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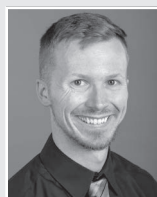


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Mental Performance and Mental Health Services in NCAA D1 Athletic Departments

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Mental performance consultants (MPCs) and licensed mental health professionals (MHPs) offer distinct, yet complementary, services. Although the focus of their service delivery varies, past researchers have often combined these professionals, along with licensed sport psychology professionals (LSPPs) when investigating sport psychology services in National Collegiate Athletic Association (NCAA) Division I (D1) athletic departments (e.g., Kornspan & Duve, 2006). The lack of distinction between these professionals has not allowed for a comprehensive understanding of the existence of these various psychological services in NCAA D1 athletic departments. Using content analysis methodology, the purpose of the current study was to identify the existence of three types of service providers—MPCs, MHPs, and LSPPs—listed on all NCAA Division 1 Football Bowl Subdivision (FBS) and Football Championship Series (FCS) athletic department websites. Out of 253 NCAA D1 athletic departments, 65 athletic departments were identified as having some form of mental performance and/or mental health services. Forty-one athletic departments employed one provider and 24 employed two or more providers. Of the 99 professionals identified, 56 provided both mental performance and mental health services, 23 provided solely mental performance services, and 20 provided solely mental health services. Additionally, 57 providers were identified as female while 42 were identified as male. Additional characteristics of professionals (i.e., title, terminal degree, licensure, and certification status) are provided. Implications for the growth of mental performance and mental health services within NCAA D1 athletic departments are discussed.

Keywords: sport psychology, sport psychology services, collegiate sport, athletics

Sport psychology services in the United States are not just growing in popularity, but in necessity. Professional athletes such as Simone Biles, Michael Phelps, and Hayden Hurst have all stepped forward to advocate for the importance of providing services for athletes' mental performance and well-being (White, 2021). In addition, organizations such as the National Collegiate Athletic Association (NCAA) have guaranteed mental health services to its Division 1 (D1) Power 5 autonomous conferences' student-athletes (Hosick, 2019). Many professionals within the NCAA, ranging from coaches to commissioners, perceive mental well-being as the number one issue facing student-athletes, as there are many pressures that come from being an athlete,

student, and person (Hosick, 2019). Given the pressures student-athletes face, sport psychology researchers have attempted to gain insight into the availability of sport psychology services within NCAA D1 athletic departments (Connole et al., 2014; Hayden et al., 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009).

The main issue with previous investigations is that many researchers combined mental performance consultants (MPCs), licensed mental health professionals (MHPs), and licensed sport psychology professionals (LSPPs) under one singular umbrella term of "sport psychology" and/or "sport psychology professional" in their analyses. The services provided by these professionals can and do complement each other, however their training, focus of service delivery, and ensuing benefits vary (see McHenry et al., 2021). This lack of distinction between MPCs, MHPs, and LSPPs in past research has not provided an accurate understanding of these services in NCAA athletic departments and has not fully offered clarity in the specific services being provided and available to student-athletes. Therefore, in this paper, we first

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address this issue by trichotomizing the three types of services and service providers who address athletes' psychological needs. Next, we attempt to highlight what has been reported in previous literature related to the number of and types of services being provided in NCAA athletic departments while also identifying gaps in the literature. Then, and as a result of the lack of clarity in past studies, we performed a study that allowed for a better understanding of the number and types of services being provided, including the identification of characteristics (e.g., gender, credentials) of professionals providing such services.

Trichotomy of Services

The Association for Applied Sport Psychology (AASP, 2021) has recently published a continuum of mental health which outlines mental illness on one end, characterized by significant to mild disruption in one's daily functioning, and mental wellness on the other, characterized by little to no disruption and thriving in one's daily functioning. A relationship between health and performance is also represented in the continuum in which "both health and performance impact one another and are also influenced by mental wellness and illness" (AASP, 2021). However, mental wellness and illness may or may not be correlated to performance. Athletes could be struggling in performance but doing well in life—to which an MPC would be helpful—or be struggling in life but doing well in performance—to which an MHP or LSPP would be helpful. In the following sections, each type of professional is discussed more closely to better understand their training and service delivery.

Mental Performance Consultants

MPCs, commonly referred to as sport psychology consultants in past literature (Hayden et al., 2013; Wrisberg et al., 2009), focus their services on psychological skills and strategies that aid athletes' mental and emotional preparation for sport performance (Fortin-Guichard et al., 2018). For example, purposes of mental performance services include assisting athletes and teams on dealing with pressure, building confidence, improving focus, and enhancing performance (Wrisberg et al., 2009). MPCs may choose to deliver services within an office while many also deliver services at practices and competitions as well as in hallways, weight rooms, and other settings (Loughran et al., 2014). One measure of qualification that helps to assess the competency of MPCs is a certification endorsed by AASP, the largest sport psychology association in North America. Certified Mental Performance Consultants (CMPCs) have completed graduate coursework in sport

science, psychology, and sport psychology in addition to obtaining over 400 hours of supervised applied experience with performers in sport and other domains (AASP, n.d.).¹

Licensed Mental Health Providers

While MHPs may consider factors that influence performance, they primarily direct their services towards athlete's clinical mental health concerns, such as depression, anxiety, disordered eating, and family issues (Sudano & Miles, 2017). Mental health services can be provided by a variety of licensed professionals such as psychologists, counselors, and social workers (Remley & Herlihy, 2016). Although each field has distinct educational training and practice experiences, MHPs collectively work from wellness or medical models to assess the client's needs, develop a plan, and provide services to meet the mental health needs of their clients (Mellin et al., 2011; McHenry et al., 2021). Because of the ethical nature of their services and focus on mental health, licensed MHPs work primarily in an office and limit interactions in public settings (Loughran et al., 2014).

Licensed Sport Psychology Professionals

Professionals who deliver both mental performance and mental health services have been referred to as clinical sport psychologists in the literature (Gardner & Moore, 2006; Moore & Bonagura, 2017), but the term LSPP was adopted here since not every licensed mental health provider can be considered a psychologist. Moore and Bonagura (2017) suggest that clinical sport psychologists, or LSPPs, do not solely teach mental skills needed for optimal performance in sport, but also intervene with performers who want to improve their daily functioning in areas such as work, school, health, and recreation. An LSPP is a professional who holds a mental health licensure while also having specific training in sport psychology and/or mental performance. For this study, we will refer to any professional who is licensed (e.g., psychologist, professional counselor, social worker) and provides both mental performance and mental health services as LSPPs.

Presence of Providers in NCAA Athletic Departments

There have been few researchers who have directly focused on identifying the presence of sport psychology services available in NCAA athletic departments (Beasley et al., 2019; Hayden et al., 2013; Kornspan & Duve, 2006; Wilson et al., 2009; Voight & Callaghan, 2001). However, when examining this literature, there

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are inconsistencies and discrepancies related to how sport psychology services were defined, and the types of professionals included in the reports. For instance, Voight and Callaghan (2001) defined “sport psychology professionals” as those providing performance enhancement techniques, while Kornspan and Duve

(2006) identified “sport psychology professionals” as those delivering services for both performance and non-performance, psychosocial related issues. Using Voight and Callaghan’s (2001) definition, only MPCs would be included, and using Kornspan and Duve’s (2006) definition, both MPCs and LSPPs would be included.

Table 1. Definitions and Discrepancies in Past Reports of Sport Psychology Professionals

Article	NCAA Division Level (I, II, III)	Identified # of service providers/# of universities responded (%)	# of CMPC/# of service providers (%)	Authors definitions of services provided	Discrepancies in authors definitions of providers and providers identified
Voight and Callaghan (2001)	D1	51/96 (53%)	25/51 (49%)	“performance enhancement issues... performance enhancement techniques” (p. 93)	Definition matches that of an MPC, but 3 professionals identified as licensed psychologists which would be classified in this study as LSPPs
Kornspan and Duve (2006)	D1, D2, D3	67/285 (23%)	13/67 (19%)	“helping enhance performance... helping athletes with psychosocial issues not directly related to improving athletic performance” (p. 22)	Definition matches that of an LSPP, but uncertain if identified individuals were delivering both services or just MH or MP services
Wilson et al. (2009)	D1	17/72 (23%)	12/17 (71%)	“improve performance, overcome the pressures of competition...” (p. 421)	Definition matches that of an MPC, but the identified service providers could also include clinical psychologists who have training and coursework in sport psychology
Hayden et al. (2013)	D1	51/120 (42%)	16/51 (31%)	“provision of mental training/ performance enhancement services” (p. 300)	Definition matches that of an MPC, but service providers identified in the study as sport psychologists, or LSPPs
Beasley et al. (2019)	D1	83/359 (23%)	-	Licensed mental health professionals not solely focused on mental performance	Definition matches that of an MHP, but identified service providers could also include LSPPs who supplement mental health services with mental performance services

Note. This table is designed to provide a brief overview of the presence of “sport psychology” providers reported in previous studies, how providers were defined, and discrepancies of findings compared to the new identification system of MPCs, MHPs, and LSPPs).

The inconsistency in their operational definitions, among others', has led to confusion and uncertainty about the number of providers in this setting and the specific services being delivered. Therefore, attempting to summarize past research on the number of professionals delivering services and types of services being provided in this setting is quite challenging (see Table 1 for a brief outline of discrepancies in definitions and in the number of providers). In addition, gaps in this research exist related to the personal and professional characteristics of those providing services.

Gaps in the Literature

As can be seen throughout past literature, identifying the differences between each type of professional has been overlooked, creating a lack of clarity about the distinct, yet complementary, services provided by MPCs, MHPs, and LSPPs. To grow the field of sport psychology and to best address the various psychological needs of student-athletes, there should be a clear identification of the specific types of services being provided. Two additional characteristics that may also be important for growing the field and meeting student-athletes' needs are the providers' terminal degree and gender. Both variables have received limited, if any, attention when examining the state of sport psychology services within the NCAA.

Although they did not measure the presence of sport psychology services in athletic departments, Lubker and colleagues (2012) quantitatively examined NCAA D1 and D2 athletes' preferences for characteristics and qualifications of sport psychology professionals. For the 464 student-athletes surveyed, the most important changeable attribute of the provider was the professional status of the practitioner, valuing an advanced degree over licensure and/or certification. This is interesting given that the terminal degree to obtaining licensure or certification is an advanced degree (e.g., master's degree). According to Lubker and colleagues (2012), and similarly reported by Wilson and colleagues (2009), these findings suggest that the qualifications and process of achieving such credentialing is unknown to the lay person. Regardless, outside of Beasley and colleagues (2019) study focusing specifically on mental health professionals, no study examining sport psychology services in NCAA athletic departments has included the terminal degree of the practitioners.

Additionally, there have been few, if any, studies examining the gender of mental performance and mental health providers in the collegiate setting. Roper (2002) suggests that throughout sport, women are

outnumbered and disadvantaged. In collegiate athletics, this is evident in the most recent Racial and Gender Report Card which identifies more male coaches than female coaches across both men's and women's sports and male athletic directors than female athletic directors at the NCAA D1 level (Lapchick, 2022). Thus, knowledge of the gender diversity of practitioners is important when garnering an initial assessment of equity within this setting. Additionally, clients have also reported the gender of the practitioner to be an important characteristic when seeking sport psychology services. For instance, Lubker and colleagues (2005) found that among NCAA D1 student-athletes completing a first impression questionnaire, male practitioners were perceived to be more effective than female practitioners. However, Lubker and colleagues (2012) later reported that college student-athletes preferred female practitioners over male practitioners. Additionally, in a qualitative study with eight NCAA D1 coaches, one male coach of female athletes expressed an interest in a female practitioner as this coach recognized that some issues might not be comfortable to talk about with an all-male coaching staff (Zakrajsek et al., 2013). More recently, Woolway and Harwood (2020) found in their literature review that the most preferred sport psychology practitioner was that of the same gender. Taken together, the gender of the practitioner appears to be a characteristic worthy of inclusion, but has yet to be when examining the state of sport psychology services in NCAA athletic departments.

Purpose

Whereas previous studies have identified the presence of professionals delivering sport psychology services at the NCAA D1 level (Hayden et al., 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009), researchers have not clearly distinguished between MPCs, MHPs, and LSPPs. Additionally, much of the past literature accounts for professional characteristics such as certification or licensure, but other characteristics such as terminal degree and gender have not been included in one singular study. We chose to focus this study on FBS and FCS NCAA D1 athletic departments for four primary reasons. First, the NCAA D1 level is considered the highest level of competition in the collegiate setting where the pressure to perform successfully is high (Wrisberg & Johnson, 2002). Second, NCAA D1 athletic departments have the largest budgets and have been found to employ more sport psychology professionals as compared to D2 and D3 (Kornspan & Duve, 2006; Voight & Callaghan, 2001). Third, research indicates that mental performance and mental health

services may be increasing in visibility and importance at the NCAA D1 level (Connole et al., 2014; Hosick, 2019; Wrisberg et al., 2012). Fourth, and finally, the presence of services and providers using content analysis has focused solely on NCAA D1 FBS institutions (Hayden et al., 2013), and has yet to be investigated at both NCAA D1 FBS and FCS institutions.

In summary, the NCAA D1 level is a context where it is more likely for professionals providing various psychological services to be hired within athletic departments. Therefore, the purpose of this study was to gain a comprehensive understanding of the state of mental performance and mental health services within NCAA D1 athletic departments. Specifically, a comprehensive understanding was gained by identifying (1) the number of NCAA D1 athletic departments with mental performance and/or mental health services available, (2) the number of service providers and the types of services being provided (i.e., mental performance, mental health, or both mental performance and mental health services), (3) the professional characteristics of MPCs, MHPs, and LSPPs (i.e., certification, licensure, terminal degree, AASP membership, and professional title), and (4) the gender of the professionals providing services.

Method

Using content analysis methodology, and at the time of the initial data collection in 2018, all 129 NCAA D1 FBS and 124 NCAA D1 Football Championship Sub-Division (FCS) athletic department websites were analyzed ($N = 253$). Content analysis methodology, and more specifically conceptual analysis, was chosen because it allowed for a systematic approach to analyze a large amount of information (Hsieh & Shannon, 2005; Krippendorff, 2004). More precisely within these conceptual content analysis procedures, researchers start with a specific qualitative data set and coding scheme that translates relevant findings into quantitative data. For this study, all athletic department websites, namely staff directories, were analyzed to identify if there was a professional delivering mental performance services (i.e., MPC), mental health services (i.e., MHP), or both services combined (i.e., LSPP). Characteristics of the professionals delivering services in the athletic department were then coded by the process outlined in the following sections.

Coding

Two researchers (first and third author) were responsible for the first and second phases of data collection, while a third researcher (second author) oversaw the data collection process and guided the

initial research protocol. A priori codes were added to an excel spreadsheet containing FBS and FCS universities and were based on previous research (e.g., Hayden et al., 2013; Kornspan & Duve, 2006). However, additional categories not used in previous research were added to gain a more comprehensive understanding of the existence of MPCs, MHPs, and LSPPs in NCAA D1 athletic departments. Therefore, the final codes in the current study included (1) evidence of mental performance and/or mental health services in the athletic department by noting the name of the provider, (2) the types of services offered by the provider, (3) if the provider held the CMPC designation and/or mental health licensure, (4) if the provider was a member of AASP, (5) the level of graduate degree obtained by the provider, (6) the professional title of the provider, and (7) the gender of the provider.

The type of services provided, code 2, focused specifically on the type of provider and included three different categories: mental performance, mental health, or licensed sport psychology professional. A professional was coded as a “mental performance consultant” if their title indicated so (e.g., mental performance consultant) and/or the services described in their profiles or biographies focused solely on the development of psychological skills (e.g., dealing with pressure, building confidence, improving focus, building team cohesion) for sport performance. A professional was coded as a “mental health provider” if their title indicated so (e.g., social worker), if the person was licensed (e.g., licensed social worker), and if the services described in their profiles or biographies focused solely on mental health. A professional was coded as a “licensed sport psychology professional” if they met the criteria for both the “mental performance” code and the “mental health” code. The AASP database was used to determine if the provider was registered as a Certified Mental Performance Consultant (CMPC; code 3) and/or registered as an AASP member (code 4). Lastly, graduate degree (code 5), professional title (code 6), and gender (code 7) were determined by identified information (such as pronouns for code 7) in the professional’s biography, profile, or news articles.

