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Coaches Perceptions and Use of an Online Sport Psychology Resource

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Kinesiology

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Abstract

Sport psychology has become widely applied in coaching practices to assist in athletic success. Despite the increased use, there is a lack of evidence-based sport psychology information available to coaches in the form of informal sources. The aim of this study was to explore coaches' perceptions and use of a sport psychology website using mixed methods. Eight coaches participated in semi-structured interviews. A thematic analysis revealed five themes (current use, accessibility, attitudes, website use, website engagement). Google Analytics demonstrated coaches' engagement with the website. Findings suggested that coaches perceive sport psychology to be relevant to their sport and the website sportpsychologyforcoaches.ca was effective in providing new ideas to coaches. Furthermore, this research offers evidence on the value of online resources in providing coaches with readily applicable sport psychology information for their coaching practices.

Keywords: sport psychology; coaches; sources of learning; qualitative research; Google Analytics

Summary for Lay Audience

Coaches are always looking for ways to improve their athletes' performance. The practice of sports psychology has been shown to be beneficial in improving athletic performance.

Coaches often look for new ideas in sport psychology in order to gain an athletic advantage, but these ideas are not presented via preferred formatting. This creates a gap between the sport psychology research being done and the ways coaches prefer to access new ideas. To bridge this gap, a sport psychology website (www.sportpsychologyforcoaches.ca) was developed by sports psychology experts, with the aim to give coaches credible and easy-to-use techniques in sport psychology. The current study looked at coaches' current perceptions, experiences, and use of sport psychology as well as their engagements with the website. To investigate, eight coaches were recruited from various sports. Combining interviews and reports from Google Analytics (a tool used to track and measure website engagement patterns), the coaches found sport psychology to be an important component to their coaching practices but lacked confidence and knowledge in the field to apply it. After engaging with the website for two months, many coaches rated the website to be a great resource to help them learn how to apply sport psychology skills with their athletes. This research contributes to the novel area regarding coaches' preferred learning sources and application of sport psychology skills. It also provides insights for coach education developers on ways to make resources more effective for learning.

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I can probably sum up my entire Grad School experience using only Michael Scott quotes so a shout out to NBC’s *The Office*. Without it, I probably would have finished writing much sooner. I am just happy I was able to start my sentence and find it along the way.

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Introduction

Many athletic coaches are aware that sport science research is being conducted and recognize the benefits and relevancy of such research to their own coaching situation (Reade, Rodgers, & Spriggs, 2008; Rodgers, Reade, & Hall, 2007). Accordingly, these individuals, especially those charged with the coaching of high-performance athletes, seek new ideas to enhance performance (Pope et al., 2015; Reade, Rodgers, & Spriggs, 2008). To complement their training, coaches use sport psychology with their athletes to help them achieve their performance goals (Pope et al., 2015). These coaches also report that research related to sport psychology is one of the sport-science disciplines that is contributing to these innovative coaching techniques (Rodgers et al., 2007; Williams & Kendall, 2007). Although coaches recognize the benefits of utilizing cognitive skills with their athletes, the documented application of sport psychology research by the coaches themselves has been limited within the discipline itself (Pope et al., 2015).

Knowledge Translation Gap

According to the Canadian Institute of Health Research (CIHR), knowledge translation is defined as “a dynamic and iterative process between researchers and users, in which knowledge is formed, disseminated and exchanged with users” (CIHR, Research, 2016). Despite the aforementioned contribution of sport researchers, many coaches do not believe the information is accessible or reliable, thus creating a knowledge gap. One study of Canadian university coaches performed by Reade, Rodgers, and Hall (2008) found 39.9% ($n=205$) of coaches believe sport research to be a contributor of new ideas in the area of mental training and preparation, but only 13.2% think this research can be utilized by coaches. In addition, 50% of these coaches reported difficulties in accessing the research.

This finding reflects a knowledge gap between the dissemination and exchange of new ideas between researchers, and the retrieval of these ideas by coaches.

Sources of Learning

It is important to consider how coaches access new ideas in sport science to better understand the knowledge translation gap. Previous research has suggested coaches gain knowledge through a myriad of sources (Côté, 2006; Erickson, Bruner, MacDonald, & Côté, 2009; Rodgers et al., 2007; Werthner & Trudel, 2006). Côté (2006) states there are three main settings in which coaches learn the skills to be effective: coach education programs, learning experiences as an athlete, and learning experiences as a coach. Building on this, Nelson et al. (2006) categorized coaches' sources of learning as formal, nonformal, and informal. Characteristics of each source are outlined in Table 1. Throughout this thesis, informal learning and self-directed learning will be used interchangeably.

Table 1

Characteristics of the Sources of Learning for Coaches (Nelson et al., 2006)

<i>Learning Source</i>	<i>Characteristics</i>	<i>Advantages</i>	<i>Disadvantages</i>	<i>Examples</i>
Formal	Typically designed in a structured and standardized curriculum/program	Information is credible Coaches can obtain a certification	Information does not always reflect the true coaching content Coaches have no say in the topics discussed Costly and offered at specific times of the year	Coaching certification programs (such as the National Coaching Certification Program)

<i>Nonformal</i>	Coaches are presented with alternative learning situations outside of a formalized structure	Generally on a specific topic/area of interest	Offered at specific times of the year Costly	Coaching conferences Workshops Seminars
<i>Informal</i>	Self-directed and based on a personal experience within the sport environment (Erickson, Bruner, MacDonald, & Côté, 2008)	Coach chooses and is in control of what they want to learn Develop applicable solutions to overcome coaching dilemmas	No quality control Other coaches may be reluctant to share info	Experience as an athlete Other coaches Websites Books

Note. Table adapted from Nelson et. al., (2006)

Coaches have favoured informal sources as their actual and preferred source for gaining recent ideas and information (Erickson et al., 2009; Stoszowski & Collins, 2016). This preference is not a comment on the quality of the information presented through formal and nonformal sources, but rather the style in which it is being offered to coaches (Stoszowski & Collins, 2016). Coaches value interacting with their peers for the retrieval of information. Not only can they obtain information relatively quickly from the other coaches, it is also perceived to be presented in an applicable manner. Moreover, Nelson et al. (2006) argue that self-directed learning has a greater impact on coaches learning as they are able to develop strategies to overcome the coaching dilemmas they see as most pressing. It allows the coach to reflect on the material they are applying and see how it fits into their coaching practices as a whole (2006). Furthermore, coaching certification programs and conferences are often associated with a fee and many coaches do not have access to the funding necessary to attend them (Reade, Rodgers, & Spriggs, 2008). Also, as many coaches possess limited

free time, other coaching priorities take precedent over attending certification programs and conferences (2008).

Technical Trends/Online Resources

A common informal resource used by coaches for obtaining sport science research is the internet (Reade, Rodgers, & Hall, 2008). With over 4.47 billion users worldwide, the internet continues to transform how information is shared and has become an integral part of day to day life (Statista, 2019). In terms of accessing the web, 51% of Canadians use desktops when they go online and 48% use smartphone devices to access the internet. (“Canada’s Internet Factbook 2019 | Canadian Internet Registration Authority” 2019). Upon investigation of how high-performance coaches access sport science knowledge, Reade et al. (2008) found websites were frequently reported by the coaches as the best way to obtain information. The internet may be appealing to coaches due to its flexible nature and coaches have the freedom to work around their schedules, unlike coaching clinics or seminars which take place during specific times of the year. Considering the numerous barriers associated with formal learning settings for coaches, in particular when it comes to accessing sport psychology, Pope et al. (2015) suggested an online website could be a practical method for researchers to present new ideas in sport psychology to coaches. From the study, coaches indicated they would use the resource to uncover information on sport psychology skills (e.g., goal setting, team building, focusing/refocusing and motivation) and how to implement sport psychology into their practices. Results indicated they currently retrieve information from online sport psychology resources “a few times per year” for ideas on general sport psychology information, but this would increase to “a few times per month” if an online resource was readily available. This discrepancy between current and possible use suggests

coaches may not be aware of an online sport psychology resource that can meet their needs. This further demonstrates the lack of awareness barrier identified by Reade et al. (2008).

Factors Influencing Coaches' Use of Online Resources

When it comes to online resources, there are multiple factors influencing use by coaches. Coaches having 10 years or more of experience, possessing a higher coaching certification level (i.e., NCCP Level 3), and coaching athletes of higher levels (i.e., provincial or higher) reported having accessed online resources more often than coaches with less experience, lower certifications, and coaching athletes of lower competition levels (Pope et al., 2015). It is possible they may have gained greater access to sport psychology resources from the larger network they have developed from many years of coaching resulting in encountering less barriers when accessing online sport psychology resources. Outside of coaching characteristics, these individuals would be more inclined to consult an online sport psychology resource if the information was credible, the website provided practical activities such as print outs and methods to facilitate active participation (e.g., coaches completing modules; Pope et al., 2015). Another factor was a need for personal connections through online forums and a section for coaches to ask an expert in the field for advice on specific skills. When asked about the information they currently retrieve online, it was demonstrated that coaches primarily retrieve general information related to sport psychology, however they would be interested in applied information such as sport psychology tips, skills/strategies, and how to implement concepts with their athletes (Pope et al., 2015).

sportpsychologyforcoaches.ca

Considering the ease of access provided via the internet and the desire of coaches to easily retrieve sport psychology information (Pope et al., 2015) the website

sportpsychologyforcoaches.ca was developed. The website is free to access and claims to offer “evidence based, credible and up to date sport psychology information” (<https://sportpsychologyforcoaches.ca/about-us/> ,“About Us - Sport Psychology for Coaches,” n.d.). The website aims to bridge the knowledge translation gap by providing information on various sport psychology mental skills (e.g., concentration, anxiety regulation, imagery) and direction on how coaches can integrate the skills into their practice through activities and worksheets focused on these skills (e.g., performance routines, breathing worksheets, guided imagery scripts). The website is not only educational but also interactive. For instance, coaches can listen to podcasts, and submit their questions to practicing sport and performance consultants through the “Ask an Expert” section (Sport Psychology for Coaches, n.d.). To gain access to all these features, registration is required by submitting their email and creating a user profile. It is one of the few free websites providing evidence-based information on a diverse range of sport psychology topics; as many websites require payment for full-access to their content (e.g., *Peak Sports*, *Premier Sport Psychology*). For example, *peaksports.ca* offers free tips on sport psychology via a mental toughness report (Cohn, n.d.). However, while the report explains common mistakes made prior to competition, it does not offer solutions in overcoming them. *Premier Mindset* is similar offering a one-year license upon payment which includes access to mental training resources and learning modules on topics such as imagery, motivation, and mindfulness (“Premier Mindset Program,” n.d.). Although these websites offer interactive information and programs to help guide coaches through the application of sport psychology with their athletes, payment is required for full access to the programs.

