performing in running, road cycling, or triathlon events? We are asking about your DELIBERATE attempts to find guidance (i.e., through looking for it on purpose), and not guidance that you have become aware of without looking for it. Please select ALL answers that apply to you.

Exact wording on the survey	Abbreviation in the manuscript (if applicable)	Abbreviation in Appendix B (if applicable)
Asking a coach in a relevant sport (e.g., asking in-person, asking through social media)	Asking coaches	Coaches
Asking people (e.g., training partner, people on Facebook pages, other social media, or forums) who take part or compete in a relevant sport, but who are NOT a coach	Asking other athletes	Athletes
Asking a practitioner or researcher who has knowledge and qualifications that relate to psychology (e.g., a sport and exercise scientist or a psychologist)		
Looking in magazines deliberately to find guidance	Looking in magazines	Magazines
Looking in books deliberately to find guidance	Looking in books	Books
Reading academic articles such as research reports or journal articles		
Looking on websites or online blogs	Looking on websites or blogs	Websites
Watching online videos (e.g., videos on YouTube) deliberately to find guidance	Watching online videos	Online video
Listening to a podcast deliberately to find guidance		
Attending a workshop or presentation delivered by a practitioner or researcher who has knowledge and qualifications that relate to psychology (e.g., a sport and exercise scientist or a psychologist)		
Attending a workshop or presentation delivered by a coach, an event organiser, or a sport participant		
Using a mobile phone application to find guidance		
I have NOT deliberately tried to find guidance	Have not tried to find guidance	None

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## ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

### 518 Question 2

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520 Below is a list of ways that you may have been given guidance or become aware of guidance  
 521 (i.e., advice or information) WITHOUT looking for it on purpose. In the last 12 MONTHS,  
 522 through what ways have you been given guidance or become aware of guidance on  
 523 PSYCHOLOGICAL parts of training, preparing, or performing, without looking for it on  
 524 purpose? Please select ALL answers that apply to you.

525

Exact wording on the survey	Abbreviation in the manuscript (if applicable)	Abbreviation in Appendix B (if applicable)
A person (e.g., coach, sport participant) spoke to you about it in person, either one-to-one or as part of a group (excluding presentations and workshops), or by telephone	Spoken word	Spoken word
A post on social media (e.g., Twitter, Facebook, Instagram, LinkedIn) or in an internet group (e.g., Google Groups) or forum	Posts on social media or internet group	Internet post
When on a website (other than social media) or online blog relevant to running, cycling, or triathlon	Websites or blogs	Websites
A person (e.g., coach, sport participant) sent you an email about it (e.g., a mailing list)		
A presentation or workshop relevant to running, cycling, or triathlon		
When listening to a podcast relevant to running, cycling, or triathlon		
When reading a magazine relevant to running, cycling, or triathlon	Magazines	Magazines
When reading a book relevant to running, cycling, or triathlon	Books	Books
When using a mobile phone application relevant to running, cycling, or triathlon		
I have NOT been given or become aware of guidance		

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## ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

### 540 Question 3

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542 Below is a list of people who may have given you guidance or made you aware of guidance  
 543 (either in person or not in person) WITHOUT you looking for it on purpose. In the last 12  
 544 MONTHS, which people have given you or made you aware of guidance on  
 545 PSYCHOLOGICAL parts of training, preparing, or performing, without you looking for it on  
 546 purpose? Please select ALL answers that apply to you.

547

Exact wording on the survey	Abbreviation in the manuscript (if applicable)	Abbreviation in Appendix B (if applicable)
A coach in a relevant sport (e.g., running, cycling, swimming, triathlon)	Coaches	Coaches
A person who takes part or competes in a relevant sport, but who is NOT a coach (e.g., a training partner, a person on Facebook or in an internet forum or group)	Athletes	Athletes
A practitioner or researcher who has knowledge and qualifications that relate to psychology (e.g., a sport and exercise scientist or a psychologist)	Researchers and practitioners	
A running, road cycling, or triathlon event organiser	Event organisers	
A personal trainer	Personal trainers	
I am unsure of who gave or made me aware of guidance		
I have NOT been given or become aware of guidance		

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## ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

### 568 Question 4

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570 There are different ways that psychology experts (practitioners or researchers who have  
 571 knowledge and qualifications that relate to psychology) could provide psychological guidance.  
 572 They are listed below, and they include ways of finding guidance on purpose and not on  
 573 purpose. There is also a “NONE of these options are preferable to me” option. Please think  
 574 about which of these ways would be most preferable TO YOU PERSONALLY (please assume  
 575 that the guidance will NOT cost money, other than the possible costs of your coaching or a  
 576 magazine). In other words, if experts wanted to provide YOU with psychological guidance,  
 577 how would you prefer them to do it? Select UP TO 3 preferred ways.

