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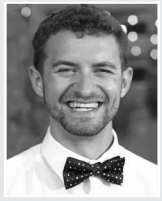

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Editorial

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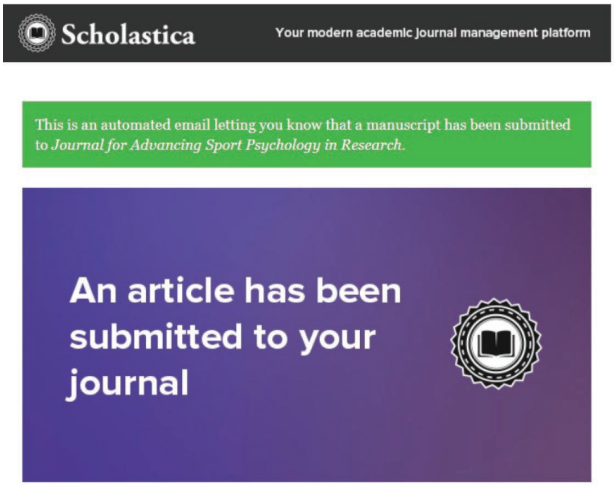
December 1st, 2020 an e-mail message arrives in our respective inboxes with the following message: "This is an automated e-mail letting you know that a manuscript has been submitted to *Journal for Advancing Sport Psychology in Research*." We, along with the rest of *JASPR*'s inaugural Editorial Board, had been waiting for this moment. It was not a mock manuscript; like the ones we had created to practice the hand-off exchanges a manuscript makes as it works its way through the journal's various publishing processes. Instead, it was the first student-led, student-submitted manuscript to *JASPR*. Ten months later, after rounds of rigorous, double-blind peer reviews conducted by three Reviewers, with each round carefully vetted by the Junior Associate Editor, the Associate Editor, the Junior Editor-in-Chief, and the Editor-in-Chief, *JASPR* sends its first 'Accept' decision of a manuscript: "We are delighted to inform you and your co-authors that your manuscript has now been formally accepted in its current form for publication in *Journal for Advancing Sport Psychology in Research*." Just over a year from being formally established, at the publishing of this paper, *JASPR* has received 39 manuscript submissions. Of them, 51% have received a 'Reject' decision. The remaining manuscripts are in various stages of the peer review process, many of them in round three or four of peer review.

Given the rate at a which student-author submissions are unsuccessful in reaching a standard acceptable for publication, our objective is to provide aspiring student-authors and faculty mentors with submission guidance to maximize publication success. Based on our editorial observations of the past year, we have identified common issues within manuscripts that have consistently led to 'Reject' decision or in numerous rounds of revision and resubmission. To ensure more successful publication process, student-authors and faculty mentors are advised to heed the guidance shared herein, which is also relevant when considering a manuscript submission to any academic journal.

Figure 1. The Long-Awaited First Submission E-mail for *JASPR*



Editorial Observations

Evaluate Submission Readiness

Depending on the university guidelines, a finished thesis or dissertation is not always immediately ready to be submitted as a manuscript. Typically, a thesis or dissertation has a lengthy introduction section and an in-depth review of the literature, whereas the introduction of a manuscript is meant to parsimoniously present only the most relevant background literature to provide a strong rationale within 4-5 paragraphs.

Equally, differences between a thesis/dissertation and a manuscript can be found in the method section, in that a thesis or dissertation often includes detailed justification of the methodological decisions made, and a manuscript simply states what methods were used with selected citations in support of the methodology. At *JASPR*, many student manuscripts are not adequately in the form required of a peer reviewed academic manuscript, and therefore are not yet ready to undergo the peer review process. When a manuscript is not written in proper form, it can lead to an automatic desk reject, or at the very least, delay the publication process considerably as much work must be completed before it can undergo the peer review process.

Adhere to All Submission Guidelines

JASPR, like all other peer reviewed academic journals, has specific guidelines that must be adhered to in the preparation of a manuscript for submission to the journal. To give a manuscript the best possible chance for success, making sure the manuscript meets the basic requirements for submission is paramount. Manuscripts that do not adhere to the submission guidelines is unfortunately far too common. Approximately 40% of all manuscript submissions to *JASPR* either: (a) are not aligned topically with the journal's scope, (b) do not adhere to the journal's formatting and style requirements, or (c) do not include all the mandatory submission documents that must also accompany the manuscript (see *JASPR*'s vision, mission, and scope along with its Author guidelines). Adhering to submission guidelines is not optional, and too often results in a desk reject.