Purpose

As powerful and accessible as the internet may be in obtaining information, it is of limited value if no effort is made to make sense of individuals' engagement in webpages (Markham, 2004). While it is known that coaches access websites to acquire new ideas in sport psychology, it is unknown if the way in which they interact with these resources influences their application of the skills in their practice. The purpose of the present study was twofold. First, to understand coaches' current use and perception of sport psychology. Second, to explore coaches' engagement with the website sportpsychologyforcoaches.ca and evaluate its effectiveness in providing information to coaches.

Methods

Approach to Research

In order to gain a richer and nuanced understanding of the coaches' perceptions and experiences with sports psychology, a mixed methods design was employed (Gibson, 2016, p. 390). A combination of qualitative data from semi-structured interviews and quantitative data from digital analytics was used.

The authors maintained a relativist ontology that considers the fact that individuals make multiple meanings of their social world based on their personal experiences (Thorpe & Olive, 2016, p. 127). As well, a subjectivist epistemology was taken, where it is believed that researchers are thoroughly and inseparably part of what is studied and cannot be value free or neutral in the production of knowledge (Smith & Caddick, 2012). This epistemology was chosen as a semi-structured interview guideline was used which allowed the experiences shared by the coaches to be a joint construction between the interviewee and interviewer.

Participants

An email was sent to the 36 varsity coaches at Western University by the lead investigator. This university was targeted because the lead researcher had participated on two of its varsity teams throughout her undergraduate and graduate studies. Bearing in mind the factors influencing coaches' use of online resources as uncovered by Pope et al., (2015), this level of coach was selected as they were found to be more likely to engage with a website. These coaches also represented a range of individual and team sports competing at a higher or intercollegiate level. Of the 36 varsity coaches, five replied expressing interest in participating in the study. Three additional coaches were recruited outside of the university due to a snowball effect/word of mouth from coaches in the study.

For the purpose of the study, coaches were deemed eligible if they were coaches of teams/individuals who competed at the varsity, provincial, national, and/or international levels. Further inclusion criteria were a) older than 18 years of age, b) able to read, write, and speak English, c) have access to a computer/handheld device with internet access, d) have not previously interacted with the website *sportpsychologyforcoaches.ca*, and e) gave consent to participate in the study.

Eight coaches (2 females, 6 males) participated in the interview process. Coaches reported between eight and 35 years of coaching experience and indicated that the highest level of athlete they had coached was varsity ($n= 2$), provincial ($n= 1$), national ($n=3$), and international ($n= 2$). The primary sport coached by these coaches included rowing ($n=1$), rugby ($n=1$), golf ($n=1$), wrestling ($n=1$), cross-country/track and field ($n=1$), and swimming ($n=3$). In general, these coaches recognized themselves as former high-level athletes in the sport that they coached. Therefore, these coaches provided a varied sample ranging in sport, number of total years coaching and coaching levels. The demographics of the coaches, as well as the pseudonym for each coach are presented in Table 2.

Table 2

Summary of coaches' sport, years of experience, level coached, certification and pseudonym

Pseudonym	Sport	Years of Experience	Level Coached	Coaching Certification
Adam	Rugby	8	Varsity, Provincial	NCCP Level 2*
Tom	Wrestling	19	Varsity	Not Stated
Stu	Golf	17	Varsity	Not Stated

Will	Rowing	13	Varsity, National, International,	NCCP Performance Coach
Bill	Swimming	35	Provincial	NCCP Level 2*
Tim	Track/Cross- country	23	Varsity	Not Stated
Susie	Swimming	32	Provincial, National	NCCP Level 3
Melissa	Swimming	13	Provincial, National	NCCP Level 2

Note. Years coaching represents the total years coaching at any level. Level coaching is the primary levels that they are currently coaching

* In the process of completing Level 2 certification

Data Collection

Prior to beginning the investigation, ethics approval was given by the university's Non-Medical Research Ethics Board (refer to Appendix A). The Department of Athletics at the university was then contacted. A list of varsity coaches was provided to the primary researcher and permission was granted to contact the coaches via email. Interested coaches emailed the primary researcher and the nature of the study and purpose were explained during the first interview. Coaches were given a letter of information and consent, and written consent was obtained prior to beginning the study. Coaches agreed to have the interviews audio recorded, and that their engagement on *www.sportpsychology.ca* could be tracked via Google Analytics, which was described to them. The assurance of confidentiality

was given to all coaches. The interviews were conducted in a private office space located on the Western University campus.

The pre-interviews lasted from 14-73 min; they were recorded and transcribed verbatim, which produced 49 pages of typed data. Following this interview coaches were asked to sign up and create a user profile on the website. They were asked to share their username with the investigator for tracking purposes. The coaches were asked to log-on to the website and use it as often as they wanted over the next eight weeks. As previous research has found coaches would be likely to consult an online resource at least once per month (Pope et al., 2015), this period (eight weeks) was chosen to provide sufficient time for the coaches to make use of the website. One month following the pre-interview, three of the coaches were sent an email reminder to login into the website in order to remain eligible for the study. The post interview was scheduled two months after the participant's pre-interview. The post interviews lasted from 7-52 min; they were recorded and transcribed verbatim, which produced 40 pages of typed data.

Data Analysis

To ensure anonymity of the coaches, pseudonyms were assigned to each coach. The objective of the analysis was to classify and identify themes from the data to represent coaches' perceptions, experiences, and use of sport psychology. An inductive and thematic analysis approach was taken to identify patterns across the qualitative dataset using Braun and Clarke's (2006) outline of the six phases of analysis. The six-phases are illustrated in Table 3. A thematic analysis was selected as it allows for flexibility in the analysis that is theoretically and methodologically sound across a range of theoretical and epistemological approaches. This approach is advantageous in examining perspectives, similarities and

differences, and unanticipated insights of participants (i.e., coaches; Braun & Clarke, 2006; Nowell, Norris, White, & Moules, 2017). Audio recordings were transcribed verbatim by the primary investigator and re-read to ensure accuracy and familiarity with the content.

Table 3

Braun and Clarke's (2006) Phases of Thematic Analysis

Phase	Description of the process
1 Familiarizing yourself with the data	Transcribing the data, reading and re-reading the data, noting down initial ideas
2 Generating initial codes	Coding interesting features of the data, collecting data relevant to each code
3 Searching for themes	Collating codes into potential themes, gathering all data relevant to each theme
4 Reviewing themes	Deciding whether to combine, refine, separate, or discard initial themes
5 Defining and naming themes	Identifying the essence of each theme and generating clear definitions and names for the themes
6 Producing the report	Final analysis of selected extracts, relating back to the research question, producing a scholarly report of the analysis

Note. Table reproduced from “Using Thematic Analysis in Psychology” by V. Braun and V. Clarke (2006) *Qualitative Research in Psychology*, 3:2, 77-101

In terms of validity, the study was guided by a relativist approach. This means that criteria for judging the quality of qualitative work are drawn from a list of characteristics rather than a set of universal criteria (Sparkes & Smith, 2009). As Smith and Caddick (2012) have said, “to apply universal criteria would mean going against a subjective (and constructionist) epistemology”. For this study, the list included the following criteria: the

worthiness of the topic as to it being timely and interesting (Tracy, 2010); width which is providing quotations to support findings (Lieblich, Tuval-Mashiach, & Zilber, 1998, p.73); rich rigor in developing a sample appropriate for the purpose of the study; and transparency by having another person criticize and provide alternative explanations from the data (Tracy, 2010). As well, to further enhance the quality, the study also aimed for resonance (e.g., naturalistic generalizations) so that the findings can be transferred into the way coaches learn other domains of sport science (Tracy, 2010). To further enhance the rigour of the study, and provide rigorous findings, a number of trustworthiness methods were applied. The transcriptions were checked against the audio recordings for accuracy (Braun & Clarke, 2006, p.96). Also, the interview transcripts were read by an external researcher with experience in the field which offered a more comprehensive examination, as well as potential possible alternative interpretations to the data. Finally, the methods used to collect data were expanded to included quantitative data obtained through Google Analytics. Coaches' reported use of the website during their post-interviews were matched with data from Google Analytics as a way to minimize the bias that may arise from memory recall (Smith & Sparkes, 2016).

Interview Guide

Two semi-structured interview guides for the pre and post interviews were adapted from a questionnaire employed by Pope et al. (2015). For a more detailed look at the questions asked during the pre and post interviews, refer to Appendices B and C. The online questionnaire used by Pope et al., (2015) was a-theoretical in nature. For the purposes of this study, rather than having coaches rate their answers on a 6-point Likert Scale ranging from 0- (never) to 5- (often/daily) which was employed by Pope et al. (2015), coaches were asked questions similar to those employed by Pope et al. during the interviews. The questions in the

interview guides were open ended questions to encourage thick and rich descriptions from the coaches, but not so vague that the focus of the research would be easily lost (Smith & Caddick, 2012).

The pre-interview was divided into three sections beginning with introductory questions to collect information on the number of years coached, sports coached, and the level of athletes coached. The second part of the interview was focused on uncovering coaches' current perceptions of sport psychology. Coaches were asked to define sport psychology (e.g., what comes to mind when you hear the words "sport psychology"?), their experience with the area (e.g., discuss any sport psychology experience or background that you have?) and ways it relates to their coaching practice (e.g., discuss how sport psychology is relevant to your coaching practice?). Lastly, the interview explored perceptions of online resources (websites) and what resources coaches consult. They were asked the time they spent consulting online resources, the topics most often researched, as well as barriers to accessing new ideas. Probes were used on an individual basis as required in order to gain full understanding of the coaches' responses and to invite the coaches to elaborate on a point or clarify it (Smith & Caddick, 2012).

The post-interview was divided into two sections. The first aimed to uncover any changes in coaches' perceptions of sport psychology after using the website. They were asked whether they believed sport psychology was more relevant to their coaching practices (e.g., discuss whether sport psychology is more relevant to your coaching practice after using the website?), how they implemented new sport psychology activities from the website with their athletes (e.g., can you discuss how you implemented any sport psychology strategies learned from the website with your athletes?) and if their confidence levels

applying sport psychology within their coaching practices had changed (did your confidence level applying sport psychology change after interacting with the website?). The second portion of the interview was targeted at coaches' engagement on the website and their perceptions of the resource. Coaches were asked about the time they spent using the resource (e.g., how much time would you say you spent interacting with the website?), and the features that they enjoyed (e.g., what did you like about it?). They were also asked to share their perceptions of the material on the website (e.g., discuss whether you found the material and topics to be relevant to your coaching practice?). Lastly, coaches were invited to share recommendations to enhance the website experience (e.g., what do you think would make using the website a more positive experience for coaches?).

Digital Analytics

Digital analytics are often employed to enhance website user experiences as they can offer a complete view of online engagement. It can be defined as “the analysis of digital data gathered from an online presence based on an organization’s goal or need” (Farney, 2018, p. 4). To meet the second purpose of the present study, digital analytics were employed via Google Analytics. The generated reports were used to gain a deeper understanding of coaches' engagement on the website, which is important to investigate in order to deliver better website user experiences.

