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ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Endurance Athletes' Current and Preferred Ways of Getting Psychological Guidance

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

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

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

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

Although research has not examined dissemination of psychology to endurance athletes, research has examined dissemination of psychology and sport science to coaches and National Sport Organisations (NSOs) in various sports. Research on coaches' experiences with sport psychology (Gould, Damarjian, & Medbery, 1999; Pain & Harwood, 2004; Pope et al., 2015) and sport science (Martindale & Nash, 2013; Reade, Rodgers, & Hall, 2008; Reade, Rodgers, & Spriggs, 2008; Williams & Kendall, 2007) supports the following ways of disseminating research-derived knowledge: presenting at coaching courses, conferences, or workshops; writing summaries for sport-specific magazines, newsletters, or email lists; incorporating research-derived knowledge into coach accreditation

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

In addition to supporting psychologists with dual dissemination, the present study could inform the design of efficacy and effectiveness trials of psychological interventions for endurance athletes. Bishop (2008) proposed a model for sport science research that aims to improve sport performance in real-life sporting settings. This model has eight phases: 1) defining the problem; 2) descriptive research; 3) predictors of performance; 4) experimental testing of predictors; 5) determinants of key performance predictors; 6) intervention studies (efficacy trials); 7) barriers to uptake; and 8) implementation in a sporting setting (effectiveness trials). A substantial number of efficacy studies have examined the effects of psychological interventions (e.g., psychological skills training) on endurance performance in

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controlled settings (stage 6), and these studies have been systematically reviewed (McCormick et al., 2015). To improve real-life endurance performance, however, these interventions need to be accepted, adopted, and complied with by consumers such as endurance athletes, coaches, and practitioners. It is therefore important that researchers consider, at the inception of research, how their research findings might be adapted to the intended population, in the actual sporting setting, when delivered by people with diverse training and skills, and when using the resources available (Bishop, 2008). Psychology research on endurance sports has yet to address stage 7 of the model, which considers the conditions that impede or facilitate widespread use of research-derived knowledge. By understanding these conditions, researchers could modify efficacious interventions so that they address barriers, use facilitators, satisfy preferences, and are more likely to be used optimally by athletes in real-life settings. The effects of modified interventions on the performance of intended recipients (i.e., particular groups of endurance athletes) could then be examined using additional efficacy studies in controlled settings and effectiveness studies in real-life sporting settings.

This study has two main research aims. First, this study aims to determine how endurance athletes currently get guidance on psychological aspects of training for, preparing for, and performing in endurance sports. It will examine how endurance athletes intentionally find guidance, as well as how they get it without intentionally looking for it. Second, it aims to identify endurance athletes' preferences for receiving psychological guidance from researchers and practitioners. By doing so, this study will provide data that psychologists can use to disseminate research-derived knowledge of psychology in endurance sports. It will also provide data that can inform the design of efficacy and effectiveness trials of psychological interventions that are conducted with endurance athletes under the constraints of the sporting setting.

Methods

Survey Design

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

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were in ascending order). The final survey is summarised below (Final Survey section), and can be supplied upon request. Shortened wording of the most commonly selected response options are presented in the Results, with the full wording of all options presented in Appendix A.

Pilot Study

Five researchers with expertise in endurance sports provided comments on the survey and its questions¹. Following ethical approval by the department ethics committee, six males and five females who met the eligibility criteria piloted the survey (their data are included in the results). They were asked to complete the survey and think aloud while they prepared their responses. After the four main questions, participants were asked to say in their own words what they thought the question was asking and to explain how they chose their answers over others, in order to check participants understood and answered the questions as intended. They were also asked whether it was clear what the question was asking, whether it was clear what they had to do, and whether any answers were missing from the option list (Fowler, Jr, 2014). Following their completion of the survey, they were asked to comment on the clarity of the layout, ease of understanding and answering questions, question spacing, readability, clutter, and anything else they wanted to raise (Fowler, Jr, 2014). Piloting led to the following changes: one question about non-deliberate finding of guidance was divided into two questions relating to who provided the guidance, and how it was provided; keywords were capitalised to emphasise them (e.g., “In the last 12 MONTHS”); additional instructions were given (e.g., to carefully read definitions); and minor wording changes were made for greater clarity. Piloting indicated that the overall layout was clear, the survey was attractively presented, questions were generally easy to understand, and tasks were easy to complete. In relation to the main questions, participants correctly understood the questions and how to prepare answers, and they found the questions and how to answer them clear. They reported