Procedures

In the first phase of data collection and using procedures similar to Hayden and colleagues (2013), the investigators obtained each university’s athletic department homepage. The investigators then individually analyzed each athletic department website and staff directory for evidence of mental performance services (MPC), mental health services (MHP), or both services (LSPP) and coded the existence of the provider into their own separate excel spreadsheet. If a

professional was listed with no biography, an additional Google search of the provider’s name and university name was used to gather and code information. If a provider was not listed for a university, a secondary Google search was conducted entering the NCAA D1 university’s name, the mascot, and the term sport psychology and/or mental health (e.g., “Arizona Wildcats sport psychology”). If a professional was identified as providing mental performance and/or mental health services within the athletic department, information was coded. Each coder was separately responsible for ensuring that the provider and information were current and up to date. If a professional was located solely in student counseling services or an educational department, the provider was not included. Although there are professionals who provide services to student-athletes outside of the athletic department, such as counseling centers and educational departments, the current study focused only on providers listed on the athletic department website or as working within the athletic department. This is because of student-athlete’s overall preferences to use services that are within the athletic department as opposed to those that are outside (Lopez & Levy, 2013). If no provider was listed or found, the university was coded as having no provider.

Viera and Garrett (2005) identify that inter-rater agreement is helpful to determine the consistency between coders and how they interpret written information. Specifically, the existence of a provider (identified by the provider’s name) was used to calculate agreement. For the 129 FBS universities, the initial inter-rater agreement between researchers was 89.1%. For the 124 FCS universities, the inter-rater agreement between researchers was 92.5%. In total, researchers did not agree on the presence of a provider at 19 (7.5%) universities. When disagreements occurred between the two researchers, the website was reviewed collectively in order to reach consensus using, again, the criteria described in the initial data collection phase. Of the 19 universities to be reanalyzed, 16 were coded as having a provider whereas three were coded as not currently having a provider.

In the second phase of data collection, and following the assessment of inter-rater agreement, the remaining characteristics (codes 2-8) of the providers were collected from each athletic department website and coded into the excel spreadsheet with the two coders working together. Since secondary coding occurred together, no additional interrater agreement was recorded. All data was collected between the months of March and June of 2018.

Data Analysis

Although this study was not the first to identify the presence of mental performance and mental health services available at NCAA D1 FBS and FCS institutions, it is the first to clearly delineate between the types of services being provided while simultaneously assessing gender and professional characteristics of those providing services. Thus, and mirroring the study of Hayden and colleagues (2013), a lower level of analysis that focused primarily on frequencies and distributions among codes was performed. However, to add rigor to the methodology, chi-square tests of homogeneity were also performed on codes two, three, four, five, and seven in order to identify whether or not the observed frequencies differed from what would be expected in this sample. Since this is the first study of its kind, a null hypothesis with an alpha level (.05) was used, stating the characteristics and types of providers would be equally distributed in the sample.

Results

In analyzing 253 NCAA D1 athletic departments for the presence of MPCs, MHPs, and/or LSPPs in the Fall of 2018, 65 (25.7%) were identified as having some form of mental performance and/or mental health services. A total of 99 professionals were found to be delivering these services. Of the 65 athletic departments with mental performance and/or mental health services, 46 (70.8%) belonged to FBS and 19 (29.2%) belonged to FCS NCAA D1 athletic departments. The majority of athletic departments, across both FBS and FCS had one provider (26 [56.5%] and 16 [78.9%] respectively), while fewer athletic departments had more than one provider (20 [43.5%] for FBS and 3 [21.1%] for FCS). See Table 2 for a full breakdown of the number of providers.

Table 2. Presence of Mental Performance and Mental Health Service Providers

	FBS	FCS
1 Provider	26	15
2 Providers	15	3
3 Providers	4	1
4 or more providers	1	0
Total	46	19

Note: There are a total of 99 professionals identified on 65 NCAA DI athletic department websites as providers of mental performance and/or mental health.

Professional Characteristics of Service Providers

In further observation of the 99 professionals working in athletic departments, 56 (56.6%) provided both mental performance and mental health services (LSPPs), 23 (23.2%) provided solely mental performance services (MPCs), and 20 (20.2%) provided solely mental health services (MHPs). Chi square analyses revealed a significant finding ($\chi^2 = 24.18, p < .001$), suggesting a non-equal distribution of types of services being provided, with more LSPPs and fewer MPCs and MHPs than expected (Expected $N = 33$).

Seventy-six (76.8%) professionals were licensed mental health providers, 45 (45.4%) held the CMPC designation, and 61 (61.6%) were members of AASP. Of these characteristics, chi-square analyses revealed a non-significant finding on the code of CMPC certification ($p = .366$), but a significant finding on those with licensure ($\chi^2 = 28.37, p < .001$) and those identified as members of AASP ($\chi^2 = 5.34, p = .021$). In both

cases, there were more providers with licensure than expected (Expected $N = 49.5$) and more AASP members than expected (Expected $N = 49.5$).

The most common terminal degree out of the 99 professionals was a PhD ($n = 71, 71.7%$), followed by a PsyD ($n = 15, 15.1%$) and then a master’s degree ($n = 9, 9.1%$). Chi square analyses revealed a significant finding ($\chi^2 = 73.85, p < .001$), suggesting a non-equal distribution in the terminal degrees of the providers, with more PhDs and fewer PsyDs and master’s degrees than expected (expected $N = 31.7$). Lastly, of the 99 professionals, 57 (57.6%) were female and 42 (42.4%) were male. Findings from the chi-square analysis on gender were non-significant ($p = .132$). See Table 3 for an entire breakdown of all characteristics.

Mental Performance

Twenty-three (23.2%) professionals were responsible for delivering solely mental performance services and 13 (56.5%) of the 23 MPCs were the only mental performance service provider in their athletic

Table 3. NCAA DI Frequency Matrix

	Type of Provider			Professional Characteristics			Degree			Gender	
	LSPP	MHP	MPC	CMPC	Licensed	AASP member	PhD	PsyD	Master’s	Female	Male
LSPP	56	-	-	-	-	-	-	-	-	-	-
MHP	-	20	-	-	-	-	-	-	-	-	-
MPC	-	-	23	-	-	-	-	-	-	-	-
CMPC	31	0	14	45	-	-	-	-	-	-	-
Licensed	56	20	0	31	76	-	-	-	-	-	-
AASP member	42	1	18	45	43	61	-	-	-	-	-
PhD	43	12	16	36	55	44	71	-	-	-	-
PsyD	12	2	1	9	14	13	-	15	-	-	-
Master’s	1	6	2	0	7	0	-	-	9	-	-
Female	33	14	10	24	47	37	39	11	3	57	-
Male	23	6	13	21	29	24	32	4	6	-	42

Note: Bold numbers represent the total of that category out of 99 providers; 4 providers were excluded from the degree columns.

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Table 4. NCAA DI Athletic Departments, Number of Providers, and Types of Providers Breakdown

Total number of Athletic Departments with Sport Psychology Services	Number of Providers in Athletic Department	Number of Athletic Departments with specific # of provider(s)	Number and Type of Providers		
			LSPP	MPC	MHP
65	1 Provider	41	23	13	5
	2 Providers	18	24	4	8
	3 Providers	5	8	1	6
	4 or more Providers	1	1	5	1
	Total Professionals	-	56	23	20

Note. FBS and FCS athletic departments are combined in the tables.

Table 5. Titles Identified by Type of Services Provided

Both	Mental Performance	Mental Health
Clinical & Sport Psychologist	Mental Performance Consultant	Clinical Social Worker
Clinical Sport Psychologist	Mental Performance Coach	Clinical Psychologist
Clinical Psychologist	Mental Game Consultant	Psychologist
Licensed Clinical Psychologist & Sport Psychologist	Mental Strength Coach	Staff Psychologist
Psychologist	Performance Specialist	Sport Psychologist
Sport Psychologist	Performance Coach	Director of Sport Psychology & Counseling Services
Associate Sport Psychologist	Sport & Mental Performance Consultant	Director of Sports Medicine in Psychiatry
Sport & Performance Psychologist	Sport Psychology Consultant	Director of Mental Health/Wellness
Counseling & Sport Psychologist	Director of Sport Psychology & Leadership Programs	Coordinator of Student-Athlete Mental Health
Athletic Psychologist	Director of Sport Psychology	Head of Athletic Counseling Services Counselor
Staff Psychologist	Director of Mental Performance	
Senior Staff Psychologist	Director of Mental Training	
Director of Clinical & Sport Psychology	Assistant AD for Performance Psychology	
Director of Counseling & Sport Psychology	Associate AD of Championship Performance	
Director of Performance Psychology Center		
Director of Mental Health & Performance Psychology		
Director of Sport Psychology		
Coordinator of Clinical & Sport Psychology		
Athletic Counselor		

Note. There are a total of 37 different titles being used across the three types of services, some of which overlap across types of service providers.

department. The remaining 10 (43.5%) professionals worked alongside other professionals (MPCs, MHPs, and/or LSPPs). See Table 4 for more details on the number of MPCs in athletic departments with more than one provider. Professionals delivering mental performance services operated under various titles such as Mental Performance Consultant, Mental Strength Coach, and Sport Psychology Consultant and often included “Director of” in front of their title. See Table 5 for a breakdown of the titles used in relation to the services provided.

Of the 23 professionals delivering mental performance services, 14 (60.9%) were CMPC and 18 (78.2%) were members of AASP. Educationally, 16 (69.6%) held a PhD, two (8.7%) held a master’s degree, and one held a PsyD (4.3%). The professional with the PsyD, along with all other mental performance services providers, was not licensed in mental health service delivery. Four professionals (17.4%) were identified as graduate students and not included in the educational breakdown since terminal degree was not listed, and therefore, unknown. In total, there were slightly more males ($n = 13$, 56.5%) than females ($n = 10$, 43.5%) delivering solely mental performance services.

Mental Health

Twenty (20.2%) professionals were responsible for delivering solely mental health services and all 20 held licensure. Only five (25%) MHPs worked alone in their athletic departments while the remaining 15 (75%) worked in conjunction with other service providers (MPCs, MHPs, and/or LSPPs; See Table 3). Mental health providers operated under various titles including (Clinical, Sport, or Staff) Psychologist, Clinical Social Worker, and Counselor. See Table 4 for more titles used by mental health providers.

No mental health professionals held CMPC status, but one (5%) professional was a member of AASP. The most common degree held by MHPs was a PhD ($n = 12$, 60%), followed by a master’s degree ($n = 6$; 30%) and a PsyD ($n = 2$, 10%). There were more females ($n = 14$, 70%) than males ($n = 6$, 30%) delivering solely mental health services.

Licensed Sport Psychology Professional

A total of 56 (56.6%) professionals were identified as providing both mental performance and mental health services. Twenty-three (41%) professionals delivered both mental performance and mental health services as the only provider in their athletic department while 33 (59%) professionals worked with other service providers

(MPCs, MHPs, and/or LSPPs; See Table 3). Professionals delivering both mental performance and mental health services had a wide array of titles including variations of Clinical and Sport Psychologist, Director of Sport Psychology, and Athletic Counselor (see Table 4).

All 56 professionals were currently licensed to provide mental health services, 31 (55.4%) held CMPC status, and 42 (75%) were members of AASP. In terms of education, 43 (76.8%) professionals held a PhD, 12 (21.4%) held a PsyD, and 1 (1.8%) held a master’s degree. There were also more females ($n = 33$, 58.9%) compared to males ($n = 23$, 41.1%) delivering both mental performance and mental health services.

Gender

Female professionals ($n = 57$, 57.6%) outnumbered male professionals ($n = 42$, 42.4%) and out of the 99 professionals, 24 (24.2%) females held CPMC status compared to 21 (21.2%) males. Additionally, more females ($n = 47$, 47.5%) were licensed to deliver mental health services than males ($n = 29$, 29.3%). Educationally, more females held a PhD ($n = 39$, 39.4%) and PsyD ($n = 11$, 11.1%) than males ($n = 32$, 32.3% and $n = 4$, 4% respectively), while more males ($n = 6$, 6%) held a master’s degree than females ($n = 3$, 3%).

Discussion, Implications, and Future Directions

The main purpose of this study was to gain a comprehensive understanding of the current state of mental performance and mental health services within NCAA D1 athletic departments. Specifically, this was gained by identifying (1) the number of NCAA D1 athletic departments with mental performance and/or mental health services (2) the number of professionals and types of services being provided (i.e., mental performance, mental health, or both mental performance and mental health), (3) the professional characteristics of MPCs, MHPs, and LSPPs (e.g., terminal degree, certification, licensure, AASP membership, professional title), and (4) the gender of the professionals providing services.

Number of NCAA D1 Athletic Departments Providing Services

Compared to previous studies (Hayden et al., 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009), the results of the current study indicate a higher prevalence of NCAA D1 athletic departments integrating some form of mental performance and/or mental health services. Perhaps the most accurate comparison of these results come from Hayden and

colleagues (2013) who found 51 professionals providing sport psychology services in 28 (23.3%) FBS athletic departments compared to the 75 (75.8%) professionals providing mental performance and/or mental health services in 46 (70.8%) FBS athletic departments found in the current study. The current study is also the first to conduct a content analysis of mental performance and mental health services in FCS athletic departments. Compared to 46 (70.8%) FBS athletic departments, only 19 (29.2%) FCS athletic departments provided some form of mental performance and/or mental health services. With fewer awardable scholarships, less publicity, and less revenue than FBS athletic departments (NCAA, 2019), FCS athletic departments likely have less money to spend on additional resources to support student-athlete development.

Number and Type of Professionals Delivering Services

The number of mental performance and/or mental health professionals delivering services along with the specific type of service provided was reported in the current study. A total of 56 (56.5%) professionals were identified as LSPPs, 23 (23.2%) as MPCs, and 20 (20.2%) as MHPs. This information is new to the literature on sport psychology services in athletic departments as previous researchers have not clearly distinguished between the number of professionals providing solely mental performance, mental health, or both types of services (see Hayden et al., 2013; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson et al., 2009). By distinguishing between the types of services provided, we also identified a non-equal distribution in the types of providers working in these positions, with more LSPPs and fewer MPCs and MHPs than expected. What this may indicate at the time of the study was that the hiring of individuals who can provide both services were prioritized, especially if there was only one professional hired in the athletic department.

Although the current study classified the type of services being provided into three categories, professionals used 37 different titles when providing mental performance and/or mental health services. As Hayden and colleagues (2013) emphasized after reporting the use of 24 different titles in their study, the wide variety of titles used across professionals may contribute to the ambiguity or uncertainty about mental performance and mental health services. From this ambiguity, and as previously mentioned in the reviewing of past literature, it may be difficult to distinguish between service providers as many professionals use

similar titles. For example, in the current study “sport psychologist” was a title used by LSPPs and MHPs, which may imply that MHPs also provide mental performance services. In the case of MPCs, whereas some were identified by the title “sport psychology consultant”, the terms “mental performance” may more clearly communicate the nature of their services (i.e., performance) while also demonstrating that they do not treat mental health concerns. In fact, AASP has made such an effort to clarify this by carefully utilizing “mental performance” in the certification title (AASP, n.d.) rather than “sport psychology.”

After closer examination of the number and type of providers, it was revealed that 41 (69.9%) athletic departments had only one provider delivering services, and of these, the majority were LSPPs ($n = 23$, 56%); professionals responsible for delivering both mental performance and mental health services. These findings indicate two major points that warrant further discussion. First, for athletic departments with only one provider, the ratio of provider to clients can range between 1:200 and 1:800 depending on the number of athletes and sport programs within the athletic department. If the sole provider is an MPC or MHP, they are being asked to be the only provider of either mental performance or mental health services to hundreds of athletes and coaches. This also means that an LSPP who is the only provider is expected to meet both the mental performance and mental health needs of the entire athletic department. Eisenberg (2014) reported that roughly 10% of student-athletes seek help, which could be influenced by the number of providers available to student-athletes. In a study of factors influencing help-seeking behavior, Watson (2006) reported time management to be a major constraint to seeking services. Thus, for athletes that want help and make time to seek services, it would be beneficial to have multiple professionals available to meet their needs. In addition, NCAA D1 student-athletes have also reported an overall greater willingness to seek assistance for enhancing performance than for dealing with personal issues (Wrisberg et al., 2009). Therefore, a potential solution is not just having multiple providers, but instead a variety of professionals capable of meeting each athlete’s specific needs. Noting the timeframe of these studies, future research should investigate current student-athletes help-seeking behaviors along with their perceptions and preferences for each type of service. As a result, this may help in understanding if student-athletes’ needs are being met and if the right number and type of providers are available.