The digital analytics process was designed with the study purpose in mind. The parameters chosen were based on Farney's (2018, p. 17) suggested list of important data points and web analytic tools, as well as two other measures (time and device category) deemed necessary for the purpose of this study. Furthermore, these measures were chosen to give more objective insight of the coaches' interactions with the website. The parameters of

interest were total time, number of sessions, average time/session, number of pageviews, and device category (e.g., desktop, mobile). The total time was the measure of the time each coach spent on the website during the intervention period. Sessions were measured by the activity taking place within a given time frame (30 minutes) such as browsing pages or downloading content (Google, n.d.). If a coach was inactive for 30 minutes or more, any future activity was attributed to a new session (Google, n.d.).

Pageview metrics were counted based on the number of pages loaded or reloaded in a browser. Since a large majority of Canadians are accessing the internet using mobile devices (“Canada’s Internet Factbook 2019 | Canadian Internet Registration Authority,” 2019) the metric of device category (i.e., desktop vs. handheld device) was also measured. Following the intervention period, each individual coach’s online engagement activity was exported and converted into a Microsoft Excel file for analysis.

Results

Data collected through the interviews resulted in five themes, and 14 sub-themes. The main themes drawn from the interview data were current sport psychology use (pre-interview), accessibility of information (pre-interview), attitudes (pre-interview), website use (post-interview), and website enhancements (post-interview). The sub-themes are explored under each theme heading. The data presented are accompanied by quotations to enhance clarity. Pseudonyms were used to maintain participants' anonymity.

Current Sport Psychology Use

Coaches current use of sport psychology was uncovered through the sub-themes of application of sport psychology skills and current sources of information. A summary of the coding breakdown is illustrated in Figure 1.

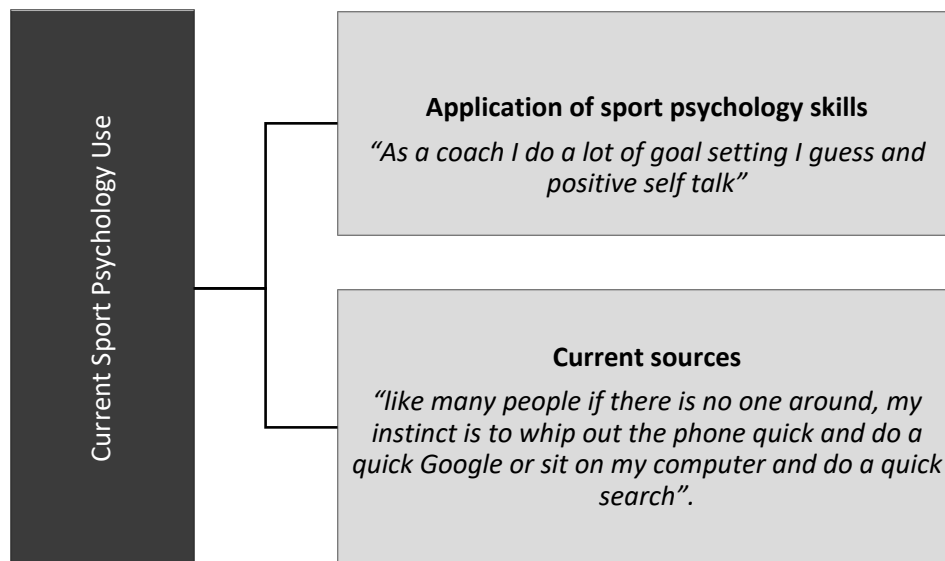


Figure 1. Breakdown of the theme "Current Sport Psychology Use" with associated subthemes and quotes from interviews.

Application of Sport Psychology Skills

Five coaches reported integrating some sport psychology skills with their athletes such as goal setting, visualization, self-talk, arousal control, and obtaining a flow state. It was revealed that sport psychology was used to help with their athletes' competitive preparation and to help regulate athletes' emotions as highlighted by the following response "When I say preparation I meant, not the preparation in terms of making sure you have the right food and that thing; it is more preparing your mind and your emotions for that performance" (Stu).

It was also revealed that coaches' application of sport psychology went beyond the sport setting and was applied to help manage situations outside of sport. Tim said:

I don't think it is necessarily in sport but more outside of sport like family or friends. Like recently we had a couple where their roommate died so that is a different type of psych, not sport psych obviously, but they definitely needed some mental side of thing.

Current Sources of Information

A combination of self-directed and nonformal sources were cited as current sources of information. The most commonly cited sources of information were print sources, followed by the internet (i.e., self-directed). Seven coaches reported consulting print resources as means of getting new ideas for sport psychology. One coach articulated their preference by saying, "I find I am very impatient with websites and the internet compared to when I am looking through textbooks" (Melissa). Reading was mentioned multiple times by coaches as a preferred source of sport psychology information. Stu said, "I would say from reading; reading is the most of it. Various books and then I even have a friend whose

profession is sport psych, so we discuss but that is very infrequently.” Many coaches also disclosed they consult the internet when looking for sport psychology information. Adam revealed, “like many people if there is no one around, my instinct is to whip out the phone quick and do a quick Google or sit on my computer and do a quick search.” Another common source of information referred by coaches was consulting practitioners/professionals in the field. This practice is brought out in the following quote: “historically where I have found most of my information is working directly with practitioners and speaking to practitioners about specific issues or listening to their presentations on specific issues. Uhm that is where I find the most use” (Will). Observing and interacting with other coaches was mentioned by four coaches as a source of new information. Tom said, “sometimes just watching or listening at tournaments how they are interacting with their athletes, what they are doing or saying.”

Formal sources of learning such as conferences and coaching courses were the least popular sources among coaches:

The internet is the first thing I do for new ideas. I get a lot of good ideas from attending conferences for coaching and if you have the opportunity to chat with other coaches in more of a social environment, like it doesn't necessarily happen on a pool deck but more social environment I feel like sometimes you can get some tips and tricks. (Melissa)

Only two coaches mentioned attending conferences and one coach discussed having used coaching courses as their main source of information for sport psychology.

Accessibility

There were two sub-themes associated with coaches accessing sport psychology: barriers to accessing sport psychology information, and factors influencing online usage. An illustration of the coding breakdown is illustrated in Figure 2.

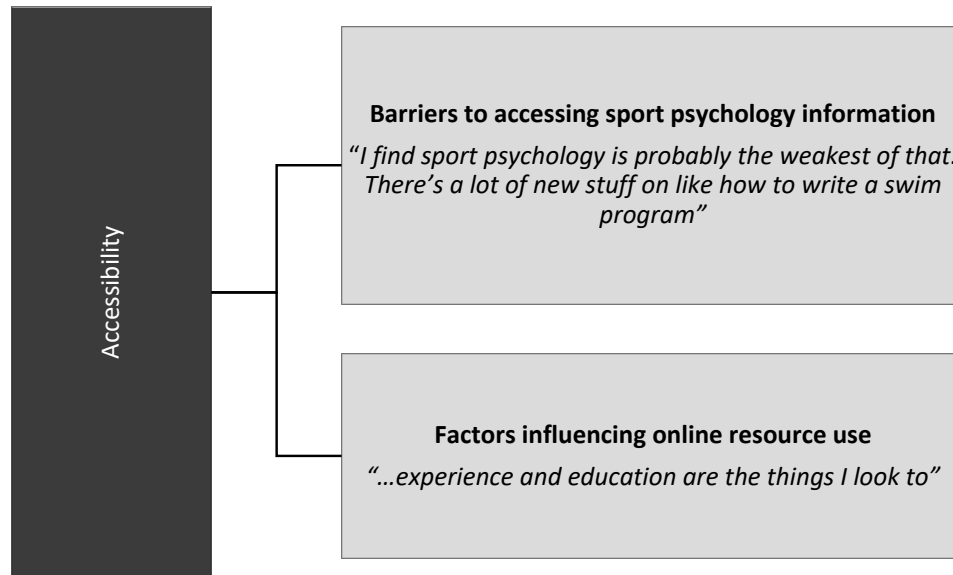


Figure 2. Breakdown of the theme "Accessibility" with associated subthemes and quotes from interviews.

Barriers to Accessing Sport Psychology Information

Many coaches declared gaps in knowledge as being a major barrier to accessing sport psychology information. Melissa stated, “I think sometimes there is just a lack of information out there.” She continued by saying, “I think a lot of coaches have moments, particularly with not necessarily sport related, but psychology related issues and we are not trained or have any idea of where to look for resources around that.” Other coaches touched on the presence of a gap between the educational resources given to higher levels of sport as brought out by Bill in the following quote, “there’s a huge gap on what’s going on at the

National level and trickling down to journey men coach which is what I am, I am a journey man coach in the trenches trying to find that gem of a swimmer.” Other barriers to accessing sport psychology information listed by coaches were the lack of an expert in their training area and adaptability of the content they currently receive. Stu expressed his difficulty in finding applicable sport psychology information:

That is a part where I find it very difficult to find good resources for athletes to actually use in terms of sport psych. I have tried a couple of different products, but they just don't adhere to them because they are more built for adults than they are for kids.

It was also noted by many coaches that there was a shortage of sport psychology information as opposed to other aspects of training. This gap is demonstrated by the following quote “I find sport psychology is probably the weakest of that. There's a lot of new stuff on like how to write a swim program” (Susie).

Finally, other coaching priorities were mentioned as a common barrier to accessing sport psychology information. This is exemplified in the following quote, “I am focused more on what task needs more doing to make sure we are good to go in 2 months rather than focusing on my coaching practices or educating myself, I am worried about logistics and whether I have enough socks” (Adam).

Factors Influencing Online Usage

During the pre-interviews, coaches discussed what factors would make them more inclined to consult the website for sport psychology information. Seven coaches expressed the importance of the content being applicable and relevant to their current coaching

practices. Melissa said, “Well I think like I said earlier I think it would be great if there were something on there like about how to easily involve the sport psychology skills into your coaching practice.”

Following applicability, credible and current information was mentioned by many coaches as factors that would make them more likely to consult a website. For instance, Adam said, “I like to be able to tell that someone has done their research so whether they are a reputable doctor or Master’s students, someone who has credibility to their name...Experience and education are the things I look to” and Tom said:

you can put anything on the internet first of all and pay to get your article published so I tend to look for more peer reviewed articles or from people in the field that I know of and have been around for 20 years or so”, which shows the importance of credible information among resources.

Finally, many coaches brought up issues with the language used. The coaches expressed they would be more likely to apply content from the website in their practice if it was written in simpler terms. Tom said:

Sometimes articles are pretty in depth and wordy and discuss a lot but there’s no this is how you can use it in your practice, or this is an example of what they just talked about for 15 pages, this is an easy way to do it.

Attitudes

The coaches’ attitudes on sport psychology and how it applies to their practices were uncovered through the following sub-themes: experience, confidence in application, and relevance. An illustration of the coding breakdown is illustrated in Figure 3.