Adhere to the American Psychological Association (APA) Style Journal Article Reporting Standards

Part of the submission requirements at *JASPR* is adherence to the APA Style Journal Article Reporting Standards (APA Style JARS) which is a:

> set of guidelines designed for journal authors, reviewers, and editors to enhance scientific rigor in peer-reviewed journal articles. Educators and students can use APA Style JARS as teaching and learning tools for conducting high quality research and determining what information to report in scholarly papers (APA, 2021).

We cannot emphasize enough the importance of becoming familiar with APA Style JARS and ensuring these standards are followed throughout the manuscript. Lack of adherence to APA Style JARS typically means the manuscript lacks scientific rigor in one or more areas – and as such, has become one of the key reasons why a manuscript goes through numerous rounds of revisions at *JASPR* or has been rejected.

Pay Attention to Details – They Matter

At *JASPR*, many of the rejected manuscript submissions share one broad commonality – the manuscript lacks important, and necessary, attention to detail. This lack of attention to detail is not typically isolated to one section of the manuscript, rather it is seen throughout the work in the title, abstract, introduction, method, analysis, results, discussion, and reference sections. This incongruence is always a red flag – as it begs the question: how valid are the results if the methods of data collection and analysis do not match with the aim of the research? At *JASPR*, lack of cohesive alignment across the different research elements needed for a study is a concern frequently highlighted by *JASPR*'s peer reviewers (for more details on cohesive alignment, see Arvinen-Barrow & Visek, 2021).

In addition, it is also not uncommon for a manuscript to lack strong theoretical and empirical rationale for the research conducted. This lack of detail provided in one section, namely the introduction when providing justification for the research, in effect leads to an absence of cohesive alignment across the other sections of the manuscript. Typically, this also results in weak understanding of the connections among the variables under investigation. How are the variables proposed to be connected (*theory*) and why? What is established in the literature about these connections already (*empirical evidence*)?

At *JASPR*, we also see inconsistencies in the terminology used to describe varied constructs. For example, our field is often referred to as "sport psychology" and in fewer instances "sports psychology". While there is debate which is correct, it is important to make sure the manuscript uses one terminology consistently rather than interchanging among them within a manuscript. Similarly, when referring to a person working in our field (e.g., sport psychology *consultant*, sport psychology *practitioner*, sport psychology *professional*) should be consistently applied through the manuscript. Consistency in a manuscript across the terminology adopted will aid in clarity, whereas inconsistency contributes to confusion.

Be Realistic About Research Limitations

Given the apparent limitations of student research (e.g., time, funding, research infrastructure), some

manuscripts submitted to *JASPR* are what is considered small-scale research. Manuscripts of this kind can be expected of a student-centered journal like *JASPR*. Pilot studies, when well justified, are acceptable. For example, much of the student work submitted to *JASPR* is preliminary in nature, and indeed, an important early step in a novel area of research. If the research conducted fits this category, it must be framed as such. In the case of preliminary (and indeed all) research, authors are encouraged to boldly discuss limitations of their (preliminary) research. Identifying limitations does not make research less than; rather, it is important to transparently identify both the strengths and limitations of every research study conducted, rather than emboldening the results, findings, and implications and attempting to hide or bury a study's inherent limitations.

It is also important to note that not all small research is *preliminary* if the study design and research findings are already well established in the literature. This is a distinction that often gets muddled up in manuscripts submitted to *JASPR*, which results in multiple rounds of peer reviews in order for the Editors and Reviewers to confidently decipher if the research is indeed preliminary and novel and thus congruent with *JASPR*s vision and mission (to expand the field of psychology in the domains of sport, exercise, and performance), or if the research presents small-scale findings of knowledge already established in the field. A manuscript will more efficiently make its way through the publishing processes if the presentation of the research conducted is accurately described, discussed, and its limitations acknowledged in the original submission.

Understand the Reviewer Guidelines

In sport, no performer enters a competition without understanding the rules of the competition and being prepared for what the performance will be judged on and penalized for. The same applies to manuscripts, and certainly any coursework assignments. Much like preparing for a sport performance and a coursework assignment, the preparation of a research manuscript should include having a thorough understanding of the criteria the work is being evaluated against. At *JASPR*, the Reviewer Guidelines are available not only for Reviewers, but also for both student-authors and faculty mentors to become familiar with prior to submitting their work to *JASPR*. It is important to know the criteria the work will be evaluated against, as this will provide student-authors an opportunity to view their own work from multiple vantage points – that of the author, reviewer, and ultimately, the reader of the work.