Second, and further evidenced in our analysis, athletic administrators have reported a preference to hire a single professional capable of delivering both mental performance and mental health services (i.e., an LSPP) on a part-time basis (Connole et al., 2014). Though this preference is likely due to budgetary reasons, this is concerning given the expectations of one person to adequately meet all psychological needs. It is also important to consider that NCAA D1 athletic directors and coaches have reported a greater preference for services focused on performance concerns (i.e., an MPC; Wrisberg et al., 2010; 2012). Therefore, LSPPs—especially when only one person is hired—may not be set up for success because there may be a disconnect between what types of services preferred and the type of services being delivered. For instance, when one professional is hired to address both mental performance and mental health, student-athletes' mental health will likely be the priority. Therefore, one LSPP working within an athletic department will likely find it challenging to deliver the mental performance services that coaches and athletic directors might expect (Wrisberg et al., 2010; 2012). Future research should explore the role of LSPPs and how exactly they operate within NCAA athletic departments.

What is encouraging about the study is that there were 20 athletic departments with two or more service providers at the time of data collection. Five of these athletic departments (The University of Auburn, The University of Missouri, The University of North Carolina at Charlotte, The University of Oklahoma, and The University of Tennessee) had a team of three to four sport psychology professionals working together to meet the mental performance and mental health needs of student-athletes. It is promising to think that the NCAA D1 environment may be one where an interprofessional team is possible; where MPCs, MHPs, and LSPPs can work together to blend their distinct, yet complementary competencies and skills (see McHenry et al., 2021; Samuelson et al., 2012). Recently, McHenry and colleagues (2021) emphasized the need for interprofessional collaboration between mental performance and mental health services within sport. This type of integrative cooperation and “collaboration practice-ready workforce” may better serve athletes' psychological needs as each professional can focus on the type of services they can and are appropriately trained to deliver (McHenry et al., 2021, p. 6). For instance, because athletes' needs are complex, they “often cannot be solved by single professionals” (Samuelson et al., 2012, p. 303).

In contrast, what is discouraging is the number of athletic departments without any form of mental performance and/or mental health service. Across both FBS and FCS institutions, nearly 75% of athletic departments did not have these services available, leaving thousands of student-athletes without direct access to support services. Legislation has mandated NCAA institutions to make mental health services available to student-athletes through the athletic department or at other campus locations such as counseling centers or school health (Hosick, 2019). As the results of this legislation become more apparent now, years later, and as athletes' diverse psychological needs become more recognized, there will likely be a greater demand for interprofessional collaboration (Newman et al., 2019). In fact, when an interprofessional team with distinct mental performance and mental health professionals does exist, those within NCAA athletic departments (e.g., athletic directors, athletic trainers) have recognized the differences between services and expressed value for each type of service (see Eckenrod, 2019; Zakrajsek et al., 2018). Thus, by the time of publication, there may be more athletic departments with providers.

Professional Characteristics of Service Providers

In the current study, 45 (45.4%) of the 99 total professionals identified held CMPC status, and more specifically within the 46 FBS athletic departments, 31 (41%) of 75 professionals held CMPC status. Since Hayden and colleagues' (2013) study, the number of professionals with CMPC status working within FBS athletic departments has indeed doubled from just 16 certified professionals. Additionally, in the current study, more than half of the 23 MPCs ($n = 14$, 60.1%) and 56 LSPPs ($n = 31$, 55.3%) had achieved this credential. What might be inferred from these findings is that CMPC has been increasingly marketed and/or publicly recognized, and because of this, NCAA D1 university athletic departments may be including CMPC as a requirement within position announcements for LSPPs and MPCs. However, recent job postings have included CMPC as a preference while simultaneously acknowledging that the position is for full time mental health support. Once again, there is likely some confusion as to the necessary qualifications and training to fulfill each role and future research should explore this trend.

Along with CMPC status, we also sought to identify the number of professionals holding licensure to deliver mental health services. In the current study, 76 (76.7%) of the 99 professionals were licensed in mental

health; of which 56 were identified as LSPPs (56.5%) and 20 (20.2%) were identified as MHPs. The number of licensed professionals identified in the current study is comparable to Beasley and colleagues' (2019) who identified a total of 83 licensed mental health providers working in NCAA D1 athletic departments. None of the MPCs in the current study were licensed in mental health. This finding makes sense given that a licensure is not required to obtain CMPC status and be considered competent in delivering mental performance services.

Gaps in the Literature

Terminal Degree

New to the literature was an analysis of the professionals' terminal degree. It is important to keep in mind that the terminal degree to achieve CMPC status or licensure (e.g., licensed social worker, licensed professional counselor) is a master's degree while a PhD or PsyD is the terminal degree needed to be a licensed psychologist. Across all professionals, a PhD was the most common terminal degree ($n = 71$, 74.7%) with nine (9.1%) professionals—6 MPCs, 2 MHPs, and 1 LSPP—holding a master's degree. This finding, along with chi-square analyses, reveals a hiring distribution more in favor of a PhD compared to a PsyD or master's degree. Whereas most mental health professionals in Beasley's and colleagues' (2019) study (57 out of 83) also held a PhD, 26 mental health professional's terminal degree was a master's degree. Despite the lower number of professionals with a master's degree in the current study, it is still encouraging that athletic departments have hired such individuals. Not only should mental performance and mental health professionals with a master's degree continue to seek employment opportunities in these positions, but organizations such as AASP should continue to inform employers—like NCAA D1 athletic departments— and clients that a master's degree meets the qualification standards, along with CMPC or licensure, to competently deliver mental performance and mental health services. Holding licensure or CMPC status not only guarantees a basic foundation of competency, but ensures that professionals must maintain their status by means of continued education.

Gender of Service Providers

As noted, the gender of the practitioner appears to be an attribute student-athletes consider when seeking services (Lubker et al., 2012, Woolway & Harwood, 2020). Understanding the current opportunities for each gender is also important in terms of equity of opportunity. However, previous research has not reported the gender

of the professionals when examining the state of sport psychology services. In the current study, more females ($n = 57$, 57.6%) than males ($n = 42$, 42.4%) were identified as delivering services in NCAA D1 athletic departments, however this finding was not significant. More specifically, females made up the majority of professionals providing mental health services—whether that be as an LSPP ($n = 33$, 58.9%) or MHP ($n = 14$, 70%)—whereas males ($n = 13$, 56.5%) made up the majority of MPCs. While these findings do mirror the ratio of more female to male mental health providers in the general work force (Bureau of Labor Statistics, 2019), they also seem to indicate that in the NCAA D1 setting there is a relatively equal hiring in the number of female and male applied practitioners. These findings should be encouraging for two reasons. First, student-athletes may feel more comfortable seeking services when different genders are available, and as Woolway and Harwood (2020) reported, if the professional is their same gender. Second, and for professionals wanting to work in this setting, there appears to be equity in employment opportunities. What may be of additional importance in equity, diversity, and inclusion, and as a suggestion for future researchers, is to continue to examine demographic information (e.g., race, ethnicity) related to professionals delivering mental performance and mental health services within NCAA D1 athletic departments.

Limitations

The present study focused on providing a comprehensive understanding of mental performance and mental health services in NCAA D1 athletic departments. To do this, we used content analysis methodology as it was thought to provide a more accurate assessment of the state of mental performance and mental health services across all NCAA D1 athletic departments. This method addressed some of the limitations of survey methodology used in previous research, such as low response rates (Wilson et al, 2006). However, limitations of content analysis methodology include the reliance on public data and information such as that found on athletic department websites. For example, an MPC, MHP, or LSPP may have been employed by the athletic department but not listed on the athletic department webpage. In addition to the researchers relying on information found through internet searches, there was a potential to misidentify the types of services being delivered by a professional. The non-invasive, observational methodology did not allow for universities or professionals to be contacted. However, the main attempt to mitigate this misidentification was by having two coders separately

analyze the publicly available data. Despite separate analysis, a high inter-rater agreement was still achieved. One major suggestion moving forward is to establish a public database of this information that is readily available to researchers and consumers. By having access to up-to-date information, researchers, consumers, and sport psychology professionals may better and more easily understand what student-athlete needs are being addressed and what areas can be improved.

Conclusion

In conclusion, there appears to be continued growth in the number of mental performance and mental health providers working in the NCAA D1 setting, with licensure and/or CMPC becoming more commonplace. Yet it is also important to recognize that many NCAA D1 athletic departments, especially FCS and non-Power 5 FBS institutions, were and still are without service providers. This has also been the first study to clearly delineate between service providers, and the findings suggest that student-athletes have more, but still limited, access to LSPPs, MPCs, and MHPs than previously reported. Lastly, and with regard to recent legislation and our findings, we strongly recommend that NCAA D1 athletic directors and administrators hire a team of providers to meet the complex psychological needs of all student-athletes. In this manner, each professional can continue to specialize within their field of practice and best serve the student-athlete and athletic department.

Footnote

¹ For more details about CPMC® standards, see the Association for Applied Sport Psychology website. <https://appliedsportpsych.org/certification/>

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References

- Association for Applied Sport Psychology (AASP). (n.d.). *Certification*. Retrieved from <https://appliedsportpsych.org/certification/>
- Association for Applied Sport Psychology (AASP). (2021). AASP statement on the continuum of mental health & relationship to performance. A response to the conversation supporting Naomi Osaka and Simon Biles. <https://appliedsportpsych.org/media/news-releases-and-association-updates/aasp-statement-on-the-continuum-of-mental-health-and-relationship-to-performance-a-response-to-the-conversation-supporting/>
- Beasley, L., Hardin, R., Magliocca, J., & Smith, Z. T. (2019). *Licensed mental health professionals in NCAA Division I athletic departments*. Paper presented at 2019 Applied Sport Management Association Conference in Nashville, TN.
- Bureau of Labor Statistics (2020). Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity. Retrieved March 10, 2020, from <https://www.bls.gov/cps/cpsaat11.htm>.
- Connole, I. J., Watson, J. C., Shannon, V. R., Wrisberg, C., Etzel, E., & Schimmel, C. (2014). NCAA athletic administrators' preferred characteristics for sport psychology positions: a consumer market analysis. *The Sport Psychologist*, 28, 406-417. <http://dx.doi.org/10.1123/tsp.2013-0096>
- Eckenrod, M. R. (2019). *NCAA Division I athletic administrators' perceptions of and experiences with mental performance consultants*. [Unpublished doctoral dissertation, University of Tennessee, TRACE].
- Eisenberg, D. (2014). Developing and evaluating a model program for supporting the mental health of student athletes. *Research*. Athletes Connected. <http://athletesconnected.umich.edu/wp-content/uploads/2017/02/2014-NCAA-Final-Report-main-narrative.pdf>
- Fortin-Guichard, D., Boudreault, V., Gagnon, S., & Trottier, C. (2018). Experience, effectiveness, and perceptions toward sport psychology consultants: A critical review of peer-review articles. *Journal of Applied Sport Psychology*, 30, 3-22. <https://doi.org/10.1080/10413200.2017.1318416>
- Gardner, F. L. & Moore, Z. E. (2006). *Clinical sport psychology*. Human Kinetics.
- Hayden, E. W., Kornspan, A. S., Bruback, Z. T., Parent, M. C., & Rodgers, M. (2013). The existence of sport psychology services among NCAA Division I FBS university athletic departments and counseling centers. *The Sport Psychologist*, 27, 296-304. <https://doi.org/10.1123/tsp.27.3.296>
- Hosick, M. B. (2019, January 26). Access to mental health services guaranteed by autonomy conferences. NCAA. <http://www.ncaa.org/about/resources/media-center/news/access-mental-health-services-guaranteed-autonomy-conferences>
- Hsieh, H. & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277-1288. <https://doi.org/10.1177/1049732305276687>

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- Kornspan, A. S. & Duve, M. A. (2006). A niche and a need: A summary of the need for sport psychology consultants in collegiate sports. *Annals of the American Psychotherapy Association, 9*, 19-26.
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Sage.
- Lapchick, R. E. (2022). The 2021 racial and gender report card. *The Institute for Diversity and Ethics in Sport*. University of Central Florida.
- Lopez, R. L. & Levy, J. J. (2013). Student athletes' perceived barriers to and preferences for seeking counseling. *Journal of College Counseling, 16*, 19-31. <https://doi.org/10.1002/j.2161-1882.2013.00024.x>
- Loughran, M. J., Etzel, E. F., & Hankes, D. (2014). Ethical issues in work with collegiate student-athletes. In E. F. Etzel and J. C. Watson II (Eds.), *Ethical issues in sport, exercise, and performance psychology* (pp. 37-48). Fitness Information Technology.
- Lubker, J. R., Watson, J. C., Visek, A. J., & Greer, J. R. (2005). Physical appearance and the perceived effectiveness of performance enhancement consultants. *The Sport Psychologist, 19*, 446-458. <https://doi.org/10.1123/tsp.19.4.446>
- Lubker, J. R., Visek, A. J., Watson, J. C., & Singpurwalla, D. (2012). Athletes' preferred characteristics and qualifications of sport psychology practitioners. A consumer market analysis. *Journal of Applied Sport Psychology, 24*, 465-480. <https://doi.org/10.1080/10413200.2012.694968>
- McHenry, L. K., Beasley, L., Zakrajsek, R. A., & Hardin, R. (2021). Mental performance and mental health services in sport: A call for interprofessional competence and collaboration. *Journal of Interprofessional Care*. <https://doi.org/10.1080/13561820.2021.1963218>
- Mellin, E. A., Hunt, B., & Nichols, L. M. (2011). Counselor professional identity: Findings and implications for counseling and interprofessional collaboration. *Journal of Counseling Development, 89*, 140-147. <https://doi.org/10.1002/j.1556-6678.2011.tb00071.x>
- Moore, Z. E. & Bonagura, K. (2017). Current opinion in clinical sport psychology. From athletic performance to psychological well-being. *Current Opinion in Psychology, 16*, 176-179. <https://doi.org/10.1016/j.copsyc.2017.05.016>
- National Collegiate Athletic Association (NCAA), (2019). *Finances of Intercollegiate Athletics Database*. <https://www.ncaa.org/about/resources/research/finances-intercollegiate-athletics-database>.
- Newman, T. J., Okamoto, K., Kimiecik, C., Sohns, E., Burns, M., & Magier, E. (2019). The role of social workers in sport: Shared values, interprofessional collaborations, and unique contributions. *Journal of Sport Psychology in Action, 10*(3), 160-173. <https://doi.org/10.1080/21520704.2019.1642270>
- Remley, T. P. & Herlihy, B. (2016). *Ethical, legal, and professional issues in counseling* (5th ed.). Merrill Prentice Hall.
- Roper, E. A. (2002). Women working in sport psychology: Exploring the gender bias in applied sport psychology. *Journal of Applied Sport Psychology, 14*, 53-66. <https://doi.org/10.1080/10413200802241840>
- Samuelson, M., Tedeschi, P., Aarendonk, D., De La Cuesta, C., & Groenewegen, P. (2012). Improving interprofessional collaboration in primary care: Position paper of the European forum for primary care. *Quality in Primary Care, 20*, 303-312.
- Sudano, L. E. & Miles, C. M. (2017). Mental health services in NCAA division-I athletics: A survey of head ATCs. *Sports Health, 9*, 262-267. <https://doi.org/10.1177/1941738116679127>
- Viera, A.J., & Garrett, J.M. (2005). Understanding interobserver agreement: The Kappa Statistic. *Family Medicine, 37*, 360-363.
- Voight, M., & Callaghan, J. (2001). The use of sport psychology services at NCAA Division I universities from 1998-1999. *The Sport Psychologist, 15*, 91-102. <https://doi.org/10.1123/tsp.15.1.91>
- Watson, J. C. (2006). Student-athletes and counseling: Factors influencing the decision to seek counseling services. *College Student Journal, 40*, 35-42.
- Wilson, K. A., Gilbert, J. N., Gilbert, W. D., & Sailor, S. R. (2009). Collegiate athletic directors' perceptions of sport psychology consulting. *The Sport Psychologist, 23*, 405-424. <https://doi.org/10.1123/tsp.23.3.405>
- White, D. (2021). *Simone Biles, Jacksonville native Hayden Hurst put spotlight on mental health*. <https://www.firstcoastnews.com/article/sports/olympics/simone-biles-jacksonville-native-hayden-hurst-put-spotlight-on-mental-health-local/77-28601045-6757-4834-bd56-c58941ba359c>
- Woolway, T. & Harwood, C. G. (2020). Consultant characteristics in sport psychology service provision: A critical review and future research directions. *International Journal of Sport and Exercise Psychology, 18*(1), 46-63. <https://doi.org/10.1080/1612197X.2018.1462230>
- Wisberg, C.A. & Johnson, M. S. (2002). Quality of life. In M. Kellmann (Ed.), *Enhancing recovery: Preventing underperformance in athletes* (pp. 253-267). *Human Kinetics*.
- Wisberg, C. A., Loberg, L. A., Simpson, D., Withycombe, J. L., & Reed, A. (2010). An exploratory investigation of NCAA Division-I coaches' support of sport psychology consultants and willingness to seek mental training services. *The Sport Psychologist, 24*, 489-503. <https://doi.org/10.1123/tsp.24.4.489>