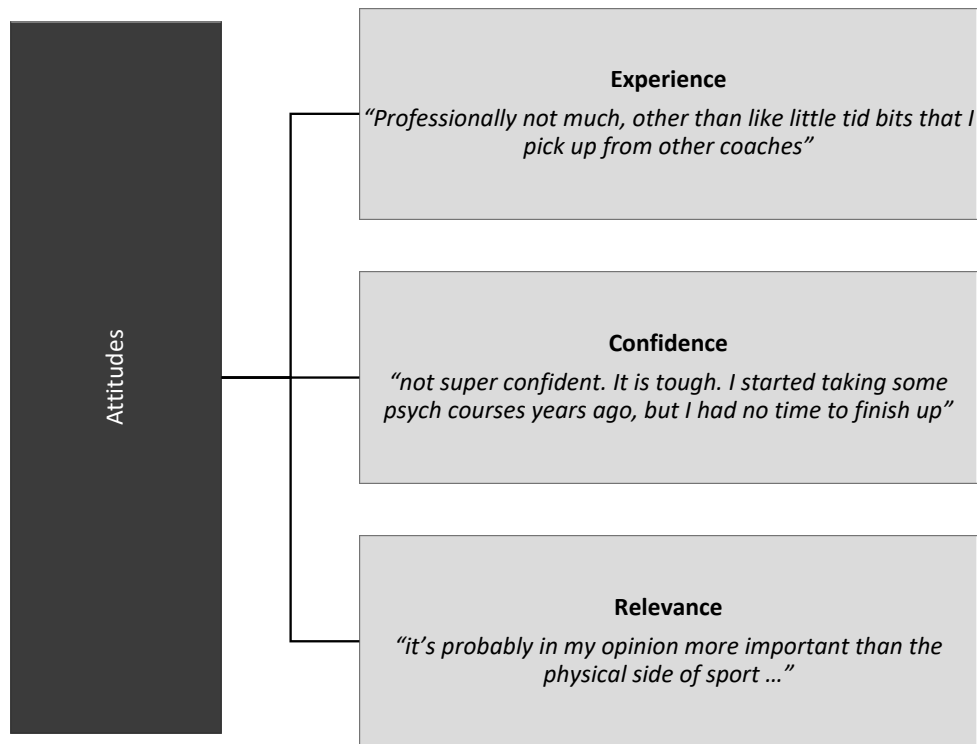


Figure 3. Breakdown of the theme "Attitudes" with associated subthemes and quotes from interviews.

Experience

The interviews uncovered different levels of sport psychology experience among the coaches. Two coaches said they had no professional or personal experience with sport psychology and that the little experience they did have was mainly from interacting with others. Adam said, "Professionally not much, other than like little tid-bits that I pick up from other coaches." Similarly, Tom mentioned his experience was from his "wife's good friend" who did a PhD in sport psychology. Two coaches had taken undergraduate courses in sport psychology. Melissa also stated her experience comes from her time as an athlete. She said, "I interacted with a sport psychologist on both the national swim team and the national wheelchair basketball team and had sessions with them on and off."

Bill also mentioned his experience with sport psychology was based on his experiences as an athlete and his career in management training: “I recognize it and know what you need to do to back a kid up and I think it’s just life experience combined with that we have conveniently labelled sport psychology.”

Two coaches explained that their experience came from having worked with various athletes for many years. Tim said, “my own experience for the most part is obviously just working with athletes for the last 23 years, so you learn a lot”. Relatedly, he mentioned: “probably not a lot just basically what I have learned through coaching programs and dealing with, so when I had my swimmer working with the Paralympic team, as he was developing, he had access to a sport psychologist’. A few coaches mentioned having taken a formal coaching course on sport psychology. Through the interviews, it was evident that most of coaches’ sport psychology experience was from informal settings.

Confidence in Application

When asked to report their confidence in applying sport psychology with their athletes a couple of coaches expressed that they were “very confident”. Bill said:

I am confident in my ability to recognize when someone needs help and have enough life experience and management experience in my old job to be able to know how to step up and address it and not skirt the issue or void the issue.

Similarly, Melissa’s confidence stems from her experiences as a coach and as an athlete as by sharing “I think the basics I am pretty confident in just having done so much of it myself as well as having some educational background in it.”

Many of the coaches said they were confident in what they deemed “the basics” of sport psychology, such as imagery and visualization, but lacked confidence in applying mental skills outside of their skillset. When describing her confidence in application, Susie said:

Not super confident. It is tough. I started taking some psych courses years ago, but I had no time to finish up. Just life got in the way to...but yea so that beginning part like the goal setting and visualization is pretty easy but anything else no.

Also sharing these feelings was Stu. He mentioned “out of a scale of 1-10 probably an 8. I say 8 but then all of a sudden you start thinking about the stuff you don’t know, and it slides down to a 6.” Likewise, Melissa revealed she felt confident in the basics, but needed external support when it came to addressing mental performance issues with her athletes. She said, “I definitely think there is a time and a place to send my athletes to someone who knows more about sport psychology.”

Interestingly, one coach expressed it was not so much a matter of having confidence but rather building up his personal skillset in order to be prepared to handle a situation. He said:

I don’t think it is a case of feeling confident or not confident it’s just a case of building up the toolbox. Like each time you meet somebody or work with somebody hopefully they expose you to a strategy or series of strategies that you can apply in certain situations. (Will)

Relevance of Sport Psychology

During the interviews, all eight coaches shared a common belief that sport psychology was relevant to their coaching practices and played a role in their athletes’

performances. Stu stated, “I would say that I think it is an important piece of the puzzle and I think more coaches need to be aware of its importance”. Relatedly, Susie mentioned, “I think more so today than ever it is relevant and it’s just that, I feel like there is a lot more outside stress on kids and in general.”

One coach believed mental training to be more important than physical training for her athletes as highlighted in the following quote:

It’s probably in my opinion more important than the physical side of sport especially with the elite levels. The difference is made more in the mind than in the body... You kind of gone as far physically as you can and now it is the mental side that really makes the difference. (Melissa)

She then added: “I think it is very important. I think there needs to be, there should be more of a component in sport psychology in coach education in general.”

Although he felt sport psychology was relevant to his sport, Tom expressed a gap in the role of sport psychology and his athletes. He said, “the sport of wrestling, I think in Canada’s top ones its relevant, university level I am not sure, and on our team, it is not as much as I would like it to be.”

Website Use

The following data were obtained during the post-interviews and following the coaches’ engagement period with the website. The identified themes were application of tools, coach feedback, barriers, and intentions for future use. An illustration of the theme breakdown is illustrated in Figure 4.

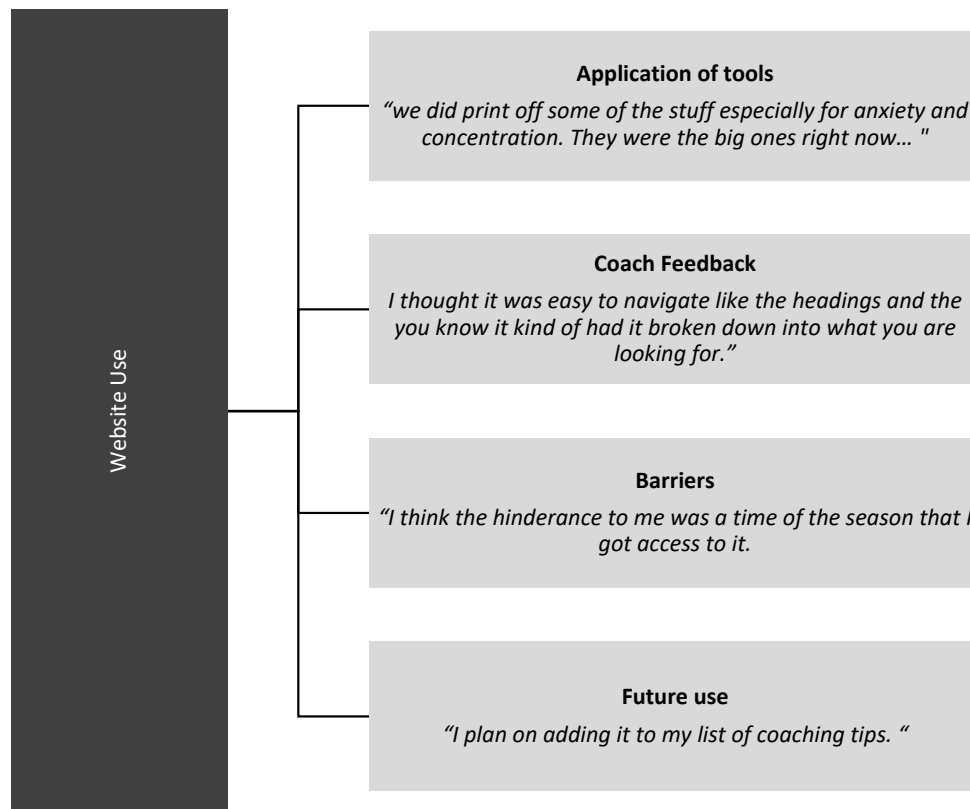


Figure 4. Breakdown of the theme "Website Use" and associated subthemes and quotes from interviews.

Application of tools

The most common page explored by coaches was anxiety regulation. Stu said:

I have used two or three of the activities one of the biggest ones being the breathing one. For example, when we have anxious athletes even in practice, we get them to remember their breathing and go through it and it is amazing how they can calm themselves down and decrease the tension.

Similar to this, Tom also gave anxiety regulation handouts to his athletes and said, “there was a sheet about anxiety. One side was positive, and the other side was negative. Anyway, I gave it to a couple of athletes as a tool for them to use if they wanted to or check.”

Another page frequently visited by coaches was concentration. Despite not having as much time during the season, a coach was able to apply an activity with her athletes:

I haven't had a lot of time this week we have been busy, but we did print off some of the stuff especially for anxiety and concentration. They were the big ones right now... as soon as I went on for concentration because we were having those issues with the little boys, I found stuff right away. (Susie)

Similarly, Stu said, “right now I keep using “Be a Player” but again they don't explain the activities well enough so that is kind of how I am trying to mesh the two of them together.’ merging his current resources with this website.

Adam discussed how the webpage and activities on team culture made his coaching transition at a new school easier:

Building a team culture was one of the big things I was focusing on once I knew I was going to come here. I was like cool! Let's build a new team culture, I can start from scratch. I don't have to worry about traditions at an old school...it gave me some new ideas and helped me with the move here.

Melissa referenced the imagery page to employ with her athletes despite the fact she did not like using imagery as an athlete herself and explained why:

I used imagery as well. Imagery just makes me laugh because when I was an athlete, I was told I needed to do this, but I was like “meh”. I can’t sit still long enough to do that...and now with my athletes I am like “you should try this”

Other common activities and areas coaches revealed during the post interviews were arousal control and self-talk.