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that the main questions were lengthy, but appreciated that the length benefited clarity. Two closed-answer options were added based on suggestions.

Final Survey

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

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,

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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.

2. Below is a list of ways that you may have been given guidance or become aware of guidance (i.e., advice or information) WITHOUT looking for it on purpose. In the last 12 MONTHS, through what ways have you been given guidance or become aware of guidance on PSYCHOLOGICAL parts of training, preparing, or performing, without looking for it on purpose? Please select ALL answers that apply to you.
3. Below is a list of people who may have given you guidance or made you aware of guidance (either in person or not in person) WITHOUT you looking for it on purpose. In the last 12 MONTHS, which people have given you or made you aware of guidance on PSYCHOLOGICAL parts of training, preparing, or performing, without you looking for it on purpose? Please select ALL answers that apply to you.
4. There are different ways that psychology experts (practitioners or researchers who have knowledge and qualifications that relate to psychology) could provide psychological guidance. They are listed below, and they include ways of finding guidance on purpose and not on purpose. There is also a "NONE of these options are preferable to me" option. Please think about which of these ways would be most preferable TO YOU PERSONALLY (please assume that the guidance will NOT cost money, other than the possible costs of your coaching or a magazine). In other words, if experts wanted to provide YOU with psychological guidance, how would you prefer them to do it? Select UP TO 3 preferred ways.²

An open-ended follow-up question after Question 1 asked what respondents were trying to find out by looking for psychological guidance. An open-ended follow-up question after

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Question 4 offered respondents the opportunity to explain other ways that guidance could be provided.

The full survey took approximately 10 minutes to complete. It was emailed to clubs, event organisers, and organisations across the United Kingdom, and shared via social media. To encourage completion, the relevance of the research purpose and the potential benefits to participants and their sport communities were outlined, and a reminder email was sent (Fowler, Jr, 2014).

Results and Discussion

Respondents

The survey was completed by 612 people who lived in the United Kingdom. Thirty-seven were excluded because qualitative responses indicated that the guidance they had sought was not psychological, suggesting that they had not read or had misunderstood the instructions. An additional one was excluded because they were not participating in relevant events. Of the 574 people who were included, 533 (93.5%) reported British nationality, 294 (51.5%) reported being female, and 277 (48.5%) reported being male. The mean age of participants was 43.8 ($SD = 11.2$, range = 18-79): age 18-29 ($n = 62$, 10.9%), 30-39 ($n = 140$, 24.6%), 40-49 ($n = 185$, 32.5%), 50-59 ($n = 135$, 23.7%), 60-69 ($n = 42$, 7.38%), 70-79 ($n = 5$, 0.88%). In the previous 12 months, respondents had participated in running events ($n = 489$, 85.3%), road cycling events ($n = 213$, 37.2%), and triathlon events ($n = 194$, 33.9%). The most commonly entered events were 5km ($n = 376$, 65.6%), 10km ($n = 331$, 57.8%), and half-marathon ($n = 289$, 50.4%) running events. Other commonly entered events were cross-country running events ($n = 153$, 26.7%), marathons ($n = 143$, 25.0%), sprint triathlons ($n = 134$, 23.4%), single-day mass-participation cycling events of up to 100km ($n = 102$, 17.8%) or above 100km ($n = 98$, 17.1%), 10 mile or 25 mile individual cycling time trials ($n = 96$, 16.8%), Olympic triathlons ($n = 79$, 13.8%) and half-iron distance triathlons ($n = 76$, 13.3%).