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- Wrisberg, C. A., Simpson, D., Loberg, L. A., Withycombe, J. L., & Reed, A. (2009). NCAA Division-I student-athletes' receptivity to mental skills training by sport psychology consultants. *The Sport Psychologist, 23*(4), 470-486. <https://doi.org/10.1123/tsp.23.4.470>
- Wrisberg, C. A., Withycombe, J. L., Simpson, D., Loberg, L. A., & Reed, A. (2012). NCAA Division-I administrators' perception of the benefits of sport psychology services and possible roles for a consultant. *The Sport Psychologist, 26*, 16-28. <https://doi.org/10.1123/tsp.26.1.16>
- Zakrajsek, R. A., Steinfeldt, J. A., Bodey, K. J., Martin, S. B., & Zizzi, S. J. (2013). NCAA Division-I coaches' perceptions and preferred use of sport psychology services: A qualitative perspective. *The Sport Psychologist, 27*, 258-268. <https://doi.org/10.1123/tsp.27.3.258>
- Zakrajsek, R. A., Fisher, L. A., & Martin, S. B. (2018). Certified athletic trainers' experiences with and perceptions of sport psychology services for student-athletes. *The Sport Psychologist, 32*, 300-310. <https://doi.org/10.1123/tsp.2017-0119>

The Effects of Strategic Self-Talk on Concurrent Training Exercise Performance

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Self-talk is a multidimensional construct comprised of self-statements that provide instruction or motivation to complete a task. The matching hypothesis suggests that instructional cue words are beneficial for tasks involving precision and accuracy, whereas motivational cue words are effective for tasks involving endurance, strength, and power (Theodorakis et al., 2000). Exploring the effects of strategic self-talk through concurrent training (i.e., a combination of endurance and precision exercise tasks) provides a unique opportunity to test the differential predictions of the matching hypothesis. The purpose of the present study was to analyze the effects of instructional and motivational cue words during concurrent exercise training on a task that consisted of running and overhead squatting. Thirty participants were divided into three groups (i.e., control, instructional, and motivational) and examined across two exercise sessions. A 3 x 2 repeated measures ANOVA revealed a significant interaction for overhead squat mechanical scores and group. Post hoc testing revealed the instructional cue words group performance improved and the control group's performance declined, all other analyses were not significant. The results provide minimal support for the matching hypothesis, with instructional cue words benefiting the precision motor task. A unique finding was that participants in the control and strategic self-talk groups reported using organic self-talk during the training task that served either motivational or instructional functions, despite not being directed to do so. Further research is needed to examine the interaction between strategic and organic self-talk during concurrent training tasks.

Keywords: endurance exercise, sport psychology, human performance

Over the past several decades the effects of self-talk have been examined on motor learning, sports performance, and the psychological variables (e.g., confidence, anxiety, arousal regulation, etc.) associated with effective sports performance. The results of these investigations have shown that self-talk can effectively enhance motor learning, performance, and critical psychological characteristics associated with motor performance (see Hatzigeorgiadis et al., 2011; Hardy et al., 2018; Tod et al., 2011; Van Raalte et al., 2016). Self-talk has been defined as the overt or covert verbalizations made to oneself that are motivational or instructional, and occur either organically or strategically (Latinjak et al., 2019).

Organic self-talk (i.e., talk that occurs naturally) can be further broken down into spontaneous self-talk or

goal-directed self-talk. Spontaneous self-talk consists of statements that occur unintentionally that are linked to the task at hand (Latinjak et al., 2019). For example, a golfer might unintentionally say, "what a stupid mistake" after hitting the ball into a sand bunker or, "great shot" after hitting the green from the fairway. Goal-directed self-talk refers to intentional statements that are used to self-regulate, enhance performance, solve a problem, or make progress on a task (Latinjak et al., 2019). An example would be a pitcher saying, "relax, be patient" during their pitch sequence during a game, or "I am going to throw this fast, high, and inside" while facing a batter during a game. Organic self-talk can serve multiple functions during motor task performance. For example, Latinjak et al. (2018) collected questionnaire data examining organic self-talk in novice ultimate frisbee players and found that the players provided self-instruction prior to task performance, pointed out technical errors and gave self-adjustments during task performance, and purposefully used negative reinforcement self-talk to improve performance. Despite the recent growth of organic self-talk research, more is known about strategic self-talk.

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Strategic self-talk is a mental strategy consisting of pre-determined self-statements that serve two primary purposes, to enhance motivation (i.e., motivational self-talk) or provide instructions (i.e., instructional self-talk) to improve motor performance (Hatzigeorgiadis et al., 2014). Instructional self-talk refers to cues that provide direction to an action or technique, and motivational self-talk pertains to cues that build confidence or 'psych up' an individual (Hatzigeorgiadis et al., 2014; Theodorakis et al., 2012). For example, a coach might have an athlete strategically say, "elbow up" when shooting a free throw, or "I can do this" before walking onto the court to start the game. The provision of strategic self-talk cue words can be used both before and during task performance. Previous research indicates that strategic self-talk enhances important psychological variables associated with effective performance, such as confidence, arousal regulation, concentration, and motivation (Tod, 2014; Williams & Hacker, 2021).

Historically, much of the self-talk research has centered on strategic self-talk, or cue word interventions (Latinjak et al., 2019). For instance, positive cue words have enhanced performances in cross-country skiing (Rushall et al., 1988), dart throwing (Dagrou et al., 1992; Van Raalte et al., 1995), and field hockey penalty shots (Wrisberg & Anshel, 1997). Instructional cue words improved forehand ground strokes in novice tennis players (Ziegler, 1987), lowered elite sprinters' times (Mallet & Hanrahan, 1997), and improved the volleying skills of collegiate tennis players (Landin & Herbert, 1999). This initial research indicated that self-talk with specific cues benefitted both skilled and novice motor performance (Theodorakis et al., 2000). As a result, Theodorakis et al. (2000) proposed the matching hypothesis which suggests that motivational cue words are effective for gross motor tasks involving endurance, strength, and power, and instructional cue words are beneficial for fine motor tasks involving precision and accuracy.

Research examining the matching hypothesis has provided mixed results. For instance, consistent with the matching hypothesis, instructional cue words have been shown to benefit certain throwing and accuracy tasks (Boroujeni & Shahbazi, 2011; Hatzigeorgiadis et al., 2004; Theodorakis et al., 2000), whereas motivational cue words have benefitted power and endurance tasks (Chang et al., 2014; Kolovelonis et al., 2011; Tod et al., 2009). However, research has also found that instructional and motivational cue words equally benefit power, accuracy, and endurance tasks (Chang et al., 2014; Edwards et al., 2008; Hatzigeorgiadis et al., 2004;

Theodorakis et al., 2000). A meta-analysis conducted by Hatzigeorgiadis et al. (2011) revealed that instructional cue words were more effective for precision motor tasks than gross motor tasks, and that both instructional and motivational cue words were effective for gross motor tasks. Alternatively, a systematic review conducted by Tod et al. (2011) found no consistent evidence to support the differential effects of motivational and instructional cue words. The benefits of instructional cue words over motivational cue words in precision motor task performance have been ambiguous. Similarly, motivational cue words did not outperform instructional cue words in endurance-based tasks (Tod et al., 2011). Despite the mixed results there is sufficient evidence that strategic self-talk, either motivational or instructional, benefits motor task performance (Hatzigeorgiadis et al., 2011). Moreover, the current body of evidence suggests that instructional cue words may be more beneficial for precision motor tasks. However, further examination of the matching hypothesis is needed.

To date less research has been conducted investigating the effects of strategic self-talk on exercise tasks. One study investigating self-talk on a cycling ergometer task found that both positive and negative cue words improved power output (Hamilton et al., 2007). Likewise, motivational cue words were shown to reduce time-to-exhaustion (TTE), reduce perceived rate of exertion, increase executive functioning, increase power output, and increase VO₂ peak (Barwood et al., 2015; Blanchfield et al., 2014; Hatzigeorgiadis et al., 2018; Wallace et al., 2017). These results suggest that strategic self-talk benefits aerobic exercise by decreasing time to complete performance and lowering perceived exertion. However, prior research did not systematically base their strategic self-talk interventions on the matching hypothesis (Theodorakis et al., 2000), varied in strategic self-talk content (e.g., motivational vs neutral, positive vs negative), and duration (e.g., five weeks, three weeks, two weeks). This lack of consistency indicates that further research is needed to better understand the relationship between strategic self-talk and its impact on various exercise tasks.

Given that prior research has been limited to examining exercise tasks involving endurance and has not used conceptual frameworks to guide intervention research on different types of exercise tasks, using strategic self-talk based on the matching hypothesis seems warranted. Specifically, it appears that a fruitful line of research to further explore is how strategic self-talk moderates exercise performance on concurrent training exercises involving endurance and precision.

Concurrent training involves a combination of strength (e.g., snatch, clean and jerk, overhead squats) and endurance (e.g., running, rowing, exercise biking) movements. Such training incorporates a combination of resistance training, for muscular strength, power, hypertrophy, and endurance exercise (Wilson et al., 2012). Concurrent training has become a popular training mechanism for beginner and experienced exercisers, with over 11,000 gyms worldwide and well over 400,000 members (Schlegel, 2020). Given the unique combination of endurance and strength tasks present within concurrent training it provides an opportunity to directly test the differential effects of the matching hypothesis with each task theoretically benefitting from self-talk that serves a different function (e.g., instructional or motivational). Thus, the purpose of the current experiment was to examine the matching hypothesis on a concurrent training task. Based on the matching hypothesis (Theodorakis et al., 2000), it was hypothesized that strategic self-talk would have a positive effect on concurrent training exercise performance in comparison to a control group. Specifically, that motivational cue words would be more effective on overall exercise time through increasing effort to complete the task and instructional cue words would be more beneficial for precision task performance through directed attentional focus on the correct mechanical aspects of the precision movement.

Method

Participants

To calculate sample size, a power analysis using a medium effect size ($f = 0.25$; Cohen, 1992), with an alpha level set to .05 and power set to .95 was conducted. This suggested a sample of 30 participants was needed. Thirty male ($N = 12$) and female ($N = 18$) adults from the university community ($M = 25.7$ years, $SD = 5.31$) were recruited and volunteered to participate in the study. During the recruitment phase participants were informed about the exercise task they would be completing (i.e., overhead squat and running). If a participant was physically unable to perform the overhead squat movement (e.g., they were not flexible enough, not strong enough) or were unable to complete the 400-meter run, they were excluded from the study. No other participant demographics were collected. Prior to any data collection or participant recruitment, approval from a university research ethics board was granted in accordance with the declaration of Helsinki (IRB #17-367).

Task

Participants were required to complete five rounds of a 400-meter run directly preceded by 15 overhead squats (OHS) with a 6-lb bar, within a 20-minute time limit. Participants first completed a 400-meter run followed by 15 OHS, immediately followed by another 400-meter run and 15 OHS. This sequence was repeated until the participants completed it five times. The 6-lb weight was chosen to allow the participants focus on proper form of the OHS. The exercise sequence was taken directly from previous concurrent exercise research (Dexheimer et al., 2019), and the 20-minute time limit was selected to make the exercise current with ACSM guidelines of 20 minutes of vigorous aerobic exercise three days per week (ACSM, 2020). No participant exercised longer than 20 minutes. If a participant reached the 20-minute threshold, they were instructed to stop. The exercise sessions took place in an air-conditioned indoor track facility to control for environment. Each participant's set of 15 OHS was recorded with a Sony HDR-XR500V High Definition Handycam Camcorder to reduce real time scoring errors through video review. Each exercise session was observed by the principal investigator in a one-on-one setting to reduce distractions from other participants or researchers.

Measures

Performance Measure

Time of completion of the concurrent training sequence was recorded to the hundredths of a second, with the maximum time being 20-minutes. Participant's mechanical OHS score was measured on a numerical scale evaluating six components of the movement: (1) hold weighted bar overhead with arms straight, (2) descend to appropriate depth without losing balance or dropping bar, (3) descend to appropriate depth without rounding back or tucking hips under, (4) maintain upright torso throughout the movement, (5) able to keep heels on floor and weight evenly distributed, (6) able to keep knees from moving laterally during movement. The rating scale was adopted from the Canadian Weightlifting Federation and Coaching Association of Canada (Coach Workbook, 2006). Each participant's set of 15 OHS repetitions was filmed over two exercise sessions (i.e., baseline and intervention). Videos were reviewed by two trained coders. An intraclass correlation coefficient (ICC) was calculated to assess consistency between the coders (Field, 2018). The ICC estimate was above 0.9 for each exercise session, indicating excellent reliability between the two coders. The score for each

set of OHS was between 0-6, with a maximum possible score of 30 across five sets. Scores were given based on the criteria participants were able to fulfill during their OHS performance. If a participant fulfilled four of the six criteria for a given set of OHS, their score would be 4, or if a participant fulfilled all six criteria their score would be 6. This scoring was used for all five sets of OHS across both exercise sessions.

Self-Talk

The Self-Talk Usage Questionnaire (STU-Q) was derived from a similar questionnaire developed by Hardy et al. (2001) and was used to obtain participants' organic self-talk during their regular exercise routines. The STU-Q contained four parts: (1) demographic information (e.g., age, sex, frequency and type of exercise), (2) a definition of self-talk from Hardy et al. (2009), (3) a question asking participants to rate their organic self-talk use during exercise on a 7-point Likert scale, with "1" indicating "never" and "7" indicating "every time", and (4) four questions regarding participants' organic self-talk use: (a) Where do you typically use self-talk? (b) When do you use self-talk? (c) What do you say to yourself when you exercise? (d) Why do you use self-talk during exercise?

The Post-Exercise Self-Talk Questionnaire (PEST-Q) was created specifically for the current study as a manipulation check to ensure participants adhered to their self-talk manipulation, along with obtaining self-talk information from the control group. The PEST-Q consisted of three questions: (1) Did you use self-talk during the exercise routine? (2) If yes, what was the cue used? (3) How often did you use this cue? There was additional space provided for elaboration of self-talk content with respect to the manipulation groups. The manipulation groups were asked how they felt having to say self-talk cues verbally. The PEST-Q allowed participants to reflect on their self-talk use and provide specific information regarding their selected cue words (i.e., if they used a different cue than the cue they were instructed to say verbally).