Coach Feedback

Following their interactions with the website, coaches shared many comments in regard to the website. First, many coaches commented on the organized layout of the website. Tom said, “I thought it was easy to navigate like the headings and the you know it kind of had it broken down into what you are looking for.” Next, coaches enjoyed how the resource presented new and current ideas in sport psychology:

I like seeing what’s new rather than what is old because a lot of coaches who have been coaching for a while for the most part if they are really interested in that, or really care about that, know what is already out there...I saw some new things on there. (Tim)

Another positive mentioned by coaches was how the website validated their current practices. For instance, Adam said:

A lot of the times there were articles linked back to *Better Performance* on Sport Psychology for Coaches so it was first of all, cool and a little validating that these things that I have been checking on my own, and like we talked and I will read stuff and I don’t know if it is vetted or credible or anything, but it helps me and gives me

motivation and now I log onto this website and the people you know suggesting and pushing forward and saying “hey this is good”.

Two coaches discussed that the website was helpful in bridging the knowledge gap between researchers and coaches:

We are compiling everything from all over because one of the things we talked about the first time was that I don’t know where to look right...this is like a you know a vetted stream of really reliable, really interesting resources. (Adam)

Furthermore, no concerns with its credibility were brought up when asked if they found the information to be credible. For instance, Will said, “I don’t have any issues where the information comes from. I think it is great, the role of the university is to link practitioners to the new science being done.”

Finally, the activities found on the website were rated as easy to apply with their athletes and into their practices. For example, despite mentioning in the pre-interview not being confident in his skillset, Tom found the material simple to integrate: “you know, I looked through some of it, some of the activities they had, and I thought they were fairly easy to implement.”

While some coaches found the layout to be organized, three coaches experienced confusion as some of the features were not working properly. Adam stated, “like it will say click here to login and so you click there but it isn’t an actual functioning button.” Melissa echoed similar feelings but in regard to the keywords section:

This keyword section confused me a bit because like I wasn't sure like are some words big because those are the words you have more information on or they are the important ones that as a coach I should be focusing on, like if I am a coach who doesn't know. I just wasn't sure why this was setup in that manner.

Will said, "so, I signed up for the newsletter thinking that maybe the newsletter would send me something like "consider this for the week" or give me a one activity or one thing to try and I never got a newsletter", further showcasing another faulty feature of the website. He also explained that the website could address another one of his concerns of "*digestibility*" of the content and emphasizing a need for a newsletter to aid with understanding:

What would make it more useful for me is if I got digestible chunks like in the newsletter or something that I could be like "ok this week I am going to try imagery with the team, and this week I am going to try this intervention. That way it makes it less like having to read the encyclopedia from cover to cover and it sort of directs you in certain areas or sections.

Furthermore, two coaches found the material to be lengthy in text and could be broken down into simpler terms. Stu outlined:

One of the things that I did was on some of those activities I actually got 10, 11-year-old kids to read it and see whether or not they understood. So some of the activities were very easy to understand...some of those got a little academic and it was difficult, I had to read it a few times on certain part and that is where that balance between the world of academia to the world of how to play and how to use it.

In terms of language, Melissa said, “I think putting it in more user-friendly language and like an easier to navigate structure would be great... always keeping in mind who this is for. This is for the average coach, not someone who has got a PhD or a Masters.”

Barriers

While all the coaches did interact with the website at least once during the study period, they expressed various barriers which hindered their engagement with the website. To start, three coaches said the time of year that they were given access to the website was a barrier. This is emphasized in the following quote:

Unfortunately, when it got up and running and with crazy stupid things like snow days at the end of a new semester and I was teaching new things, and when I was interviewing and getting this job it was not as long as I would have liked. (Adam)

For Tom, receiving access near the end of the wrestling season was a hinderance. “I didn’t want to start introducing too much near the end and taking away from training so that is one hinderance personally that I found” (Tom). Tim echoed similar feelings by saying, “I will wait for the fall because it is the Track and Field coach’s team...so I might try some of the new ones in there that maybe we haven’t used with my other coaches.”

Another hinderance for some coaches was a lack of confidence in applying sport psychology and not knowing where to start with information. Stu said:

The hardest part I have as a coach is knowing where to start, and what is the next step and sure I might realize that ‘Sally over here has poor concentration’ but it could actually be because she doesn’t understand a different skill. That’s my challenge for

me as the coach. I don't know where to start with all this information. There's no plan.

Tom shared comparable feelings, "you know again, just the sport psych thing in general is not being an expert in, it can be a little intimidating to try and lead a session or introduce it to a team."

Intentions for Future Use

When asked during the post interview, all coaches stated they would continue to consult the website in the future. Many said they would add it to their current resource list and merge the content from *sportpsychologyforcoaches.ca* with the other resources they use. "I plan on adding it to my list of coaching tips. I tend to use resources when I have a problem" (Bill). Will mentioned this was the only resource he was using for sport psychology, "I mean I am not going to go elsewhere, there's no competing product I am using."

Some coaches shared that they intend on integrating more content from the website into the next competitive season. These future intentions are highlighted by the following quote, "my actual plan is to look at it over the summer when I have more time and try to pick one or two things that we can incorporate into September and build into the program" (Tom).

Website Enhancements

Three sub-themes identified in relation to the theme website enhancements were: user friendly interface, social connections, and guidance and direction. An illustration of the coding breakdown is presented in Figure 5.

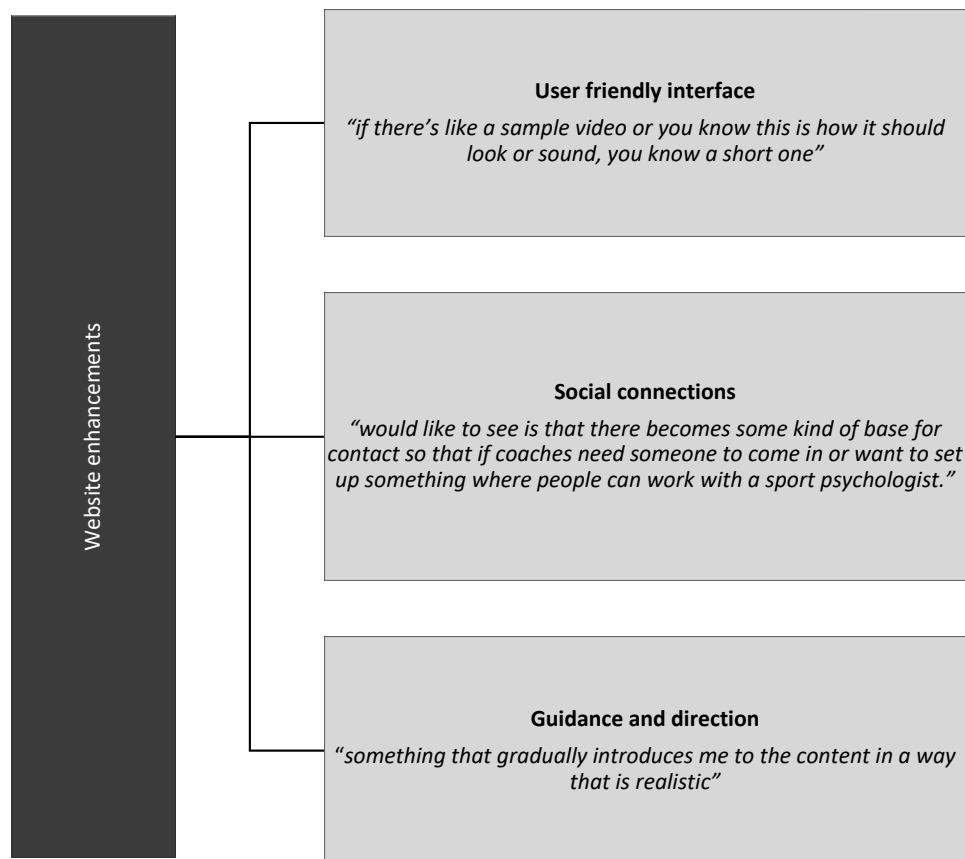


Figure 5. Breakdown of the theme "Website Enhancements" and associated subthemes and quotes from interviews.

User Friendly Interface

Following post-interviews, many of the coaches provided suggestions to enhance the website. The most common suggestion was making the website more user friendly. For instance, Adam said:

If there's like a sample video or you know this is how it should look or sound, you know a short one. No one wants to watch a 45-minute video but maybe this is how your setup in the room might be to do this activity. You know and maybe an area, every topic varies, but something like if you're trying to get a discussion going and no one answers and I am just left up there, standing, maybe some sample questions or answers.

Another way to increase interactivity of the website was shared by Stu, "something like podcasts but more of an audio file because for me I am thinking if I am a parent and I am watching my kids practice you know I could easily have my earbuds in and listening and learning at the same time right so an audio version of the information is another big thing." It was apparent that coaches wanted the website to be more interactive.

Social Connections

The need for a network for coaches across different sports to share their experiences was brought up by many of the coaches interviewed as a beneficial tool to improve the website. This network was suggested to be in the form of a forum for coaches to share their experiences using sport psychology, a testimonial page or a list of sport psychology professionals to contact in different geographical areas. Melissa expressed her desire for a coaches' forum to consult:

That would be super helpful especially when you just have something where you're like 'this is my issue; I don't know which category or title it falls into... That would be great because the other thing too, we have a lot of coaches, that aren't professional coaches, they are volunteers so they need information that is inexpensive and accurate

and in one place so if they could inexpensively put on here you know a question and get an answer, I find that would be super helpful.

Susie highlighted the importance of having a resource list to contact when needed by sharing an experience with one of her high performing athletes:

I think the thing with sport psych that I would like to see is that there becomes some kind of base for contact so that if coaches need someone to come in or want to set up something, somewhere people can work with a sport psychologist...Some kind of network would be good.

Guidance and Direction

Lastly, it was commonly brought up by coaches that they understood the content on the website, however they do not know how to incorporate it into their coaching practices. Will spoke in particular how “something that gradually introduces me to the content in a way that is realistic” as well as “something that structures that for me a little bit” would help him explore his gaps in knowledge and be more useful for his coaching practices and integration of sport psychology with his athletes. Stu also touched on how a ‘where to start’ feature would be of value for coaches because many coaches are unsure where to begin when it comes to applying sport psychology. He then went on to say, “if the coach is confused, or doesn’t understand something, there are very few that will actually go out and try and figure it out. Most of them will be like “well I don’t understand this, so I won’t put it in my toolbox.”

Digital Analytics

Data from Google Analytics revealed in further detail coaches' actual use of the website. The average total time coaches spent using the website was 25:25 minutes ($SD=18:26$ minutes, min: 5:41 minutes, max: 57:24 minutes). The average number of sessions per coach was 2.75 ($SD=1.79$) and the average time per session was 9:14 minutes ($SD=7:54$ minutes). Finally, the average time spent on each page was 1:14 minutes ($SD=1:15$ minutes), and coaches primarily accessed the website using desktops. Only two coaches used either a mobile or tablet device. Table 4 illustrates a full breakdown of coaches' engagement with the website.