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With consideration to involvement in multiple sports, 350 (61.1%) had participated in one of running, cycling, or triathlon events in the previous 12 months, 122 (21.3%) had participated in two of them, and 101 (17.6%) had participated in all three of them. The mean number of selected event categories—representing combinations of overall sport (e.g., cycling), event type (e.g., individual time trials) and distance (e.g., 10 mile or 25 mile)—was 4.00 ($SD = 2.20$).

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

These findings highlight that many people who could value guidance based on research-derived knowledge, and the benefits to their performance, are recreational and sub-elite and are therefore unlikely to receive one-to-one psychology support. They also suggest that the distinctions between runners, cyclists, and triathletes may over-simplify participation in endurance sports at sub-elite levels, as many people participate in numerous events, and

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researchers of these sports should consider the wider applications of the research to athletes' other endurance events. Previous research has typically encouraged disseminating research through sport-specific information (e.g., Martindale & Nash, 2013). For endurance athletes at sub-elite levels (e.g., non-competitive or club level), providing general guidance that can be adapted by the athlete to their numerous events could be preferable.

Main Findings

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

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information to endurance athletes on these areas, such as part of psyching team activities. Other areas were focus/concentration ($n = 27$), confidence ($n = 22$), setting goals ($n = 14$), and boredom ($n = 8$).

With consideration to unintentionally finding guidance, posts on social media or internet groups ($n = 294$, 51.3%), spoken word ($n = 275$, 48.0%), magazines ($n = 263$, 45.9%), websites or blogs ($n = 219$, 38.2%), and books ($n = 193$, 33.7%) were common ways. Athletes ($n = 390$, 68.1%) and coaches ($n = 263$, 45.9%) were most often the source of this guidance. Researchers and practitioners ($n = 66$, 11.5%), personal trainers ($n = 64$, 11.2%), and event organisers ($n = 62$, 10.8%) were less common sources of guidance. Websites and online blogs ($n = 284$, 49.5%) and online videos ($n = 240$, 41.8%) were the most preferred ways for researchers and practitioners to provide guidance. The other options, in order of preference, were researchers and practitioners working with coaches ($n = 204$, 35.5%) and event organisers ($n = 200$, 34.8%), magazines ($n = 199$, 34.7%), in-person presentations or workshops ($n = 168$, 29.3%), mobile phone applications ($n = 132$, 23.0%), podcasts ($n = 129$, 22.5%), interactive online presentations or workshops ($n = 121$, 21.1%), and no preferred options ($n = 16$, 2.8%). Participants qualitatively suggested social media ($n = 16$). We took social media for granted as a means of promoting other forms of guidance, but social media could also be used to provide brief guidance (e.g., a Twitter post about goals leading up to a mass-participation event). Results by gender, competitive level, and age are presented in Appendix B for the interested reader. The study did not aim to compare sub-groups, and specific differences between sub-groups, whilst likely, were not hypothesised.

Websites and blogs, online videos (e.g., YouTube), magazine articles, and interactions with athletes, coaches, and event organisers were common and preferable ways of athletes getting guidance. In the endurance research literature, verbal or written instructions, workbooks, and one-to-one work with a practitioner are common intervention methods (see

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McCormick et al., 2015). Ecologically-valid and preferable methods such as websites, magazine articles, online videos, and coach-delivered educational workshops have not been used in research. As highlighted in the current study, many endurance athletes who value performance enhancement perform recreationally, particularly at non-competitive and club levels. Many of these populations are unlikely to receive one-to-one psychology support. Websites and blogs, online videos, magazine articles, and working with coaches and event organisers are dissemination methods that could make psychology accessible to the masses, including athletes who are remotely located away from a university. They also offer athletes the opportunity to access psychology guidance in times and locations of their choosing, which is particularly important because endurance athletes often have little free time (McCormick et al., 2016). Similar approaches (e.g., magazine articles, online sources, coach education workshops) are also likely to be favourable methods for sharing guidance with the coaching community (Pope et al., 2015; Reade, Rodgers, & Hall, 2008; Reade, Rodgers, & Spriggs, 2008; Williams & Kendall, 2007), and could be valuable for getting evidence-based guidance “into circulation” for coaches and athletes to share.