Mental Skills Questionnaire

The Mental Skills Questionnaire (MS-Q) was created specifically for the current study and asked participants how frequently they engaged in mental skills (e.g., goal setting, self-talk, imagery, and relaxation techniques) during their regular exercise routines. The MS-Q was given to participants prior to the first exercise session as a deceptive piece, with participants under the assumption they would receive one of the four mental

skills previously mentioned during the intervention, or that their use of these mental skills was somehow being measured. The sole purpose of this questionnaire was to protect the control group.

Physical Activity Readiness

To assess participants physical activity readiness, the Physical Activity Readiness Questionnaire (PAR-Q+) was given to participants prior to the intervention as a screening tool to ensure participants were safe to take part in physical activity. The PAR-Q+ has seven general health questions in which a participant must answer 'no' to be cleared to participate in physical activity. If a participant answered 'no' to all seven questions, they were invited to participate in the study. If a participant answered 'yes' to any of the questions they were excluded from taking part in the study. No participants answered 'yes' to any of the questions in the PAR-Q+.

Procedures

The current study consisted of three sessions, familiarization, baseline, and intervention, over a five-to-six-day period. The five-to-six-day period was to account for the 24–48-hour recovery time between sessions, with each session occurring at the same time of day for each participant across all three sessions (Barwood et al., 2015). The familiarization and baseline sessions were implemented to account for any potential learning effects, or neural adaptations, that might have occurred. A learning effect may ensue after initially performing a task, in which performance of the task may increase when performed a second time (Gabriel et al., 2006). This was an attempt to reduce the possibility of performance increases inadvertently being attributed to the self-talk manipulation. For each session, participants were taken through a dynamic warm-up followed by a demonstration and explanation of the OHS. Participants then performed five repetitions of the OHS to show they were warmed up and could safely complete the OHS. If a participant was unable to perform the OHS, that participant was excluded from the study. Participants were given 'do your best' instructions for each session to encourage participants to give their maximal effort (Theodorakis et al., 2000).

Participants started the familiarization session by completing the informed consent, PAR-Q+, and MS-Q. They were then guided through a dynamic warm-up and OHS demonstration, after which they completed the concurrent training task for the first time. Specifically, participants engaged in the concurrent training sequence (i.e., 400 m run followed by 15 OHS)

to gain experience with the exercise sequence in its' entirety. Once the exercise was complete, participants were asked to walk around the 200-meter indoor track for one lap to 'cool down.'

The first exercise session established the participant's baseline. Similar to the familiarization session, participants were taken through the dynamic warm-up and OHS demonstration. After completing the warm-up and demonstration participants completed the concurrent training sequence for the second time. Upon completion of the baseline session, participants were randomly assigned into one of three manipulation groups: (a) instructional, (b) motivational, or (c) control. The random assignment of groups was established using a random number generator (Google). Each group was assigned a number: control = 1, instructional ST = 2, and motivational ST = 3. Whichever number was selected by the program was the group each participant was assigned to. The group assignment was unknown to the participants until they arrived for the intervention session.

In the intervention session, participants were instructed to execute their assigned self-talk manipulation. Participants assigned to the instructional and motivational groups began the intervention session with a meeting about self-talk (e.g., what it is and how to use it). Each intervention group was given a definition and examples of self-talk cues specific to their manipulation and were asked to reflect on their organic self-talk cues they may use during their normal exercise routines. Participants were then given the option to choose one of the cues presented to them or use a self-talk cue they normally use if it coincided with their group assignment (Blanchfield et al., 2014; Hardy, 2006). The manipulation groups were instructed to overtly say their self-talk cue prior to beginning their 15 OHS repetitions for all five sets of 15 repetitions (Hatzigeorgiadis et al., 2004; Ming & Martin, 1996; Theodorakis et al., 2000). Specifically, after completing the 400-meter run, participants would approach the 6-lb. bar, say their cue word, and perform the 15 OHS repetitions. Requiring participants to say their cue word out loud enabled the researchers to assess if the participants remembered the self-talk cue and provided a manipulation check. The participant recited the self-talk instructions at the beginning of the OHS because the researchers could ensure this was done. The control group was given no self-talk manipulation and was simply instructed to complete the concurrent training exercise sequence a third time.

Self-Talk Manipulation

The motivational and instructional cue word examples presented to participants were derived from Theodorakis et al. (2000). The motivational cues included "you can do it," "hang in there," "strong," and "get tough" (Theodorakis et al., 2000). The instructional cues included "elbow straight," "reach," "stay low," and "move your feet." Participants were presented with the cues with respect to their manipulation group, that is, the instructional group received instructional cue words and the motivational group received motivational cue words. After being presented with their respective cues, the manipulation group participants were allowed to choose which cues they were most comfortable using. It has been suggested that allowing the freedom of cue word choice may increase participants' self-determined motivation to use self-talk (Hardy, 2006). The control group received no self-talk cues, or instruction.

After being introduced to their respective intervention, participants completed the dynamic warm-up and OHS demonstration. Participants then performed the concurrent training sequence for the third time. After completing the concurrent training sequence each participant was informed about the nature of the study. Each manipulation group received the self-talk information from the other manipulation group, and the control group was given the self-talk information from both manipulation groups. The self-talk information acted as a primer for the participants, ensuring they were aware of the types and functions of self-talk so they could accurately complete the questionnaire. The participants then filled out the PEST-Q and the STU-Q and were asked if they had any additional questions. The STU-Q was given after the intervention to ensure the control participants were naïve to the purpose of the study and that the intervention groups were not thinking of other types of self-talk.

Data Analysis

Each dependent variable (total exercise time and overhead squat performance) was analyzed using separate 3 (group) x 2 (session) mixed factors repeated measures ANOVAs. The groups served as the between-subjects factor while session was the within-subjects factor. For all analyses, alpha was set to .05. The PEST-Q and STU-Q provided descriptive information of the self-talk participants used during the intervention and the self-talk participants used during their regular fitness routines, respectively.

Results

Exercise Time

Changes in overall exercise time are presented in Figure 1. Mean exercise time differed between baseline ($M = 853.13$ sec, $SD = 150.31$), and intervention ($M = 832.45$ sec, $SD = 144.31$). The 3 x 2 (Group x Session) repeated measures ANOVA revealed no significant main effect of session, $F(1, 26) = 3.967$, $p = 0.057$, $\eta_p^2 = 0.132$. Similarly, there was no main effect of condition, $F(2, 26) = 2.531$, $p = 0.099$, $\eta_p^2 = 0.163$ or significant group by session interaction, $F(2, 26) = 0.758$, $p = 0.479$, $\eta_p^2 = 0.055$.

Overhead Squat

Changes in OHS mechanical scores are presented in Figure 2. Mean OHS scores slightly differed between baseline ($M = 24.57$, $SD = 3.67$) and intervention

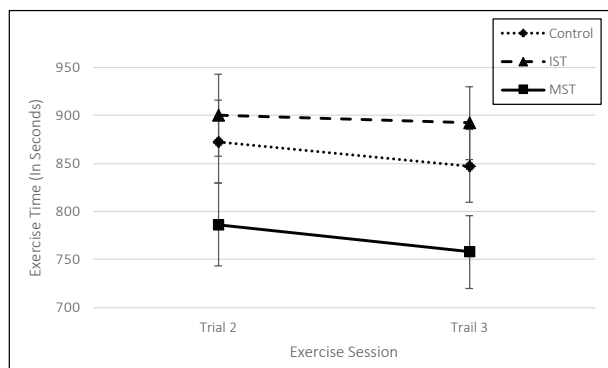
($M = 24.82$, $SD = 3.37$), however, the 3 x 2 (Group x Session) repeated measures ANOVA revealed no significant main effect of session, $F(1, 26) = 1.066$, $p = 0.311$, $\eta_p^2 = 0.039$. Likewise, there was no significant main effect of group $F(2, 26) = 1.880$, $p = 0.173$, $\eta_p^2 = 0.126$. The ANOVA did reveal a significant group by session interaction $F(2, 26) = 4.025$, $p = 0.03$, $\eta_p^2 = 0.236$. Pairwise comparisons revealed the interaction was between the instructional self-talk and control groups. The control group's OHS score statistically insignificantly decreased from baseline to intervention, $p = 0.216$, while the instructional self-talk group's OHS score statistically significantly increased from baseline to intervention, $p = 0.012$.

Descriptive Findings

Reported participant self-talk use is presented in Table 1. Responses from the PEST-Q indicated that four of the twenty participants who were assigned to a self-talk cue indicated that saying the cues out loud was awkward. Five indicated the cues provided a reminder to focus on the task. Specific to the ten instructional self-talk participants, four reported engaging in motivational self-talk during the running portion of the exercise routine. Three indicated the cues were helpful to feel more balanced during the OHS portion, and one reporting the self-talk cue did not help. Specific to the ten motivational self-talk participants, two claimed the cue was a good distraction from fatigue. Two reported using the cue more frequently near the end of the exercise session to avoid walking, another two claimed the cue was a good reminder for the task, one reported having better control over their breathing, and another individual indicated to have a burst of energy during the run after using the cue. One reported the cues provided were better than the cues they normally used. Regarding the control group participants, nine of the ten reported using self-talk during the manipulation despite not receiving any instructions to do so. Of those nine, seven reported specifically using motivational self-talk, with two of the nine using both motivational and instructional self-talk.¹

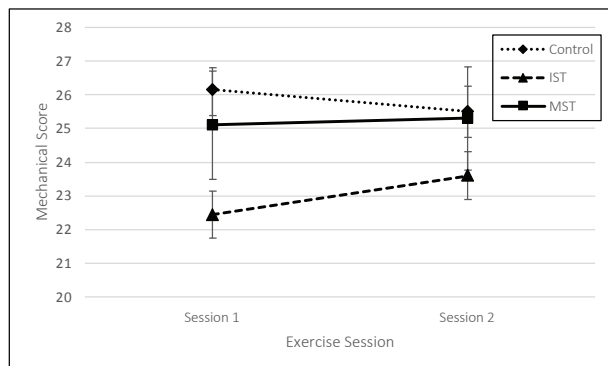
According to the STU-Q, participants self-reported engaging in moderate levels of exercise from two to seven days per week ($M = 4.4$, $SD = 1.3$). To assess participants' organic self-talk during their regular exercise routines, they were asked to rate how frequently they used self-talk during exercise using a seven-point Likert Scale (1 = never and 7 = every time). No differentiation between self-talk types was made here so, theoretically, participants could organically be using strategic self-talk that serves either an instructional or motivational

Figure 1. ANOVA Output for Overall Exercise Time



Note. This figure shows the changes in overall exercise time from baseline to intervention sessions.

Figure 2. ANOVA Output for OHS Mechanical Score



Note. This figure shows changes in mechanical score from baseline to intervention sessions.

Table 1. Reported Participant Self-Talk Use (PEST-Q)

Self-Talk Feedback	Frequency
General Feedback	
Saying the cues felt Awkward	4
Cues provided a good reminder of the task	5
Cues were better than their normal cues	1
Instructional self-talk participants	
Used motivational self-talk on the run	4
Cues were helpful in maintaining OHS form	3
Felt more balanced during the OHS	1
Cues did not help	1
Motivational self-talk participants	
Cues were a good distraction from fatigue	2
Used the cue more frequently near the end of the session to avoid walking	2
Experienced better control of breathing	1
Experienced a burst of energy after using the cue	1
Control participants	
Used self-talk during the intervention	9
Used solely motivational self-talk	7
Used instructional and Motivational self-talk	2

Note. This figure shows changes in mechanical score from baseline to intervention sessions.

function. The results indicated that participants used self-talk frequently during their regular exercise routines ($M = 5.3$, $SD = 1.4$). Additionally, all thirty participants in the study reported using organic self-talk during their regular fitness routines. Twenty-three participants reported using exclusively motivational self-talk, while seven reported using both motivational and instructional self-talk. The motivational self-talk reported centered around motivation to exercise (e.g., “get off the couch”), to maintain effort during exercise (e.g., “keep pushing”), and to finish an exercise routine (e.g., “almost there,” “only 5 reps left”). The instructional self-talk reported was to maintain proper form (e.g., “keep weight balanced”), to ensure proper breathing was maintained (e.g., “keep breathing”), and to keep anxiety levels consistent (e.g., “I’ve been here before”) see Footnote 1.

Discussion

The current research examined the effects of instructional and motivational cue words on a concurrent training task requiring participants to run a 400-meter

distance and perform 15 overhead squats (OHS) for 5 rounds. Individuals had a maximum time limit of 20-minutes to complete the entire exercise routine and were randomly separated into either a motivational self-talk group, instructional self-talk group, or control group. Performance for both the mechanical score for OHS and total exercise time was collected during two exercise sessions (i.e., a baseline and intervention). It was hypothesized that strategic self-talk would have a positive effect on the concurrent training exercise routine in comparison to a control group based on Theodorakis et al. (2000) matching hypothesis. Specifically, motivational cue words would be more effective on overall exercise time through increasing effort to complete the task and instructional cue words would be more beneficial for the precision motor task through a directed attentional focus on the correct mechanical aspects of the movement.

The present results provided minimal support for the investigation’s hypothesis. Specifically, a significant group-by-session interaction for OHS was revealed, with the instructional self-talk group improving from baseline

to intervention, while participants in the control group did not demonstrate significant changes in performance. Additionally, the results provide minimal support for one aspect of the matching hypothesis, that instructional cue words benefit tasks requiring precision movements (Hatzigeorgiadis et al., 2004; Hatzigeorgiadis et al., 2011; Theodorakis et al., 2000). Based on the current findings it is possible that the instructional cue words in the present study directed participants' attentional focus to the most salient aspect of the movement for completing the OHS and thus improved their performance. This interpretation would be consistent with other findings which have demonstrated that instructional cue words enhanced the execution of movements such as free-throw shooting, badminton serving, soccer passing, water polo throwing, tennis forehand groundstrokes, and tennis forehand cross-court shots (Boroujeni & Shahbazi, 2011; Boroujeni et al., 2014; Hatzigeorgiadis et al., 2004; Hatzigeorgiadis et al., 2011; Kolovelonis et al., 2011; Latinjak et al., 2011; Latinjak et al., 2010; Theodorakis et al., 2001; Theodorakis et al., 2000). Overall, the current findings indicate that instructional cue words may be effective for aspects of the concurrent training exercise that involve precision. The current finding contributes to prior research by demonstrating this effect using a novel task involving motor precision and accuracy.

The other half of the matching hypothesis (Theodorakis et al., 2000) suggests that motivational cue words are effective for motor tasks requiring endurance, strength, and power. Based on this hypothesis it was anticipated that the motivational self-talk group would demonstrate superior total exercise time compared to the other two groups. This hypothesis was put forward based on the belief that motivational cue words increase an individual's confidence and effort to complete a task. However, the current experiment failed to find a significant effect for the motivational self-talk group on overall exercise time when compared to the instructional self-talk or control group. This result differs from previous interventions where motivational cue words have demonstrated benefits to power and endurance tasks (Blanchfield et al., 2014; Hamilton et al., 2007; Hatzigeorgiadis et al., 2018; Tod et al., 2009; Wallace et al., 2017). One potential explanation for the lack of motivational self-talk effectiveness is the emergence of organic self-talk. The descriptive results from the questionnaire (PEST-Q) found that 90% of the control group used organic self-talk during their performance despite receiving no instructions to do so. Seven control participants specifically used organic self-talk that

served motivational functions while two used organic self-talk that served both motivational and instructional functions. These results indicate that participants may use organic self-talk for various functions during the concurrent training exercise. Overall, current result of motivational cue words did not support the matching hypothesis that motivational self-talk benefits tasks involving endurance, strength, and power (Theodorakis et al., 2000).