Table 4

Google Analytics Report of Coaches Website Use

Coach (sport)	Total Time (minutes: seconds)	Number of Sessions	Average time/session (minutes: seconds)	Pageviews	Device Category
Susie (swimming)	23:10	5	4:38	35	Desktop Mobile
Will (rowing)	5:33	1	5:33	12	Desktop
Adam (rugby)	57:24	3	19:08	29	Desktop
Stu (golf)	49:49	6	19:08	57	Desktop
Tom (wrestling)	27:14	1	27:14	6	Desktop
Melissa (swimming)	26:41	3	8:54	18	Desktop
Bill (swimming)	5:41	2	5:41	8	Tablet

Tim (track & field, cross country)	7:53	1	7:53	9	Desktop
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Overall, the most frequently visited pages on the website were: *Anxiety Regulation* (17 views), *Biofeedback* (17 views), *Concentration* (15), *Goal Setting* (9 views) and *Imagery* (9 views). Pages with only a single page view were *Para-sport*, *The Coach-Athlete Relationship*, *Arousal Archives*, *Ask an Expert*, *Past Experts*, *Body Language* and *Upcoming Events*. The pages *Sport Psychology for Coaches: What it is and How to Use it* (home page), *Edit-Profile*, *Activate Your Account*, and *Create an Account* were not included in the analysis of page views as they did not contain any relevant details for the purpose of this study. Figure 6 illustrates a full breakdown of the pages most visited by the coaches.

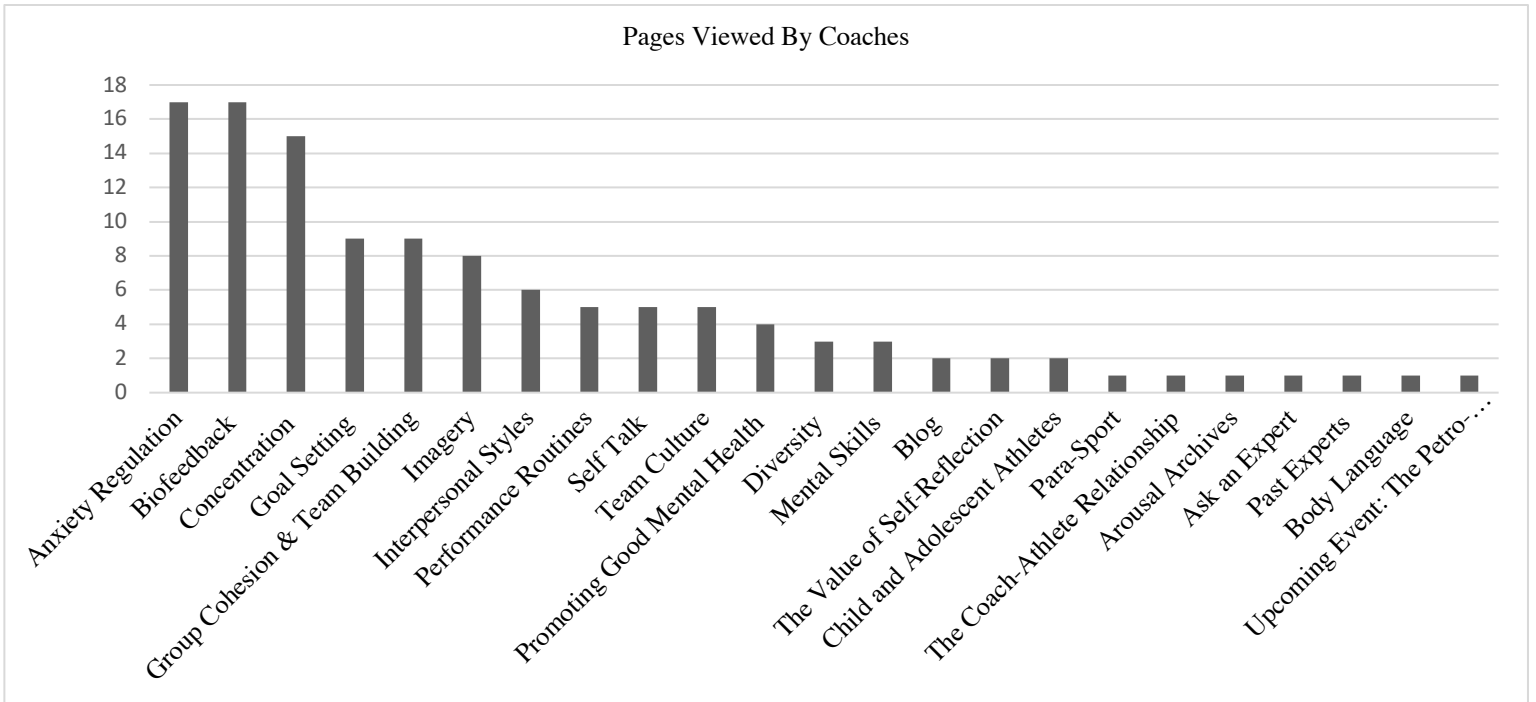


Figure 6. Total number of views on sportpsychologyforcoaches.ca pages.

Discussion

Coaches obtain information about sport psychology from various sources, however a preference for informal sources has been demonstrated (Erickson et al., 2008; Stoszkowski & Collins, 2016). Limited research has examined the interactions between coaches and online sport psychology resources. The present study aimed to gain an understanding of coaches' current use and perception of sport psychology, and to explore coaches' engagement with the website sportpsychologyforcoaches.ca and evaluate its effectiveness in providing information to coaches. Two one on one semi-structured interviews were conducted with each coach. One interview was conducted prior to coaches having experience using the sport psychology online resource (i.e., website), and the second interviewed was conducted after the coaches had the opportunity to use the website over an eight-week period. From the interviews, a number of themes were identified: current sport psychology use, (pre-interview), accessibility (pre-interview), attitudes toward sport psychology (pre-interview), coaches use of the website (post-interview), and website enhancements (post-interview).

Current Sport Psychology Use

All coaches described having previously used sport psychology skills with all their athletes (e.g., goal setting, helping regulate emotions) including situations outside of sport (e.g., helping athletes deal with the loss of a friend). These results mirror previous findings of coaches using sport psychology regardless of the level of athlete they coach (Pope et al., 2015). This demonstrates that coaches search for strategies to help their athletes improve and gain an advantage over their competitors, and the wide use of these strategies. Moreover, the athlete-coach relationship extends beyond performance and has an important role to play in the athlete's development both on and off the field (Jowett & Cockerill, 2003). Therefore,

coaches' use of sport psychology can be applied to foster stronger interpersonal relationships with their athletes and supporting their athletes' growth.

Attitudes Towards Sport Psychology

Similar to other research examining coaches (Zakrajsek, Steinfeldt, Bodey, Martin, & Zizzi, 2013), coaches in the current study shared a common belief that sport psychology is relevant to all the athletes they coach, regardless of the age group. Furthermore, this was an interesting finding as previous perceptions of sport psychology have often been associated with negative connotations such as it being “taboo” or “only for problem athletes” (Pain & Harwood, 2004). One possible explanation for the shift is greater visibility of the field and a better understanding of the link between sport psychology and performance (Gee, 2010). Furthermore, the type of sport coach did not appear to alter attitudes towards sport psychology in the present study, contrasting with the findings of some previous work (Martin, Zakrajsek, & Wrisberg, 2012; Zakrajsek, Martin, & Zizzi, 2011; Zakrajsek & Zizzi, 2008). For example, the two contact coaches in the present study shared similar beliefs in sport psychology as the coaches of non-contact sports. Also similar to Zakrajeski (2008), the coaches willingness in using sport psychology services, and their overall positive attitude towards it suggests they were open and receptive to using an online sport psychology resource.

Although coaches believed sport psychology to be relevant and useful, there was an overall lack of confidence when it came to the application sport psychology. Coaches discussed using the practice with their athletes, but most stated they would not be comfortable applying anything outside of “the basics”. It is possible the lack of confidence stems from a general lack of understanding of the field (Gee, 2010). The disconnect between

what the coaches want and need to access, the research available to them, and the methods in which relevant research is being disseminated seems to have created a knowledge gap in the sport psychology field. Since confidence has been shown to be a predictor of coaches' intention to use a service (Gee, 2010), the lack of confidence expressed by the coaches in the present study suggests they may be hesitant apply different and new sport psychology ideas into their practice.

Accessing Sport Psychology

Coaches shared their preferred ways of obtaining sport psychology information. Previous research has suggested that formal coach education programs do not satisfy the learning needs of coaches (Erickson, Bruner, MacDonald, & Côté, 2009) and this is further highlighted by the current coaches' responses. Coaches reported using informal sources such as reading books and searching the web most frequently, consistent with the recent coaching literature (Pope et al., 2015). It is possible these informal sources are preferred due to their ease of access. Many coaches do not have the time or funding during their competitive seasons to attend formal learning situations such as conferences and coaching workshops (Stoszkowski & Collins, 2016). Informal sources are more flexible in that coaches can choose the topics to research, selecting topics they find relevant to their current situation. Furthermore, the dynamic nature of sport and coaching requires coaches to be able to adapt and solve problems as they arise. Coaches may prefer to utilize online resources because of readily available access to smartphones and user-friendly software (Koh, Lee, & Lim, 2018). Should a problem present itself mid-training session, a coach can easily search the web via a smartphone and explore possible solutions all without having to leave the training session.

However, it should be noted that despite having easier access to informal sources, many coaches discussed common barriers hindering their access to new ideas in sport psychology. Consistent with previous findings (Reade et al., 2008, Pope et al., 2015) a concern about the reliability of sport psychology information was shared by many coaches as a barrier in consulting informal sources. Coaches stated they did not know of many credible resources that exist from which they can confidently integrate the concepts into their coaching practices. Furthermore, when they did come across such sources, they would have to pay for full access. This theme is similar to Reade et al.'s (2008) findings that a gap exists between the ideas coaches are looking for and what is available. Coaches are aware that sport psychology research is being done, however what they do not know is how to find and apply it (Reade et al., 2008).

Having other priorities was another contributing factor to the knowledge gap. Coaches do not have time to do an extensive literature search or read lengthy studies as other coaching logistics take up a majority of their time. As many coaches are part-time, it is likely their coaching institutions do not provide funds for such information seeking (Pope et al., 2015). Part-time coaches may also be more likely to prioritize other needs, such as purchasing new equipment, as being more important than paying a monthly subscription fee to a webservice. As a result of these barriers, the disconnect between the learning preferences of coaches and what is made available widens the knowledge gap and suggests a need for improved knowledge transfer.

Engagement with Website

In order to address the second purpose of the study, coaches' engagement with the website was discussed. For many of the coaches, they viewed the website to be a valuable

source of new ideas in sport psychology. As previous research has highlighted, a knowledge gap exists in sport psychology between the new ideas being produced and the ways in which coaches prefer to access them (Pope et al., 2015). It can be proposed that the website, an informal resource, helped bridge this gap by presenting new ideas in sport psychology to the coaches in their preferred source of learning new ideas. Furthermore, perceived usability of a website is positively linked to consumer trust and satisfaction (Flavián, Guinalú, & Gurrea, 2006). For many coaches, the website validated their current coaching practices and they found the activities easy to apply into their practice settings. As well, coaches deemed that the website was easy to navigate, the content was credible and applicable, and was written in terms that were relatively easy to understand (although there was room for improvement). These are valuable findings as it not only shows a possible bridge in the knowledge gap between new ideas in sport psychology and translating these ideas to coaches, but in the learning value the website can offer coaches.