578

Exact wording on the survey	Abbreviation in the manuscript (if applicable)	Abbreviation in Appendix B (if applicable)
Presentations or workshops by experts that runners, cyclists, or triathletes attend	In-person presentations or workshops	
Online presentations or online workshops (e.g., webinars) by experts that are interactive (e.g., you can ask questions and discuss points)	Interactive online presentations or workshops	
Experts passing on guidance using online videos to watch (e.g., videos on YouTube)	Online videos	Online video
Experts passing on guidance using magazines for runners, cyclists, or triathletes	Magazines	Magazines
Experts passing on guidance using podcasts for runners, cyclists, or triathletes to listen to	Podcasts	
Experts working with coaches so that coaches can pass on the psychological guidance	Researchers and practitioners working with coaches	Coaches
Experts working with event organisers so that guidance is given as part of the event (e.g., guidance given in event emails and registration packs, experts present at events)	Researchers and practitioners working with event organisers	Events
Websites or online blogs that are for runners, cyclists, or triathletes	Websites and online blogs	Websites
Mobile phone applications that are for runners, cyclists, or triathletes	Mobile phone applications	
NONE of these options are preferable to me	None	

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ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Appendix B

Results by Gender, Competitive Level, and Age

Question		Sub-group										Overall
		Gender		Competitive level			Age group					
		Males	Females	None	Club	County +	18-29	30-39	40-49	50-59	60-69	
Intentional	Websites	46.5%	49.1%	45.5%	51.7%	42.7%	69.1%	46.8%	47.0%	50.0%	31.0%	48.1%
	Athletes	42.5%	50.5%	42.9%	52.8%	35.9%	60.0%	54.0%	48.1%	40.2%	31.0%	46.7%
	Coaches	31.9%	33.0%	23.6%	35.3%	40.8%	30.9%	34.5%	36.6%	31.1%	21.4%	32.5%
	Magazines	30.8%	27.8%	28.3%	29.7%	29.1%	29.1%	29.5%	29.5%	31.8%	19.0%	29.1%
	None	29.7%	28.5%	35.6%	24.5%	29.1%	20.0%	28.1%	29.5%	26.5%	52.4%	28.9%
	Books	33.0%	19.6%	21.5%	29.0%	29.1%	25.5%	20.9%	27.3%	33.3%	21.4%	26.3%
	Online video	31.5%	19.9%	25.7%	27.5%	21.4%	38.2%	26.6%	24.6%	27.3%	14.3%	25.7%
Unintentional – Methods	Internet post	46.2%	56.0%	49.5%	54.2%	46.2%	66.1%	53.6%	53.5%	48.9%	26.8%	51.3%
	Spoken word	41.5%	54.3%	43.2%	50.9%	48.1%	51.6%	56.4%	43.2%	47.4%	39.0%	48.0%
	Magazines	46.9%	45.1%	38.5%	50.9%	46.2%	43.5%	40.7%	49.2%	46.7%	48.8%	45.9%
	Websites	39.4%	36.9%	39.1%	37.4%	38.5%	46.8%	39.3%	35.7%	37.8%	39.0%	38.2%
	Books	40.8%	26.3%	26.0%	35.9%	42.3%	29.0%	27.9%	31.4%	40.7%	43.9%	33.7%
Unintentional – People	Athletes	61.7%	74.1%	65.3%	72.4%	61.5%	80.6%	68.6%	68.6%	59.7%	71.4%	68.1%
	Coaches	44.0%	47.8%	35.2%	47.1%	61.5%	48.4%	48.6%	44.9%	45.5%	40.5%	45.9%
Preferences	Websites	48.0%	50.7%	49.7%	49.8%	48.1%	53.2%	57.1%	49.7%	47.4%	31.0%	49.5%
	Online video	51.6%	33.0%	36.8%	41.4%	52.9%	40.3%	46.4%	45.4%	36.3%	35.7%	41.8%
	Coaches	37.2%	34.0%	30.6%	36.6%	41.3%	40.3%	37.1%	31.9%	34.8%	42.9%	35.5%
	Events	26.0%	43.2%	44.6%	33.7%	19.2%	46.8%	34.3%	35.1%	35.6%	23.8%	34.8%
	Magazines	33.6%	35.7%	32.1%	38.1%	30.8%	25.8%	32.9%	36.2%	37.0%	33.3%	34.7%

*Note.* The most commonly selected responses are presented. Full data is available on request. See Appendix A for the full wording of the selected responses.