Similarly, the instructional cue words had no significant effect on overall exercise time compared to the motivational self-talk and control groups. This finding is consistent with the matching hypothesis, with the prediction being that instructional self-talk is more effective than motivational self-talk for motor tasks involving precision and accuracy (Theodorakis et al., 2000). Despite this consistency, the lack of instructional self-talk effectiveness on overall exercise time differs from a prior meta-analysis and literature review research suggesting that both instructional and motivational cue words improved performance in gross motor tasks (Hatzigeorgiadis et al., 2011; Tod et al., 2011). One explanation for the lack of instructional self-talk effectiveness may also be due to the emergence of organic self-talk, as some individuals that were assigned a strategic self-talk intervention used organic self-talk during the intervention. Specifically, 40% of the instructional self-talk group reported using organic self-talk that served a motivational function while running (see Table 1). This finding indicates that although participants in the instructional self-talk groups were strategically assigned cues, they used organic self-talk that served motivational functions during concurrent training exercise. In addition, all participants reported using organic self-talk in their regular fitness routines which may account for participants spontaneous use of self-talk. Based on this interpretation, it is possible that the control participants spontaneously engaged in organic self-talk without instruction because they organically use goal-directed self-talk during exercise already as part of their fitness routine. It is also possible that participants in the motivational and instructional self-talk groups may have reverted to using organic self-talk because of personal preference. Additionally, it is plausible that during intense aerobic exercise or states of fatigue, an individual will revert to the organic self-talk they are comfortable using in their daily exercise routine.

Based on the descriptive findings, one suggestion might be to eliminate organic self-talk in the control group altogether. However, we suggest a more

appropriate course of action might be allowing a group to choose between instructional and motivational self-talk cue words for concurrent training tasks. This manipulation would be in-line with the motor learning literature on self-control (Chiviawosky, 2014) and may serve as a way to investigate organic self-talk based on participant cue selection. There is also the finding of organic self-talk appearing within the strategic self-talk intervention. The emergence of organic self-talk is important to consider not only when interpreting the results of the current study, but also when developing future self-talk interventions. It is possible that organic self-talk can override strategic self-talk during motor task performance, potentially undermining a strategic self-talk intervention. One suggestion might be to include some form of manipulation check in future strategic self-talk interventions (e.g., follow up questionnaire) to better understand why organic self-talk use occurs during strategic self-talk interventions where participants are instructed to use one cue and instead use another.

Another potential explanation for the lack of self-talk effectiveness on exercise time is that participants were only instructed to use their strategic self-talk cue prior to performing the OHS movement. The current strategic self-talk intervention was not systematically implemented during the 400-meter run and given the questionnaire data (PEST-Q) we can speculate that the organic self-talk that served a motivational function was used during the run. It is possible that the strategic self-talk manipulations did not affect the run since there were no strategic self-talk cues specifically for the run. However, various strategic self-talk cues may be needed as the cues may change from one task to the next during concurrent training exercise. One suggestion is to provide strategic self-talk cues specific to each portion of a concurrent training task and require participants to say these cues out loud during task completion. Implementing these procedures may provide a clearer indication of how strategic self-talk influences concurrent training exercise performance.

One limitation of the current experiment was that the strategic self-talk manipulation was only applied prior to performance of the OHS portion of the concurrent training sequence. Implementing different strategic self-talk cue words for each portion of the concurrent training sequence might provide a clearer indication of how strategic self-talk impacts concurrent training exercise. Another limitation was the intervention took place over a one-week period (i.e., 5 – 7 days). It may be

of benefit to have an intervention period over several weeks with the addition of a multiple baseline design where participants perform the exercise protocol over several days to establish a clear baseline. This would better control for potential performance and learning effects. This suggested methodological change may allow the self-talk manipulation to be implemented at a point where performance of the concurrent training task has plateaued, potentially enabling greater benefits of strategic self-talk to be observed. Future researchers should consider addressing these limitations in strategic self-talk experiments.


Taken together, the results suggest that instructional cue words benefit the precision portions of concurrent training, and motivational cue words may not benefit the endurance portions of concurrent training. However, the current study did not implement motivational cue words during the running portion of concurrent exercise, thus the potential effects of motivational cue words during the endurance portions of concurrent training are still unknown. Given the interplay observed between organic and strategic self-talk during the concurrent training routine, future research should examine the effects of strategic self-talk during concurrent training. The results provide minimal support for the matching hypothesis (Theodorakis et al., 2000), however, future research is needed to further explore the interaction between strategic self-talk and concurrent training. Given that participants appeared to have preferred organic self-talk during strenuous exercise, it would be important for future research to implement control protocols to ensure that assigned strategic self-talk cues are used consistently throughout their performance.

Footnote

¹ It should be noted that the self-talk descriptive frequency results will not add up to the exact number of participants in each group (i.e., 10), or the exact number of manipulation participants (i.e., 20). This is because some participants fall into multiple categories of responses, while some gave little information.

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References

- Barwood, M. J., Corbett, J., Wagstaff, C. R., McVeigh, D., & Thelwell, R. C. (2015). Improvement of 10-km time-trial cycling with motivational self-talk compared with neutral self-talk. *International Journal of Sports Physiology and Performance, 10*(2), 166-171. <https://doi.org/10.1123/ijsp.2014-0059>
- Blanchfield, A. W., Hardy, J., De Morree, H. M., Staiano, W., & Marcora, S. M. (2014). Talking yourself out of exhaustion: The effects of self-talk on endurance performance. *Medicine & Sciences in Sports & Exercise, 46*(5), 998-1007. <https://doi.org/10.1249/MSS.0000000000000184>
- Boroujeni, S., & Shahbazi, M. (2011). The effect of instructional and motivational self-talk on performance of basketball's motor skill. *Procedia Social and Behavioral Sciences, 15*, 3113-3117. <https://doi.org/10.1016/j.sbspro.2011.04.255>
- Boroujeni, S. T., Zourbanos, N., & Shahbazi, M. (2014). The effects of instructional and motivational self-talk on basketball shooting performance in novice students. *University of Thessaly Institutional Repository*. <https://ir.lib.uth.gr/xmlui/handle/11615/26366>
- Chang, Y. K., Ho, L. A., Lu, F., Ou, C. C., Song, T. F., & Gill, D. (2014). Self-talk and softball performance: The role of self-talk nature, motor task characteristics, and self-efficacy in novice softball players. *Psychology of Sport and Exercise, 15*(1), 139-145. <https://doi.org/10.1016/j.psychsport.2013.10.004>
- Chiviakowsky, S. (2014). Self-controlled practice: Autonomy protects perceptions of competence and enhances motor learning. *Psychology of Sport and Exercise, 15*(5), 505-510. <https://doi.org/10.1016/j.psychsport.2014.05.003>
- Coach Workbook. (2006). Ottawa, ON. Canadian Weightlifting Federation & Coaching Association of Canada.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Dagrou, E., Gauvin, L., & Halliwell, W. (1992). The effects of positive, negative and neutral self-talk on motor performance. *Canadian Journal of Sport Sciences = Journal Canadien des Sciences du Sport, 17*(2), 145-147.
- Dexheimer, J. D., Schroeder, E. T., Sawyer, B. J., Pettitt, R. W., Aguinaldo, A. L., & Torrence, W. A. (2019). Physiological performance measures as indicators of CrossFit® performance. *Sports, 7*(4), 93. <https://doi.org/10.3390/sports7040093>
- Edwards, C., Tod, D., McGuigan, M. (2008). Self-talk influences vertical jump performance and kinematics in male rugby union players. *Journal of Sports Sciences, 26*(13), 1459-1465. <https://doi.org/10.1080/02640410802287071>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed., North American Edition). SAGE.
- Gabriel, D. A., Kamen, G., & Frost, G. (2006). Neural adaptations to resistive exercise. *Sports Medicine, 36*(2), 133-149. <https://doi.org/10.2165/00007256-200636020-00004>
- Hamilton, R. A., Scott, D., & MacDougall, M. P. (2007). Assessing the effectiveness of self-talk interventions on endurance performance. *Journal of Applied Sport Psychology, 19*(2), 226-239. <https://doi.org/10.1080/10413200701230613>
- Hardy, J. (2006). Speaking clearly: A critical review of self-talk literature. *Psychology of Sport and Exercise, 7*(1), 81-97. <https://doi.org/10.1016/j.psychsport.2005.04.002>
- Hardy, J., Comoutos, N., & Hatzigeorgiadis, A. (2018). Reflections on the maturing research literature of self-talk in sport: Contextualizing the special issue. *The Sport Psychologist, 32*(1), 1-8. <https://doi.org/10.1123/tsp.2017-0141>
- Hardy, J., Gammage, K., & Hall, C. (2001). A descriptive study of athlete self-talk. *The Sport Psychologist, 15*(3), 306-318. <https://doi.org/10.1123/tsp.15.3.306>
- Hardy, J., Oliver, E., & Tod, D. (2009). A framework for the study and application of self-talk within sport. In S. D. Mellalieu & S. Hanton (Eds.), *Advances in Applied Sport Psychology: A Review* (1st ed., pp. 37-74). Routledge.
- Hatzigeorgiadis, A., Bartura, K., Argiropoulos, C., Zourbanos, N., Galanis, E., & Flouris, A. (2018). Beat the heat: Effects of a motivational self-talk intervention on endurance performance. *Journal of Applied Sport Psychology, 30*(4), 388-401. <https://doi.org/10.1080/10413200.2017.1395930>
- Hatzigeorgiadis, A., Theodorakis, Y., & Zourbanos, N. (2004). Self-talk in the swimming pool: The effects of self-talk on thought content and performance on water-polo tasks. *Journal of Applied Sport Psychology, 16*(2), 138-150. <https://doi.org/10.1080/10413200490437886>
- Hatzigeorgiadis, A., Galanis, V., Zourbanos, N., & Theodorakis, Y. (2014). Self-talk and competitive sport performance. *Journal of Applied Sport Psychology, 26*(1), 82-95. <https://doi.org/10.1080/10413200.2013.790095>
- Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sports performance: A meta-analysis. *Perspectives on Psychological Science, 6*(4), 348-356. <https://doi.org/10.1177/1745691611413136>
- Hatzigeorgiadis, A., Zourbanos, N., Latinjak, A. T., & Theodorakis, Y. (2014). Self-talk. In A. Papaioannou & D. Hackfort (Eds.), *Routledge Companion to Sport and Exercise Psychology* (pp. 372 – 386). Routledge.
- Kolovelonis, A., Goudas, M., & Dermitzaki, I. (2011). The effects of instructional and motivational self-talk on students' motor task performance in physical education. *Psychology of Sport and Exercise, 12*(2), 153-158. <https://doi.org/10.1016/j.psychsport.2010.09.002>

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- Landin, D., & Herbert, E. P. (1999). The influence of self-talk on the performance of skilled female tennis players. *Journal of Applied Sport Psychology, 11*(2), 263-282. <https://doi.org/10.1080/10413209908404204>
- Latinjak, A. T., Hatzigeorgiadis, A., Comoutos, N., & Hardy, J. (2019). Speaking clearly...10 years on: The case for an integrative perspective of self-talk in sport. *Sport, Exercise, and Performance Psychology, 8*(4), 353-367. <https://doi.org/10.1037/spy0000160>
- Latinjak, A. T., Masó, M., & Comoutos, N. (2018). Goal-directed self-talk used during technical skill acquisition: The case of novice Ultimate Frisbee players. *The Sport Psychologist, 32*(1), 60-65. <https://doi.org/10.1123/tsp.2017-0047>
- Latinjak, A. T., Torregrosa, M., & Renom, J. (2011). Combining self-talk and performance: Their effectiveness with adult tennis players. *The Sport Psychologist, 25*(1), 18-31. <https://doi.org/10.1123/tsp.25.1.18>
- Latinjak, A. T., Torregrosa, M., & Renom, J. (2010). Studying the effects of self-talk on thought content with male adult tennis players. *Perceptual and Motor Skills, 111*(1), 249-260. <https://doi.org/10.2466/02.05.28.PMS.111.4.249-260>
- Linguori, G., & American College of Sports Medicine. (2020). *ACSM's guidelines for exercise testing and prescription*. Lippincott Williams & Wilkins.
- Mallett, C. J., & Hanrahan, S. J. (1997). Race modeling: An effective cognitive strategy for the 100 m sprinter? *The Sport Psychologist, 11*(1), 72-85. <https://doi.org/10.1123/tsp.11.1.72>
- Ming, S., & Martin, G. L. (1996). Single-subject evaluation of a self-talk package for improving figure skating performance. *The Sport Psychologist, 10*, 227-238. <https://doi.org/10.1123/tsp.10.3.227>
- Rushall, B. S., Hall, M., Roux, L., Sasseville, J., & Rushall, A. (1988). Effects of three types of thought content instructions on skiing performance. *The Sport Psychologist, 2*(4), 283-297. <https://doi.org/10.1123/tsp.2.4.283>
- Schlegel, P. (2020). CrossFit® training strategies from the perspective of concurrent training: A systematic review. *Journal of Sport Science & Medicine, 19*(4), 670-680.
- Theodorakis, Y., Chroni, S., Laparidis, K., Bebetos, V., & Douma, I. (2001). Self-talk in a basketball-shooting task. *Perceptual and Motor Skills, 92*, 309-315. <https://doi.org/10.2466/pms.2001.92.1.309>
- Theodorakis, Y., Hatzigeorgiadis, A., & Zourbanos, N. (2012). Cognitions: Self-talk and performance. In S. M. Murphy (Ed.), *The Oxford handbook of sport and performance psychology* (pp. 191–212). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199731763.013.0010>
- Theodorakis, Y., Weinberg, R., Natsis, P., Douma, I., & Kazakas, P. (2000). The effects of motivational and instructional self-talk on improving motor performance. *The Sport Psychologist, 14*(3), 253-272. <https://doi.org/10.1123/tsp.14.3.253>
- Tod, D. (2014). *Sport Psychology: The Basics* (1st ed.). Routledge.
- Tod, D., Hardy, J., & Oliver, E. (2011). Effects of self-talk: A systematic review. *Journal of Sport & Exercise Psychology, 33*(5), 666-687. <https://doi.org/10.1123/jsep.33.5.666>
- Tod, D., Thatcher, R., McGuigan, M., & Thatcher, J. (2009). Effects of instructional and motivational self-talk on the vertical jump. *Journal of Strength and Conditioning Research, 23*(1), 196-202. <https://doi.org/10.1519/JSC.0b013e3181889203>
- Van Raalte, J. L., Brewer, B. W., Lewis, B. P., Linder, D. E., Wildman, G., & Kozimor, J. (1995). Cork! The effects of positive and negative self-talk on dart throwing performance. *Journal of Sport Behavior, 18*(1), 50-57. <https://www.proquest.com/docview/215870420?pq->
- Van Raalte, J. L., Vincent, A., & Brewer, B. W. (2016). Self-talk: Review and sport-specific model. *Psychology of Sport and Exercise, 22*, 139-148. <https://doi.org/10.1016/j.psychsport.2015.08.004>
- Wallace, P., McKinlay, B., Coletta, N., Vlaar, J., Taber, M., Wilson, P., & Cheung, S. (2017). Effect of self-talk on endurance and cognitive performance in the heat. *Medicine & Science in Sports & Exercise, 49*(1), 191-199. <https://doi.org/10.1249/MSS.0000000000001087>
- Williams, J. M., & Hacker, C. M. (2021). Cognitive techniques for building confidence and enhancing performance. In J. M. Williams & V. Krane (Eds.), *Applied Sport Psychology: Personal Growth to Peak Performance* (8th Ed., pp. 278–313). McGraw-Hill.
- Wilson, J. M., Marin, P. J., Rhea, M. R., Wilson, S. M., Loenneke, J. P., & Anderson, J. C. (2012). Concurrent training: A meta-analysis examining interference of aerobic and resistance exercises. *The Journal of Strength and Conditioning Research, 26*(8), 2293-2307. <https://doi.org/10.1519/JSC.0b013e31823a3e2d>
- Wrisberg, C. A., & Anshel, M. H. (1997). The use of positively-worded performance reminders to reduce warm-up decrement in the field hockey penalty shot. *Journal of Applied Sport Psychology, 9*(2), 229-240. <https://doi.org/10.1080/10413209708406484>
- Ziegler, S. G. (1987). Effects of stimulus cueing on the acquisition of groundstrokes by beginning tennis players. *Journal of Applied Behavior Analysis, 20*(4), 405-411. <https://doi.org/10.1901/jaba.1987.20-405>

“Excellence is Never Easy”: The Importance of Building Professional Relationships in Research

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In this scholarly narrative, I emphasise the importance of building professional relationships for delivering excellence in research. The reader is introduced to the working alliance model applied to professional relationships within research settings, and two specific activities (peer mentoring and professional practice groups) are promoted for their collaborative benefits.