"Well Begun is Half Done" (Aristotle)

As the Establishing Editors of a student-centered journal, we cannot emphasize enough the importance of evaluating the manuscript for its readiness for submission, ensuring it adheres to all submission guidelines and APA JARS standards, and paying attention to details. Correspondingly, being realistic about the limitations and merits of the research is a fundamental characteristic of quality science. Further, understanding the Reviewer Guidelines can help the student-author(s) and faculty mentors to guide the student in presenting their work in such a way that ticks the required boxes of manuscript submissions. While it might be tempting to submit a thesis or dissertation work to *JASPR* "as is", to maximize the chance of ultimately receiving a desired publication decision of 'Accept', student-authors, with appropriate faculty mentorship and oversight, must adequately conduct the work needed to properly prepare a manuscript for submission that meets the fundamental requirements of an academic publication

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Contemporary Hot Topics in Applied Sport Psychology: Past, Present, and Future

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The purpose of this study was to investigate the contemporary hot topics in applied sport psychology as a sub-discipline of the broader domain of sport and exercise psychology. Based on a constructivist methodology and a qualitatively driven mixed-method design, the present study analyzed applied sport psychology research topics by evaluating multiple sources of data in three phases representing past, present, and future perspectives. Phase one focused on the categorization of historically published topics through a content analysis of exemplar texts. In phase two, journal content analyses were performed across a decade of published research. Finally, phase three consisted of survey-based research to investigate undergraduate and graduate students' perceptions of hot topics in the field of applied sport psychology. Generally, results showed leading themes were oriented toward applied sport psychology and social sport psychology where interventions, mental skills, and motivation were among the most salient topics being published. Results of the journal content analyses, as compared to the textbook analysis, revealed 13 emergent categories of contemporary topics (e.g., consulting and consultant effectiveness, family and relationships in sport, sport transition). Results of the student survey illustrated that while students' favorite topics emulate many of the popular research topics such as motivation and peak performance, they are interested in learning more about topics that were not as common in the published literature such as mental toughness and mindfulness. Future considerations for applied sport psychology research are discussed and emphasize greater attention should be placed on research for mindfulness, cultural diversity and inclusion, and virtual technologies.

Keywords: trends in applied sport psychology, evolution of applied sport psychology, temporal triangulation, mixed-method research design, qualitative content analyses, student perspectives

Sport psychology research has steadily evolved in scope and breadth throughout the last century (Vealey, 2006; Weiss & Gill, 2005). A potential consequence of our advancement as a field is perhaps best exemplified by applied sport psychology having been recognized as a sub-discipline of the broader field of sport psychology (Sly et al., 2020; Wylleman et al., 2009). An examination of the research embodying applied sport psychology is warranted given the recent claims that applied practitioners must obtain competence across microlevel and macrolevel processes in diverse settings (i.e., business, performing arts, military; Sly et al., 2020), as well as the need for more research-oriented educational experiences for applied practitioners (Wylleman et al., 2009). To that end, our central question guiding this research was *what are the most prominent topics in the past, present, and future of applied sport psychology research?*

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Evolution of Research in Sport Psychology

Coleman Griffith was among the first to express the need for more rigor in the design and collection of empirical evidence when studying athlete and sport performance. Griffith (1930) outlined a need for more experimental approaches to help establish the field of sport psychology, however this need was geared toward the research being conducted in his own sport psychology laboratory (i.e., the first established sport psychology lab in North America; Vealey, 2006). In the decades that followed Griffith's call, the developing field of sport psychology published literature that was largely focused on laboratory-based, experimental research that emulated the dominant trends in both psychology and kinesiology (Landers, 1995; Vealey, 2006). Though Yates (1943) was among the earliest authors of applied

research with athletes, the transition toward applied sport psychology was perhaps most influenced by Martens (1979) who encouraged sport psychology researchers to take off the lab "smocks" and begin conducting research directly with athletes in the field. As such, Martens' reflections (as outlined by the change in his own research practices) led to a shift in the paradigm from basic, laboratory-based experiments to applied, field-based research. Vealey (2006) described it best and stated: "the [paradigm] moved from positivism to what seems to now be a post-positivistic, modernist era with some movement toward constructivism" (p. 148).

Research Topics in Sport Psychology

When examining the evolution of sport psychology research within the broader domain of exercise and sport studies, it is important to note trends that have been observed from past to present. Weiss and Gill (2005) examined the trends in sport psychology research from 1930 to 2004 and identified several re-emerging themes (i.e., themes that were consistently studied over the last 75 years of research) and emergent themes (i.e., research that gained scholarly support within the last 25 years). See Table 1 for a list of the re-emerging and emergent themes as described by Weiss and Gill (2005).