Website Enhancements

Website development is an ongoing process and the coaches suggested various ways the website could be improved. They recommended making the website more user friendly by adding features such as podcasts and short 'how to' videos. They also suggested the website should provide an opportunity for coaches to interact. For example, there could be a forum for coaches to share their experiences using sport psychology. Finally, they requested more guidance in applying sport psychology. One coach recommended a 'where to start' feature which would be of value for coaches because many coaches are unsure where to begin when it comes to applying sport psychology.

Quantitative Findings

The results from Google Analytics demonstrated not only how coaches engaged with the website, but confirmed statements made throughout their interviews. A major barrier to finding new ideas in sport psychology is a lack of time (Reade et al., 2008). This barrier is evident in the present study by the few site visits and low time spent on the website by each coach. Research has found coaches would visit an online sport psychology resource “once per month” (Pope et al., 2015). Not surprisingly, many of the coaches only visited the site once during the present study. However, although the time metric may appear low, it may demonstrate that coaches were able to find the specific information they were seeking. High time spent on websites could indicate confusion or problems among users and the low time may further highlight the website’s efficient layout and display of information (Turner, 2010).

A prevalent issue in sport is anxiety which can have a debilitating impact on athlete performance (Jones, 1995). Thus, it is not surprising that “*Anxiety*” was tied for the most commonly visited page. Accordingly, coaches shared they searched for anxiety information in their post interviews comments; it appears that they sought out new ideas from the website to assist their athletes struggling with anxiety. The variety of pages explored could suggest coaches desire to discover new areas in sport psychology beyond “*the basics*” they often referred to during the pre-interview stage of the study. This is an encouraging finding as it suggests the website may have been able to increase awareness across various sport psychology skills such as group cohesion and concentration.

It is also interesting to examine why some pages on the website had little views or were not used at all. Despite expressing a common desire for an area to connect with other

coaches or professionals in the field, *Ask an Expert* had only one-page view. It could be this feature of the website was somewhat intimidating for the coaches. One coach mentioned that he did not want to be the one to initiate the conversation. The sport psychology expert featured on the website may need to be the one prompting the conversation, asking coaches to share their reflections and experiences (Szabo & Schwartz, 2011). Other pages not visited were *Athlete Roles*, *Para-Sport*, and *Interpersonal Routines*.

Furthermore, the frequent visits on the page *Biofeedback* may suggest that coaches might be curious about a sport psychology skill, but may be limited in applying it as it requires specific knowledge and training requirements, and is associated with a high cost (Giblin, Tor, & Parrington, 2016).

Finally, it was of interest that only one coach accessed the website via a mobile and one used a tablet device. A preference for mobile device use was uncovered during the pre-interview stage, yet it is not reflected in the quantitative findings. Although the preference for desktop devices instead of mobile devices was not addressed in the post interview, it is possible the preference for desktop can be attributed to a lack of responsive web design (Kim, 2013) and that the website was not compatible for mobile device screens. The website has not been optimized for such devices resulting in a less appealing layout, such as having to zoom in to read content and distorted images. This is important to consider if researchers and content developers aim to make new ideas in sport psychology more accessible.

Strengths

A strength of the current study is that it is the first known study to examine coaches' experiences and perceptions using an online sport psychology resource. Gaining coaches' perspectives and experiences on the website effectiveness provides readers with information

that can be easily used. It also gives coaching tool developers an inside look at the wants and needs of coaches, and ways to facilitate content development. In addition, a combination of qualitative and quantitative approaches was used which provided a more in-depth understanding of coaches' perceptions towards sport psychology and what topics are of most interest to them.

Limitations

Despite these strengths, there are some limitations which need to be considered when interpreting the data. First, considering the coaches were recruited primarily through one affiliation, the study findings may not be generalized to all coaching populations. Although an attempt was made to recruit a variety of coaches, it would be worthwhile to study the experiences of lower level coaches (e.g., amateur, novice, youth) with the website. If coaches of higher levels are experiencing difficulty in knowledge translation with the resources available to them, than the situation may be worse for coaches of lower levels who are not located in settings such as universities (Reade, Rodgers, & Hall, 2008). Secondly, the time usage on the website was different for each coach resulting in email reminders being sent to some coaches to log-on to the website. These reminders may have influenced their engagement. Thus, some of the coaches may have had more time to engage and understand the layout of the website, which would have impacted their experience with it. Also, the email reminders may have produced a social desirability effect, thus the reminded coaches may have used the website differently compared to their typical use of an online resource. Finally, employing a qualitative approach did not allow an analysis of variables such as age, gender, and years of coaching experience that might influence the use of the website.

Future Directions

It would be worthwhile for future research to investigate coaches' use of *sportpsychologyforcoaches.ca* using a larger sample with coaches of various ages, sports, years of experience and coaching levels. From a website development standpoint, future research should focus on continuing to make the website more accessible. The website designers may wish to consider presenting information on topics not currently addressed on the website such as the parent-coach relationship, developing intrapersonal skills for the coach, and how coaches themselves can use sport psychology to enhance their coaching styles. Even though only two coaches accessed the website via their smartphone or a tablet device, it may suggest the website is not mobile friendly. It would be wise to consider creating a mobile application (app) version of the website to enhance mobile use.

Furthermore, coaches' lack of time as a barrier could be addressed through an app as new ideas and concepts from the website can be immediately added to the website to access. It would be of great value to consider promoting the website to enhance awareness of its existence. This can be done through promotion on various platforms such as social media, national/provincial coaching organisations and other sporting websites. Links to other sport psychology resources and websites, as well as sport psychology consultants would help increase awareness of resources available to coaches across different geographical locations.

Finally, adding a "coaches forum" section might enhance user-engagement with the website. Since coaches prefer self-directed sources for learning, interacting with other coaches is often viewed as a valuable learning source (Erickson, 2008). Thus, having a place for coaches to exchange ideas and their personal testimonies applying concepts from the website might provide coaches with the real-time answers to problems they face.

Implications

Based on the experiences of the coaches, sportpsychologyforcoaches.ca was viewed as a positive informal resource for coaches to consult to gain sport psychology information. Regardless of the level of athlete coached, concepts from the website can be easily applied and coaches can consult the website for credible information. Since it is an online resource, coaches are able to access the website whenever an issue arises and receive ideas on how to address the problem. The website also eliminates the need to pay for new ideas in the area of sport psychology as it is free. From an applied perspective, understanding coaches' experiences using an online sport psychology will be beneficial for those developing coach education resources.

Conclusion

This study contributes to the literature as it is the first known study to qualitatively examine coaches' experiences and perceptions using an online sport psychology resource. The results of the study indicated that the website sportpsychologyforcoaches.ca helped bridge the knowledge gap between sport psychology resources and coaches as it provided them with applicable information and resources to incorporate into their coaching practices.

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Appendices

Appendix A: Letters of Non-Medical Ethics Research Board Approval



Date: 25 October 2018

To: Dr. Craig Hall

Project ID: 112346

Study Title: Analysis of Coaches use of an online sport psychology website

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: November 2 2018

Date Approval Issued: 25/Oct/2018

REB Approval Expiry Date: 25/Oct/2019

Dear Dr. Craig Hall

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Email Recruitment Letter Revised Oct 19-2018	Recruitment Materials	19/Oct/2018	002
Letter of Information and Consent Revised Oct 19	Written Consent/Assent	19/Oct/2018	004
Post Interview Guide	Interview Guide	17/Sep/2018	002
Pre Interview Guide	Interview Guide	17/Sep/2018	002

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).



Western Research

Date: 25 September 2019

To: Dr. Craig Hall

Project ID: 112346

Study Title: Analysis of Coaches use of an online sport psychology website

Application Type: Continuing Ethics Review (CER) Form

Review Type: Delegated

Meeting Date: 04/Oct/2019

Date Approval Issued: 25/Sep/2019

REB Approval Expiry Date: 25/Oct/2020

Dear Dr. Craig Hall,

The Western University Non-Medical Research Ethics Board has reviewed this application. This study, including all currently approved documents, has been re-approved until the expiry date noted above.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Daniel Wyzynski, Research Ethics Coordinator, on behalf of Prof. Randal Graham, NMREB Chair

Note: *This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).*

Appendix B: Pre-interview Guide Questions

Information about these interview questions:

This information provides a brief outline of what the researchers would like to learn about the coaches being interviewed. This includes their perspectives on sport psychology and their current use of sport psychology within their coaching practices. Interviews will be one-to-one (interviewer to coach) and will be open-ended (not simply yes or no answers). Due to this, exact wording may slightly change. I may use other short questions to make sure I understand what you are telling me ("*So, you are saying that...?*") or if I need more information when we are talking ("*Please tell me more?*") or to learn why you think or feel about something ("*Why do you think that is...?*").

Introduction and Instructions

Hello, my name is Jade Farhat. I am the student investigator for this research study. Thank you for agreeing to participate in this interview. Just to remind you, I am looking at your current views/usage of sport psychology within your coaching practice. Before we begin I would like to walk you through the consent form that is in front of you.

Confidentiality

Before we begin the interview, I would like to take a little time to talk about confidentiality and to go over some basic ground rules:

- All your views are welcomed and important
- Any personal identifiers will be removed from your views to ensure it remains confidential
- I will be asking you about your coaching practices and use of sport psychology. Should you feel uncomfortable answering any questions, please feel free to let me know or choose to not answer.
- Whatever is discussed in the room will stay in the room
- I may jump into the conversation should we stray off topic or to clarify any of your responses
- I may also take notes during the interview
- You can expect this interview to last about 30-45 minutes

Use of Audio Recorder

- As you will recall, this interview will be recorded to increase accuracy and reduce the change of misinterpreting what anyone says
- All recordings and transcripts will be securely stored by the researcher
- Names will be removed from the transcripts
- Only myself and Dr. Craig Hall will have access to the transcripts of this interview

Interview Questions

Getting to Know the Coach:

Please state which sport(s) you have coached and how long you have been coaching.

Please state the level of athletes you have coached (i.e., community, provincial, national):

Do you agree for this interview to be recorded?

Questions to uncover coach's current perceptions on Sport Psychology:

1. What comes to mind when you hear the words "sport psychology"?
2. Discuss any sport psychology experience or background that you have?
3. Discuss how sport psychology is relevant to your coaching practice?
4. Where do you get your sport psychology information from?
5. Describe how you have implemented any sport psychology strategies with your athletes?
6. How confident do you feel applying sport psychology within your coaching practices?
7. Describe any time when one of your athletes were struggling mentally, but you didn't know how to help?