Keywords: professional relationships, working alliance, peer mentoring, professional practice groups

The statement “excellence is never easy” emerged about 15 years ago from an applied sport psychology consultancy session I had with an elite professional golfer. It is a truism that excellence is never easy in any field, however with appropriate resources, persistence, a clear process, and a goal, excellence is indeed attainable. In my roles as a university researcher, doctoral research supervisor, educator, and applied sport psychologist over nearly 30 years, the successful associations I have had (and continue to have) have largely come about through developing and maintaining human relationships and sustained professionalism with athletes, coaches, research students, and academic colleagues. Building these strong professional relationships has enabled me to excel in my work, which I believe has aided my graduate students and athletes in their abilities to perform with excellence.

Now, I am first to acknowledge in my early days as an applied sport psychologist, I was too focused disproportionately on implementing rote psychological strategies with my clients. Over the years, I have shared my career reflections, experiences, and influences (see Hemmings, 2014; 2015). It took time before I realized the relationship between the sport psychologist and

the athlete was critical for consultancy success (see Hemmings, 1999; Hemmings & Holder, 2009). Though the importance of the professional relationship in applied sport psychology practice is now firmly embedded in the literature (e.g., Katz & Hemmings, 2009), forging strong professional relationships should also be a goal for researchers. Gould (2012) pointed out that we should recognize those with whom we work, research, consult, or teach, such as colleagues, athletes, coaches, and students, are in fact sources of knowledge about psychology, and that we should try to learn from all of them. Herein, I reflect on the importance of building and maintaining professional relationships as a foundation for young researchers when identifying research goals and optimizing personal skills and resources. Such relationships can also assist young researchers in managing transitions along the research process and working through challenges and setbacks to achieve personal excellence in research.

The Working Alliance

Professional relationships in student-led research can be broadly defined as the connections the student-researcher creates and cultivates with their research supervisors/advisors, their student-peers, participants, and other potential collaborators. The creation and cultivation of these connections, just like in any other relationship, is deeply rooted in a working alliance, which consists of three broad features: agreement on goals, agreement on tasks, and the development of trust

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and rapport (Bordin, 1979). In my roles as a doctoral research supervisor and an applied sport psychology supervisor, my aim has always been to form a strong working alliance with the student/supervisee. I dedicate time to establish and agree upon our common goal; that is, we work collaboratively in a manner that benefits and improves the student's work. Existing literature provides insight to the student-researcher on working alliance, particularly in terms of agreement of research goals and tasks, the bond between the members of the research team, and the views about the professional relationship (for example, see Horvath & Greenberg, 1994).

I have always felt building rapport (the social bond of the working alliance) is a key aspect of all effective professional relationships. My approach to both research and applied practice essentially places great value on "getting to know" the people I work with. I am interested in discovering their background and strengths and identifying the current challenges before them. Some of the most important professional relationships the student researcher might establish could be with other teaching and research staff, laboratory technicians, research administrators, student-peers, and experts in the field who undoubtedly each offer a range of knowledge and expertise that can be harnessed to develop the skills of the student researcher. Indeed, the benefit of having myriad collaborative relationships and working closely with others brings many rich learning experiences.

Peer Mentoring and Professional Practice Groups

Based on my experiences, I would recommend two notable activities for developing professional relationships: peer mentoring and professional practice group meetings. Peer mentoring is an easily arranged activity weekly, fortnightly, or monthly and can bring a host of benefits. The range of benefits of peer (student-to-student) mentoring was extensively documented in the first issue of *JASPR* (Visek et al., 2021) and includes the expansion of critical thinking and collaboration skills, heightened persistence and retention, improved social support and increased psychological well-being. My own experience is that the sharing of concerns, doubts, and questions with a trusted peer often leads to more positive actions and outcomes. Just like athletes, graduate student researchers are not immune to disappointments, dealing with difficulties, and personal stress. Peer mentoring, be it with fellow students in the same cohort or outside of it, can offer a powerful support system. Much like elite sports, graduate student research can also feel like an

isolated process at times (see Zizzi, 2021). As a research supervisor, I have witnessed instances where peer mentoring has been crucial, particularly when motivation in the neophyte student researcher may wane.

The activity that earns the top spot on my list of activities for cultivating professional relationships is professional practice group meetings. My experiences with professional practice groups date back to my early days as a doctoral student. A fellow graduate student facilitated a weekly "quality circle" meeting, which brought together senior members of the university's sport psychology staff and other doctoral research students. In this meeting, we discussed current issues in sport psychology consultancy, reviewed academic articles, gave conference/workshop attendance feedback, and reported our research progress. Meeting regularly with the group provided a great breadth of expertise and differing perspectives at the time when my own knowledge was in its infancy and my experiences limited. For many years, I facilitated a similar professional practice group with peers. The group was made up of ten sport psychologists and trainees of varying expertise and backgrounds and we met every month to discuss applied sport psychology consultancy reflections, research-related matters, and academic teaching-related issues. Individuals, who committed to the group and attended, took turns in "leading" the meetings with a focus on applied practice, research, or teaching. The mutually supportive and collegial approach cultivated through these professional practice meetings resulted in collaborative empirical research publications, book projects, and conference presentations. More importantly, the meetings fostered stronger professional relationships and continued professional growth.

Summary

In this short narrative scholarship, I reflected on the importance of building and maintaining professional relationships as a foundation for young researchers. In my experience, developing meaningful professional relationships in research (and applied work) takes time and effort. The working alliance provides a useful framework for explaining how effective relationships can stimulate research goals and tasks and act as a catalyst in the development of strong bonds between research supervisors/advisors and students, student-peers, participants, and other potential research collaborators. In this paper, I also described two activities that I have personally found useful for widening and strengthening professional relationships. I highly recommend regular

peer mentoring and professional practice group meetings for student-researchers as they have a host of collaborative benefits that can increase the quality of the research process, experience, and outcomes.

Much like sport performance, excellence in advancing research in sport psychology is never easy. It is no secret elite athletes are judged solely on their performances. Increasingly, the same applies to academia, as research excellence is judged in terms of performance, most notably through publications, impact factors, h- and g-indexes, and secured extramural research grant and contract funding. The development of professional relationships is a vital ingredient in the quest for excellence.

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References

- Bordin, E. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research and Practice*, 16, 252-260. <https://doi.org/10.1037/h0085885>
- Gould, D. (2012). One on one with Dan Gould. *The Psychologist*, 25, 556. <https://thepsychologist.bps.org.uk/volume-25/edition-7/one-one-dan-gould>
- Hemmings, B. (1999). Making contact in consultancy work: Laying the foundations for successful intervention. In H. Steinberg & I. Cockerill. (Eds.), *Sport psychology in practice: The early stages*, (pp. 16-23). British Psychological Society.
- Hemmings, B. (2014). It took me ten years to become an overnight success. In P. McCarthy & M. Jones (Eds.), *Becoming a sport psychologist*, (pp. 158-165). Routledge.
- Hemmings, B. (2015). A week in the life of a sport psychologist. *Sport and Exercise Psychology Review*, 11, 82-88.
- Hemmings, B., & Holder, T. (2009). *Applied sport psychology: A case-based approach*. Wiley.
- Horvath, A., & Greenberg, L. (1994). *The working alliance: Theory, research and practice*. Wiley.
- Katz, J. & Hemmings, B. (2009). *Counselling skills handbook for the sport psychologist*. British Psychological Society.
- Visek, A., Middleton, T., O'Neill, L., Scheadler, T., & Arvinen-Barrow, M. (2021). Accentuating research scholarship through innovative student opportunities: A mentored approach. *Journal for Advancing Sport Psychology Research*, 1(1), 7-21. <https://doi.org/10.55743/000002>
- Zizzi, S. (2021). Introducing #ResearchMountain: A model for mentoring student research. *Journal for Advancing Sport Psychology Research*, 1(2), 23-31. <https://doi.org/10.55743/000009>

Inaugural Report 2022: Establishing and Operating the Journal for Advancing Sport Psychology in Research - Reflections from Inaugural Junior Editorial Board Members

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As the inaugural junior editorial board members of the *Journal for Advancing Sport Psychology in Research (JASPR)*, we represent the first group of students to be embraced into, and integrated across all levels of, the editorial board of a sport, exercise, and performance psychology journal. To shed light on our unique experience behind the curtain of an academic journal, we engaged in a process of group and individual reflection following our term. The goal of our reflective process was to identify and share our collective and personal experiences of establishing and operating *JASPR* from January 2020 to December 2021. By sharing transparent and vulnerable insights into our lived experiences as the inaugural junior editorial board members of *JASPR*, our reflections (a) provide emotional and informational support to neophyte researchers occupying the role(s) of author, editor, and/or reviewer, and (b) highlight the value of student-centered initiatives for the advancement of sport, exercise, and performance psychology. Our collective and personal experiences are consolidated into three reflective themes: respect in peer review, gatekeepers of knowledge, and imposter syndrome. These reflective themes are followed by four key takeaway points that are intended to be suggestions for neophyte researchers to effectively navigate the role(s) of author, editor, and/or reviewer in sport, exercise, and performance psychology.

Keywords: peer review, early career development, experiential learning

In training to become a competent professional, experiential learning is an effective method for developing knowledge of, and practice in, a discipline's craft (Kolb, 2015). This is certainly the case for neophyte researchers and practitioners of sport, exercise, and performance psychology, who engage in experiential learning to develop their knowledge of, and practice in, both scientific and applied pursuits (Cropley et al., 2007; McEwan & Tod, 2015; Sato & Laughlin, 2018; Sly et al., 2020). Among our discipline's scientific community, examples of valued experiential learning opportunities

include designing, conducting, and reporting research, and peer reviewing manuscripts for academic journals. A challenge faced by graduate students in our discipline, however, is that such experiential learning opportunities are often limited to those provided under the supervision of a primary dissertation or thesis advisor(s), and those experiential learning opportunities can be quite different from advisor to advisor (see Visek et al., 2021a). Depending on the ontological and epistemological position of the advisor(s), experiential learning opportunities might be plentiful for some graduate students but scarce for others. Experiential learning opportunities received by graduate students might further depend on external roles occupied by an advisor(s). For example, an advisor serving on an editorial board might invite their students to review manuscripts, offering these students additional opportunities to

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develop knowledge of, and experience in, peer review. Why is this variability in affordance of experiential learning opportunities significant? We believe that variability in the amount and type of opportunities provided to students in graduate school will lead to vast differences in their readiness to be custodians of sport, exercise, and performance psychology upon graduation.

To tackle inconsistencies in experiential learning opportunities afforded to neophyte researchers in our discipline, there is a critical need for initiatives, independent of graduate students' advisors and programs, that offer education and mentorship in publication and peer review (for other arguments for the need for such initiatives, see Brustad, 1999; Holt & Spence, 2012). To address this need, faculty and student members of the Association for Applied Sport Psychology (AASP) collaborated to establish the *Journal for Advancing Sport Psychology in Research (JASPR)*; see Hess et al., 2021). As a student-centered academic publication, *JASPR* provides neophyte researchers with extensive and varied opportunities to build knowledge of, and practice in, the art of research authorship, editorship, and peer review. This is accomplished through a mentored approach in which senior editorial board members (faculty) are responsible for guiding and supporting junior editorial

board members' (students) scholarly development within the journal's operating structure (see Visek et al., 2021a).

Following an invitation by the Editor-in-Chief (Dr. Monna Arvinen-Barrow, University of Wisconsin-Milwaukee) and Associate Editor (Dr. Amanda J. Visek, The George Washington University), we, the inaugural junior editorial board members of *JASPR* (see Table 1), engaged in both group and individual reflection with the goal to identify and share our collective and personal experiences of establishing and operating *JASPR* from January 2020 to December 2021. By sharing transparent and vulnerable insights into our lived experiences as the inaugural junior editorial board members of *JASPR*, our reflections (a) provide emotional and informational support to neophyte researchers occupying the role(s) of author, editor, and/or reviewer, and (b) highlight the value of student-centered initiatives for the advancement of sport, exercise, and performance psychology.

Our Reflective Process

Our reflective process followed a three-step procedure. In the first step, an initial group meeting was held to engage in group reflection on our collective experiences with *JASPR*. This initial group meeting culminated in generating a list of questions to guide individual

Table 1. *JASPR* Inaugural Junior Editorial Board Members

Name	Editorial Board Role	PhD Training	Degree	Research Interests
Thierry Middleton	Junior Editor-in-Chief	Laurentian University	PhD completed 2021	Cultural aspects of sport, performance, and physical activity; youth sport; psychobiosocial states
Liam O'Neil	Junior Associate Editor	Utah State University	PhD in-progress	Self-system; social interactions and relationships; motivation
Travis Schedler	Junior Associate Editor	The Ohio State University	PhD in-progress	Athlete & coach activism; queer development & empowerment
Kylee Ault	Junior Editorial Board Reviewer	Michigan State University	PhD in-progress	Education-based athletics; leadership & life skills development; sport policy
Alex Oliver	Junior Editorial Board Reviewer	Glasgow Caledonian University	PhD completed 2021	Metacognition; attention; self-regulation

reflection (see Table 2). These reflective questions helped each inaugural junior editorial board member to reflect on a common set of experiences. In the second step, we engaged in individual reflection on our personal experiences with *JASPR*, and wrote a short paragraph response to each question. In the final step, a follow-up group meeting was held to compare and contrast our individual reflections and produce key takeaways from our reflections to share with other neophyte researchers, and to our younger selves. This final step allowed us to quasi-inductively code our individual reflections to construct three major reflective themes.

Our Reflections

Three major themes were constructed from the collective and personal experiences that developed from our reflective process. These themes were labelled: (a) respect in peer review, (b) gatekeepers of knowledge, and (c) imposter syndrome. In the subsections that follow, brief descriptions of these themes are presented and include collective and individual reflections on our experiences with *JASPR*.

Respect in Peer Review

Respect in peer review captures our collective objective to establish a culture of peer review based on care, diligence, and responsibility in exchanges among authors, editors, and reviewers at *JASPR*. To accomplish this objective, we needed to challenge common norms and practices of peer review. During our term, we specifically wanted to challenge the prevailing deficit-based approach to peer review and create a culture of reviewing that would focus on manuscript strengths in a challenging yet encouraging way. To illustrate, the role

of a manuscript reviewer is to pinpoint the strengths and limitations of a manuscript. In so doing, the manuscript reviewer can make an informed judgement on the scientific merit of a manuscript and present a commensurate recommendation for publication. Based on our collective experiences of manuscript submissions and reviewer feedback, we believe that the existing culture of how manuscript reviews are framed is problematic. As it stands, manuscript reviews often paint a picture of inadequacy by highlighting only shortcomings of manuscripts (i.e., deficit-based approach). A more constructive and developmentally appropriate manuscript review should paint a picture of opportunity by highlighting both virtues and shortcomings of manuscripts (i.e., strengths-based approach). To bolster neophyte researchers' engagement with, and development through, the peer review process (see Hiemstra & Van Yperen, 2015), we as the inaugural editorial board sought to use a strengths-based approach to peer review that could be reflected in all peer review communications (e.g., manuscript reviews, review syntheses, and publication decision letters). Thierry spoke about how providing strengths-based feedback required an intensive and purposeful approach to peer review:

As the Junior Editor-In-Chief, I (Thierry) empathised with how authors would feel when receiving rejection decisions. To soften rejection decisions, I worked with the Editor-In-Chief (Monna) to provide specific feedback with each rejection decision letter. In my opinion, receiving disappointing news about a manuscript can be made easier by providing both a clear justification for the decision and constructive suggestions for how the manuscript could be improved for submission elsewhere. Although providing specific

Table 2. Reflective Questions Answered by Inaugural Junior Editorial Board Members

Reflective Questions
1. What have you learnt about the state of humanity in peer review through your experiences at <i>JASPR</i> ?
2. How did expectation compare to reality in your role as gatekeeper of knowledge in sport, exercise, and performance psychology?
3. What have you observed about the nature of objectivity versus subjectivity in the peer review process through your experiences at <i>JASPR</i> ?
4. What have you come to understand about your role in guiding authors through the process of revising their manuscripts at <i>JASPR</i> ?
5. How has imposter syndrome impacted your experiences and involvement with <i>JASPR</i> ?
6. What have you learnt about the state of scientific education in the discipline of sport, exercise, and performance psychology through your experiences at <i>JASPR</i> ?

feedback with each decision letter was an intensive process, it ensured that an author received valuable feedback for improving their manuscript regardless of the final publication decision.