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

Researchers who complete projects relevant to endurance athletes, as well as athletes in other sports, are encouraged to provide evidence-based guidance through the ways

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highlighted by the current findings, namely using websites and blogs, social media, magazines, and by working with coaches and event organisers. Although endurance athletes do receive guidance through these ways already, the guidance may not be evidence-based. The results of the present study also highlight the value of providing guidance in multiple ways (e.g., webpages with embedded online videos and downloadable content), as there were many preferable delivery formats (see also Gould et al., 1999). Sport science research demonstrates that: the language used should be accessible and user-friendly; content should be kept concise and simple; guidance should be practical and made concrete through specific examples, activities, exercises, tools, and materials (rather than just informational content); and downloadable resources such as workbooks and activities are likely to be helpful (e.g., Martindale & Nash, 2013). Researchers may find it helpful to work with endurance athletes and coaches (e.g., using focus groups) so that guidance is accessible to its users (e.g., using the language of the sport). As explained above (Respondents section), providing contextualised guidance that can be adapted by the athlete to their numerous events could be preferable for sub-elite athletes.

There are barriers to disseminating research-derived knowledge in these ways (see Kaslow, 2015). In particular, psychologists may need to learn “public speak”, which requires different skills to “journal speak” (Sommer, 2006). To disseminate to the public, a psychologist would need to explain information in a way that is scientifically-informed, succinct but accurate, clear and understandable, creative and engaging, memorable, relevant, and conveys the “so what” of psychological research (see Kaslow, 2015). In addition, psychologists may need training for some dissemination methods, such as using online videos. For support, psychologists who work in universities could collaborate with colleagues in departments such as marketing, media, or communications, who may be more experienced in these forms of dissemination. Psychologists could also collaborate with people who run

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endurance websites, podcasts, and other media. When disseminating by collaborating with non-psychologists or speaking with journalists, there are important ethical considerations to consider (see McGarrah, Alvord, Martin, & Haldeman, 2009). For example, it is important that psychologists have an opportunity to review information (e.g., edited interviews or resources) to ensure that it is accurate before it is published. Finally, Twitter and online blogs are accessible and either free or relatively inexpensive ways of reaching the general public. They allow psychologists to ensure that research is represented accurately, whilst also facilitating bi-directional communication that addresses misunderstandings and allows nuanced discussions (Weinstein & Sumeracki, 2017).

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

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

Notes

¹ Thank you to Dr Carla Meijen, Dr Andy Kirkland, Dr Noel Brick, Professor Andy Lane, and Dr David Marchant for their helpful comments.

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

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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		None

ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Question 2

Below is a list of ways that you may have been given guidance or become aware of guidance (i.e., advice or information) WITHOUT looking for it on purpose. In the last 12 MONTHS, through what ways have you been given guidance or become aware of guidance on PSYCHOLOGICAL parts of training, preparing, or performing, without looking for it on purpose? 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)
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 groups	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		

ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Question 3

Below is a list of people who may have given you guidance or made you aware of guidance (either in person or not in person) WITHOUT you looking for it on purpose. In the last 12 MONTHS, which people have given you or made you aware of guidance on PSYCHOLOGICAL parts of training, preparing, or performing, without you looking for it on purpose? 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)
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		

ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Question 4

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

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	No preferred options	

ENDURANCE ATHLETES' WAYS OF GETTING GUIDANCE

Appendix B

Results by Gender, Competitive Level, and Age

Table 1
Ways of Receiving Guidance in Respondent Sub-Groups

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.