Questions on perceptions of Website:

1. Which types of resources do you consult for new ideas? Ex. Seminars, websites, conferences
2. How often would you say you consult online resources to gain new information/ideas for your coaching practice?
 - How do you access online resources?
2. Which topics do you most often research?
3. How much time do you spend researching new coaching practices online?
3. What are some important factors when it comes to navigating a website?
4. What types of things do you hope to learn after using the *Sport Psychology for Coaches* website?

Was there anything else you would like to add that we may have missed in our discussion?

Conclusion

I want to thank you for sharing so much information about yourself and your coaching experiences. I want to assure you again that this information will be treated in the strictest confidence. Thank you for your time.

At this time participant will be given a debriefing form and thanked for their time.

Appendix C: Post interview Questions Guide

Information about these interview questions:

This interview will take place 8 weeks after the coaches have interacted with the website. The information collected will provide information about how the coaches liked the *Sport Psychology for Coaches* website, and if their perspectives on sport psychology and use of sport psychology within their coaching practices have changed. Interviews will be one-to-one (interviewer to coach) and will be open-ended (not simply yes or no answers). Due to this, exact wording may slightly change. I may use other short questions to make sure I understand what you are telling me ("So, you are saying that...?") or if I need more information when we are talking ("Please tell me more?") or to learn why you think or feel about something ("Why do you think that is...?").

Introduction and Instructions

Hello, and welcome back. Thank you for agreeing to participate in this interview. Just to remind you, I am looking at how you liked the website, and your how your current views/usage of sport psychology within your coaching practice have changed after using the *Sport Psychology for Coaches* website.

Confidentiality

Before we begin the interview, I would like to remind you about confidentiality and to go over some basic ground rules:

- Your views are welcomed and important
- Any personal identifiers will be removed from your views to ensure it remains confidential
- I will be asking you about your coaching practices and use of sport psychology. Should you feel uncomfortable answering any questions, please feel free to let me know or choose to not answer.
- Whatever is discussed in the room will stay in the room
- I may jump into the conversation should we stray off topic or to clarify any of your responses
- I may also take notes during the interview
- You can expect this interview to last about 30-45 minutes

Use of Audio Recorder

- As you will recall, this interview will be recorded to increase accuracy and reduce the change of misinterpreting what anyone says
- All recordings and transcripts will be securely stored by the researcher
- Names will be removed from the transcripts
- Only myself and Dr. Craig Hall will have access to the transcripts of this interview

Questions to uncover coach's change of perceptions on Sport Psychology:

- Discuss whether sport psychology is more relevant to your coaching practice after using the website?
- Discuss how you implemented any sport psychology strategies learned off the website with your athletes?
- After using the website, describe your confidence applying sport psychology within your coaching practices?
- Were there any mental performance issues that your athletes may have faced over the past 30 days, and you were able to help them find a solution to the problem?
Follow-up: how did it feel to help them through their problem? Discuss how the knowledge gained from the website was beneficial in this process?
- Describe any mental performance situations that you felt you were not able to intervene in?

Questions about the website specifically:

1. How much time would you say you spent using/interacting with the website?
2. What did you like about it?
3. What did you not like about the website?
4. Was there anything you learned that was surprising?
5. Discuss whether you found the material and topics relevant to your coaching practice?
6. Discuss if you found the material easy to understand?
7. Describe how you will continue to consult the website for new information on sport psychology?
8. What do you think would make using the website a more positive experience for coaches?

Is there anything else you would like to add that I may have missed?

Conclusion

I want to thank you for sharing so much information about yourself and your coaching experiences. I want to assure you again that this information will be treated in the strictest confidence. Thank you for your time.

Appendix D: Email Recruitment Letter

Email Recruitment Letter

Hi, {insert the name of the potential participant here}. My name is Jade Farhat, a graduate student from the faculty of Kinesiology at Western University. I would like to invite you to participate in my research study to help expand our understanding on coaches use and application of sport psychology research and use of sport psychology within their practices.

You may participate if you are (a) are older than 18 years of age, (b) are a coach of a competitive/high performance team, (c) can read and speak in English, (d) have access to a computer/handheld device with Internet access, and (e) have not previously accessed the website “sportpsychologyforcoaches.ca”. Please do not participate if you if you do not meet these criteria.

As a participant you will be asked to meet with the student investigator to gain insight on your perceptions of sport psychology and these meetings will be audio recorded. You will then be asked to engage with a sport psychology website (www.sportpsychologyforcoaches.ca), where your engagement with the website will be tracked employing your website user-name via Google Analytic.

Participation in the study will involve the disclosure of personal opinion that will be recorded. The risks associated with the study are not expected to surpass the risks associated with daily life.

By participating, you may be helping to contribute to the understanding of factors that influence coaches’ access to and application of sport psychology research. You also may gain more knowledge about new sport psychology techniques which can be applied to your

coaching practices. If you would like to participate in this research study, please reply to this email stating your interest.

Thank you in advance for your consideration.

Jade Farhat

Appendix E: Letter of Information and Consent



Letter of Information and Consent

Coaches Use of an Online Sport Psychology Website

Dr. Craig Hall- Principal Investigator

Jade Farhat, MSc Candidate- Student Investigator

Dr. Marc Mitchell- Co-investigator

Invitation to Participate:

You are invited to participate in a research study conducted by Jade Farhat (Western University) and Dr. Craig Hall (Western University). You are being invited to help expand our research and understanding on coaches use and application of sport psychology research. You are eligible to participate if you (a) are older than 18 years of age, (b) are a coach of a competitive/high performance team, (c) can read and speak in English, (d) have access to a computer/handheld device with internet access, and (e) have not previously accessed the website “sportpsychologyforcoaches.ca”. If you do not meet these criteria, you will be ineligible to participate at this time.

This letter of information and consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It informs you about the research and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask the student investigator (Jade Farhat). Please take the time to read this carefully and to understand any accompanying information.

Why is this study being done?

The purpose of this study is to understand coaches’ use of an online sport psychology website and how the information on the website can be applied to their coaching practices.

How long will you be in this study?

There will be two meetings with the student investigator for the total interview process. Each session will be approximately take 30-45 minutes of your time. There is no designated time, sessions may be longer or shorter based on a participant’s answers. Participants may choose to stop or end the interview at any time. Participants will also be asked to regularly interact with the website “sportpsychologyforcoaches.ca” for 30 days between the two interview sessions.

What are the study procedures?

Participants will be interviewed (and answers will be recorded) by the student investigator (Jade Farhat), who will ask you questions about your thoughts on sport psychology and how sport psychology can be incorporated into your coaching practices. You will then be asked to engage with a sport psychology website (www.sportpsychologyforcoaches.ca), where your engagement will be tracked using a confidential user id via Google Analytics and an IP address. Only your activity with the Sport Psychology for Coaches website will be monitored and analyzed in data processing. Activity such as page views, time spent on the website and articles accessed will be collected for further data analyses. The investigator will not have access to any other online activity that takes place outside of the website.

In addition, questions will also be asked about how you currently acquire sport psychology information. An example interview item is, “Discuss how you have implemented sport psychology strategies with your athletes?”. A post interview will be scheduled following the 30 days interacting with the website. The purpose of the second interview is to get your perspectives on the website and whether you incorporated information from the website into your own coaching practices. An example interview question is “Discuss whether you found the material and topics relevant to your coaching practice?” Unidentified direct quotes will be used in the dissemination of results.

What are the risks and harms of participating in this study?

Participation in this study will involve the disclosure of personal opinion that will be recorded, for example, your feelings about applying sport psychology strategies in your coaching practice, and this may make you feel uneasy. Therefore, we ask you to make only those comments that you feel comfortable making in a public setting. Furthermore, you may be asked to dedicate more time to your coaching practices than usual because you will be interacting with the website. The risks associated with the study are not expected to surpass the risks associated with daily life.

What are the benefits of participating?

You may be helping to contribute to the understanding of factors that influence coaches access to and application of sport psychology research. If you are interested, you can ask for the study results once they are available.

Can participants choose to leave the study?

At any time, participants can withdraw from the study and their information will not be included in the study if withdrawn during the interview process. Should a participant choose to withdraw from the study, their data will be deleted. You do not waive any legal right by consenting to this study.

How will participants information be kept confidential?

If you decide to participate in the study, the information that you share will remain confidential. Personal answers and comments made will only be used to examine the research questions of this study. Only the principal researcher (Dr. Craig Hall) and the student investigator (Jade Farhat) will have access to your email address, audio files and transcripts made during the interview process, and these will be kept on a password protected USB device in a locked file cabinet in the Sport Psychology Laboratory at Western University. Your personal information (i.e., email address) will only be used for initial contact to set up an appointment time and as your login into the website. Aggregated data stemming from this research may be presented at academic conferences and/or published in academic journals. Neither your name nor your contact information will appear in any publications stemming from this research.

This anonymous data will be stored in paper (consent form), word documents (transcribed interviews) and audio recorded files on a password protected USB device in a locked filing cabinet in the Sport Psychology Lab for seven years following the completion of the study. Once data has been transcribed into a typed document form, this information will be saved on a password protected USB stick and lock in a file cabinet in the Sport Psychology Laboratory.

Participants will also be assigned a unique code via Google Analytics which detaches any personal identifiers from their engagement with the website. The principal investigator (Dr. Craig Hall) and the student investigator (Jade Farhat) will have access to this data. After the seven-year period, all electronic data will be permanently deleted, and any hard copies will be cross-shredded. At no time will individual responses be reported. Representatives of The University of Western Ontario's Non-Medical REB may require access to your study-related records to monitor the conduct of the research.

Are participants compensated to be in the study?

There will be no compensation for participants who complete the study.

What are the rights of the participants?

Participation in this study is voluntary. You are under no obligation to participate and if you choose to participate, you can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. You may choose to withdraw from the study by emailing the research assistant or principal investigator, or by refraining from answering the questions.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Human Research Ethics (519) 661-3036, email: ethics@uwo.ca

This letter is yours to keep for future reference.



Coaches Use of an Online Sport Psychology Website

Dr. Craig Hall – Principal Investigator

Jade Farhat, MA Candidate- Student Investigator

Dr. Marc Mitchell- Co-investigator

Participant's Name, Signature and Date

I have read the letter of information, have had the nature of the study explained to me and I agree to participate. I agree to allow my interview to be recorded in order to help answer the research questions examined in this study. All questions about the study have been answered to my satisfaction.

I consent to the use of unidentified quotes obtained during the study in the
 dissemination of this research

Investigator's Name, Signature and Date

My signature means that I have explained the study to the participant named above. I have answered all questions.

Curriculum Vitae

Name: Jade Farhat

Post-secondary Education and Degrees: The University of Western Ontario
London, Ontario, Canada
B.A. Honors Specialization in Kinesiology 2012-2017

Honours and Awards: Academic All-Canadian 2017, 2018
RBC Community Leadership Award 2018

Scholarly Activities Teaching Assistant
The University of Western Ontario
Kin 3335 Leadership in Physical Activity 2017-2019

Co-Founder
Varsity Athlete Mental Performance 2018-Present

Western Women's Varsity Rugby
Player 2016-Present

Western Women's Varsity Rowing
Crew Member 2012-2016