These experiences and views were also shared by both Junior Associate Editors:

We (Liam and Travis) worked with the Associate Editor (Amanda) to produce review syntheses that re-framed reviewer comments in a critical yet constructive manner. In doing so, it was our goal to create messaging that would be received by authors as critique of the manuscript rather than criticism of the person behind it.

Challenging the status quo was not without challenges. We often caught ourselves defaulting to what our experiences of peer review had been, rather than what we wanted it to be. Liam explained this internal struggle well in his reflection:

At the beginning of my term as Junior Associate Editor, I (Liam) sometimes struggled to break free of the deficit-based approach which had formed my default schema of peer review. In this period, I caught myself automatically producing review syntheses that highlighted only “problems” in manuscripts. It became clear that I needed to modify my schema of peer review to produce review syntheses that would encourage and motivate authors to go the distance in revising manuscripts. I am grateful for this experiential learning opportunity that helped me to identify and correct my approach to peer review.

Promoting a culture of respect in peer review, through editorial board members adoption of a strengths-based approach, is essential for a student-centered academic journal where authors are often submitting their first manuscript for publication consideration. The submission of a first manuscript for publication consideration is a major milestone in the development of any neophyte researcher. A first manuscript submission, as a first step toward manuscript publication, assumes a unique social meaning as a neophyte researcher’s initiation as an accepted and valued voice in the academy. The goal of peer review should be to strengthen that voice through critique – whether the manuscript gets accepted to that journal or not — rather than weaken it through criticism.

Gatekeepers of Knowledge

Gatekeepers of knowledge represents our appreciation and respect for the enormous responsibility of editorial board members who serve as gatekeepers for a scientific discipline. We took seriously our role in vetting manuscripts before they were shared, or not shared, with the scientific community

and wider public. As gatekeepers of knowledge, it was our task to determine whether manuscript submissions met sufficient publication standards – evaluating each manuscript rigorously for its research design, execution, and reporting quality. This is of utmost importance in assuring readers that the published work is comprised of valuable and trustworthy knowledge. Many times, a manuscript submitted to *JASPR* did not meet sufficient publication standards. In such cases, our editorial board positions involved communicating disappointing news to authors.

A collective experience in being gatekeepers of knowledge was that arriving at and delivering publication recommendations and decisions was more difficult than anticipated. For Thierry, this was particularly prominent when making rejection decisions on manuscripts:

As the Junior Editor-In-Chief, the toughest decisions for me were rejection decisions of manuscripts that I felt had potential to be innovative but presented methodological flaws. For instance, there were manuscripts which presented research questions and findings that could have contributed new and interesting knowledge to the literature, but (a) used methods not suited to the research question or (b) recruited too few participants to have adequate statistical power.

At the Junior Associate Editors level, leveraging personal and professional views as gatekeepers of knowledge was also challenging at times:

As a Junior Associate Editor, I (Liam) wrestled with the boundaries of my position when it came to inserting myself into the “review conversation” occurring between author(s) and reviewer(s). I deliberated over how my presence, if not adequately positioned, might subvert the standards of double-blind peer review or silence the voice of an author. A question I often returned to in my role was: When I evaluate a manuscript and present my own concerns and suggestions to authors, to what extent am I introducing my own biases and subjectivity into the peer review process? In the end, I negotiated the boundaries of my position according to my own scientific convictions and consultation with the Associate Editor (Amanda). This allowed us to modify the boundaries of the position to meet the needs of submitting authors with varying degrees of mentorship from faculty advisors.

As the Junior Editorial Board Reviewers, we (Alex and Kylee) felt unique pressures with the responsibility of being gatekeepers of knowledge:

As a Junior Editorial Board Reviewer, I (Kylee) also found making publication recommendations difficult, in part, due to being blind to the evaluation of other reviewers and being unsure if my recommendations

matched those of the others. Although my publication recommendations might have been different than those of other reviewers, I needed to trust my training, embrace my ability to provide a decision with sound rationale, and feel content with it. In many ways, learning to believe in the value of my review decision was challenging, yet empowering. It also took time for each of us Junior Editorial Board Reviewers (Alex and Kylee) to develop our own sense of what is “the publishability threshold.” Our early evaluations of manuscript submissions were anchored in the student-centered objectives of *JASPR*. For me (Alex), becoming aware of that anchor was pivotal in developing my understanding of, and confidence in identifying the publishability threshold for *JASPR*. Although I did not want to abandon the philosophy of *JASPR* being student-centered, I needed to partly free myself of that anchor to ensure only manuscripts of the highest quality were progressing toward acceptance. One way I navigated this discrepancy, was through the lens that *JASPR* is more than a repository of extracts from dissertations and theses. As with any other reputable academic publication in our discipline, manuscript submissions to *JASPR* must contribute to the advancement of sport, exercise, and performance psychology. That is to say, reviewing for this journal should not be approached as an assessment of student work but an assessment of research contribution(s) to the literature. We, Alex and Kylee, believe strongly that having awareness of our evaluative decisions and our publishability threshold expanded our toolbox as manuscript reviewers.

Being purposeful and reflective in navigating the challenges of our roles as gatekeepers of knowledge was critical to our early adjustment to, and later development in, our respective editorial board positions. Our collective experiences have illuminated that subjectivity is an inherent part of peer review (e.g., what represents a critical flaw?). This subjectivity is a by-product of the experiences, knowledge, preferences brought by editors and reviewers to the peer review process (Holt & Spence, 2012). Through considering our own subjectivity as editors and reviewers, we have come to better understand and carry out our duties and responsibilities in peer review.

Imposter Syndrome

Imposter syndrome represents our collective thoughts and feelings of self-doubt in our competence, despite counterfactual evidence. Imposter syndrome was an obstacle we each faced in the process of adjusting to our roles as the inaugural junior editorial board members of *JASPR*. Our feelings of insecurity and intimidation were driven by worrying thoughts that

we may not be up to the task of handling manuscript submissions and publication decisions. Ultimately, our experiences of imposter syndrome impacted our engagement and performance in carrying out the duties of our respective positions.

As Junior Editor-In-Chief, my (Thierry) experience of imposter syndrome related to my background and expertise in qualitative research methodologies. This, at times, left me at a disadvantage when conducting intake reviews for manuscripts using certain quantitative research methodologies. Although I have some experience using statistics, I did not feel as comfortable or confident in making decisions related to these manuscripts compared to reviewing manuscripts using a qualitative approach. Fortunately, as with other obstacles faced by myself and my junior editorial board colleagues, the support provided by our editorial team often helped improve my confidence in handling these manuscripts – whether that was through being able to view their carefully written critiques and/or through critical discussions in which I was reassured of the value I provided through my own unique perspective.

As Junior Associate Editor, I (Travis) noticed that actively seeking out feedback was helpful in my role. There were times that I felt incompetent and unprepared to compose review syntheses of specific manuscripts – whether it be manuscripts that featured topics, methodologies, or analytical strategies that I had limited knowledge of or experience in. However, an important part of our roles was to recognize our own limitations and leverage these moments as opportunities. Rather than let my feelings of imposter syndrome fester, I collaborated with the Associate Editor (Amanda) to learn more about these topics, methodologies, and analyses. This allowed me to provide higher-quality review syntheses that could better assist author(s) in strengthening their manuscripts.

As a Junior Editorial Board Reviewer, I (Kylee) found it helpful to ask questions and ask for feedback after completing reviews to ensure that I was doing well in my role as a reviewer. At the start of my term, it was challenging to differentiate between feelings of imposter syndrome and recognizing that quality reviewing is a skill to be refined. I learned to lean into the confidence of the other editorial board members to assure me that my reviews were meeting their standards, even when I was unsure of myself. For one specific review, I was uncertain if a comment I had made was helpful and appropriate or should be left out of the review. Instead of sitting in uncertainty, I raised my doubt at an editorial board meeting and was reassured with advice from our faculty mentors (Monna and Amanda). This provided relief to my

momentary feelings of incompetence. Ultimately, the experience reminded me that periods of imposter syndrome are bound to occur and that asking questions and sharing my uncertainties validated my decisions and helped me grow scholar.

From our experience, harnessing periods of self-doubt to guide purposeful reflection and learning can result in meaningful strides toward growth as a neophyte researcher. As inaugural junior editorial board members, we were not the only stakeholders of the publication process harbouring such feelings. Submitting authors and invited reviewers likely experienced similar periods of imposter syndrome or intimidation at times throughout the publication process – especially in their first experience submitting a manuscript for publication consideration. In such instances, submitting authors should remember they offer valuable insights that can contribute to the literature.

Key Takeaways

The following four key takeaway points developed from our reflective process. These key takeaway points are intended to be suggestions for neophyte researchers to effectively navigate the role(s) of author, editor, and/or reviewer in sport, exercise, and performance psychology.

Do Not Seek Perfection

Through our handling of numerous manuscript submissions, we have learnt there is no such thing as a perfect recipe for doing science. All research studies have distinct features that present their own set of challenges. In wrestling with the complexities and nuances of research questions, there are bound to be mishaps, setbacks, and/or stones left unturned in designing, conducting, and/or reporting studies. This is a natural part of science and is the reason for outlining boundary conditions of research in the strengths and limitations section of a manuscript. This does not mean that we should not strive to produce high-quality research (i.e., excellencism), but that we should avoid getting bogged down in the pursuit of producing flawless research (i.e., perfectionism; Gaudreau, 2019).

Be Authentic and Honest

We have also learnt that there is no exact recipe for being an editorial board member. It is neither possible nor pragmatic to have expertise in every strand of science. Being forthcoming about areas of both ample and limited competence will put you on a path to success as a gatekeeper of knowledge. Equally, regardless of aptitude and readiness to be an editorial board member,

challenges will be encountered, and mistakes will be made. In those instances, it is important to be true to your own humanistic and scientific convictions.

Make Time for Reflection

We live in a fast-paced society and work in the high-energy environment that is academia. Slowing down and taking the time to reflect on difficult moments in your journey can generate novel and creative solutions to problems, as well as reveal unexplored pathways to growth (Ellis et al., 2014). To this end, we encourage neophyte researchers to be reflective scholars. A reflective scholar invests not only in their personal and professional development, but in the advancement of the scientific discipline of sport, exercise, and performance psychology.

You Are Not Alone

Being a reflective scholar is not solely an individual exercise. We believe reflection is best carried out in partnership with trusted and supportive mentors and peers (for more details, see Hemmings, 2022). We recognize that asking questions and revealing personal struggles can be uncomfortable. It requires making oneself vulnerable which can serve as a barrier to disclosure. Yet, having a sense of curiosity and humility about scientific endeavors, and seeking out the help of others when needed, is necessary for continued development as a neophyte researcher (Raabe et al., 2019; Watson et al., 2009).

Final Words

In this scholarly narrative, we reflected on our experiences as the inaugural junior editorial board members of *JASPR*. In sharing both our group and individual reflections, we hope to have (a) provided emotional and informational support to neophyte researchers occupying the role(s) of author, editor, and/or reviewer, and (b) highlighted the value of student-centered initiatives for the advancement of sport, exercise, and performance psychology. We are indebted to the journal, and our faculty editorial board members (Monna and Amanda), for the diverse experiential learning opportunities we have received in editorship and reviewing. We hope submitting authors and invited reviewers too have benefitted from experiential learning opportunities provided by the journal in authorship and reviewing. We are optimistic that *JASPR*, as a novel and innovative student-centered initiative to education and mentorship in publication and peer review, will continue to provide rich experiential learning opportunities to

neophyte researchers of sport, exercise, and performance psychology in the near and distant future.

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References

- Brustad, R. J. (1999). Editorial perspective: The contribution of the manuscript-review process to knowledge development in sport and exercise psychology. *Journal of Sport and Exercise Psychology, 21*(4), 307-312. <https://doi.org/10.1123/jsep.21.4.307>
- Cropley, B., Miles, A., Hanton, S., & Niven, A. (2007). Improving the delivery of applied sport psychology support through reflective practice. *The Sport Psychologist, 21*(4), 475-494. <https://doi.org/10.1123/tsp.21.4.475>
- Ellis, S., Carette, B., Anseel, F., & Lievens, F. (2014). Systematic reflection: Implications for learning from failures and successes. *Current Directions in Psychological Science, 23*(1), 67-72. <https://doi.org/10.1177/0963721413504106>
- Gaudreau, P. (2019). On the distinction between personal standards perfectionism and excellencism: A theory elaboration and research agenda. *Perspectives on Psychological Science, 14*(2), 197-215. <https://doi.org/10.1177/1745691618797940>
- Hemmings, B., (2022). "Excellence is never easy": The importance of building professional relationships in research. *Journal for Advancing Sport Psychology in Research, 2*(1), 31-33. <https://doi.org/10.55743/000012>
- Hess, C. W., Gnacinski, S. L., Scheadler, T. R., & Johnson, C. (2021). The development of a peer-reviewed, student-centered journal: From student idea to realization. *Journal for Advancing Sport Psychology in Research, 1*(1), 33-39. <https://doi.org/10.55743/000004>
- Hiemstra, D., & Van Yperen, N. W. (2015). The effects of strength-based versus deficit-based self-regulated learning strategies on students' effort intentions. *Motivation and Emotion, 39*(5), 656-668. <https://doi.org/10.1007/s11031-015-9488-8>
- Holt, N. L., & Spence, J. C. (2012). A review of the peer review process and implications for sport and exercise psychology. *Athletic Insight, 4*(1), 31-48.
- Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd Ed.). Pearson Education.
- McEwan, H. E., & Tod, D. (2015). Learning experiences contributing to service-delivery competence in applied psychologists: Lessons for sport psychologists. *Journal of Applied Sport Psychology, 27*(1), 79-93. <https://doi.org/10.1080/10413200.2014.952460>
- Raabe, J., Bejar, M. P., Bass, A. D., Lauer, E. E., Erdner, S. M., & Zakrajsek, R. A. (2019). Teach me and I may remember, involve me and I learn: Four approaches to peer mentoring in sport psychology. *Quest, 71*(4), 447-462. <https://doi.org/10.1080/00336297.2018.1544082>
- Sato, T., & Laughlin, D. D. (2018). Integrating Kolb's Experiential Learning Theory into a sport psychology classroom using a golf-putting activity. *Journal of Sport Psychology in Action, 9*(1), 51-62. <https://doi.org/10.1080/21520704.2017.1325807>
- Sly, D., Mellalieu, S. D., & Wagstaff, C. R. D. (2020). "It's psychology Jim, but not as we know it!": The changing face of applied sport psychology. *Sport, Exercise, and Performance Psychology, 9*(1), 87-101. <https://doi.org/10.1037/spy0000163>
- Visek, A. J., Middleton, T., O'Neil, L., Scheadler, T. R., & Arvinen-Barrow, M. (2021a). Accentuating research scholarship through innovative student opportunities: A mentored approach. *Journal for Advancing Sport Psychology in Research, 1*(1), 7-21. <https://doi.org/10.55743/000002>
- Visek, A. J., Middleton, T. R. F., Scheadler, T. R., O'Neil, L., Ault, K. J., Oliver, A., & Arvinen-Barrow, M. (2021b, October 6-9). *Pulling Back the Curtain: A Panel Discussion on Student Equity and Engagement in the Publication Process* [Panel Discussion]. AASP 2021 Conference, Online. <https://www.youtube.com/watch?v=tKLINM4PtIA>
- Watson, J. C., Clement, D., Blom, L. C., & Grindley, E. (2009). Mentoring: Processes and perceptions of sport and exercise psychology graduate students. *Journal of Applied Sport Psychology, 21*(2), 231-246. <https://doi.org/10.1080/10413200902777297>