Themes such as sportsmanship and moral development largely concentrated on topics related to character building while research on social development focused on socialization processes concerning the influential role of parents, coaches, and peers. Other popular topics included self-esteem, engagement and motivation of girls and women for sport and physical activity, the arousal-performance relationship, situational factors, and psychological skills. Interestingly, although gender roles were identified as a prominent theme, most of that research was produced within the domain of sport sociology rather than sport psychology (Weiss & Gill, 2005). Weiss and Gill's (2005) themes were expected to grow in popularity in the subsequent years. However, their suggestion was informed by an academic journal focused on the broader field of human movement, and the number of academic journals specific to sport psychology and applied sport psychology have since been established (Vealey, 2006).

In a more recent review of research journals rooted in sport and exercise psychology, Lindahl et al. (2015) discovered higher-order themes (and topics) such as motivation (e.g., self-determination theory, achievement goal theory); exercise and health (e.g., theory of planned behavior); perceptual, cognitive, and motor skills (e.g., attention, decision-making); emotion, stress, and coping (e.g., choking, burnout); leadership (e.g., coaching, social support); and development (e.g., talent development, positive youth development). Based on that large scale bibliometric review, themes such as mental skills (e.g., imagery, self-talk) and miscellaneous (e.g., sport psychology practitioners/consultants) were categorized as smaller higher-order themes and described some topics (e.g., mental toughness) as emerging in the broader field of sport psychology (Lindahl et al., 2015). These findings are important to consider as they represent the prior (Weiss & Gill, 2005) and more current (Lindahl et al., 2015) trends in sport psychology and informs the present study which aims to examine the current trends in applied sport psychology (i.e., a sub-discipline of the broader sport psychology field).

Student Perspectives of Applied Sport Psychology

As expressed by the Association of Applied Sport Psychology (AASP), "students make up about 40% of the total membership of the Association, but students are

Table 1. Re-emerging and Emergent Themes in Sport Psychology

Re-emerging Themes	Emerging Themes
Sportsmanship and moral development	Measurement development and validation
Social development and significant others	Physical activity, adoption, maintenance, and adherence
Self-perceptions	Multidisciplinary approaches to psychological issues
Attitudes and motivation	
Modeling and observational learning	
Emotions, arousal, and anxiety	
Competition, achievement orientations, and personality dispositions	
Gender roles	

100% of its future" (AASP, 2021, para. 1). Even though students have been seen as critical to the future of the field, research focusing on student perceptions about applied sport psychology have been largely unexplored. An exception to this exclusion was a series of studies that examined perceptions of current and future techniques, thoughts, and ideas across multiple cohorts of Swedish students (Johnson, 2006; Johnson & Anderson, 2019). The result of the first study revealed that the 1995 cohort perceived psychological skills training—namely, relaxation, motivation, goal setting, and positivity—as primary themes of sport psychology, which is consistent with the general topics from prior research (Lindahl et al., 2015; Weiss & Gill, 2005).

In a follow up study, Johnson and Anderson (2019) continued the assessment of student perceptions by comparing a more recent sample of students (i.e., 2015 cohort) to the prior 1995 and 2005 cohorts. Results revealed two unique themes in the 2015 cohort's visions for the future of applied sport psychology. First, students reported a desire to clarify and integrate health issues as a dominant component of sport psychology. Health and exercise were viewed as a central process in the broader sport community that warrants attention in the future (Johnson & Anderson, 2019). Second, students also reported the necessity to enhance visibility and understanding of cultural variations within applied sport psychology contexts. Students reported the effects of globalization must parallel the research and application of applied sport psychology to competently facilitate positive experiences in performance settings for individuals from an array of cultural backgrounds (Johnson & Anderson, 2019). These studies are among the few empirical investigations that examined student perspectives and provide important insights to how students—that is, the future members of our applied sport psychology society—bring a critical perspective that is underutilized in research. Therefore, our incorporation of student perceptions in the present study can provide a valuable perspective for a more complete review of the hot topics in applied sport psychology.

The Present Study

Although research topics and paradigms have been observed and documented throughout the evolution of sport psychology (Lindahl et al., 2015; Vealey, 2006; Weiss & Gill, 2005), little attention has been given to the examination of research topics within the sub-discipline of applied sport psychology. Further, examining current student perceptions of applied sport psychology is warranted to contrast our historical roots and modern-day research topics. Therefore, the purpose of the present study was to holistically review the hot topics in applied sport psychology through assessing multiple sources of data that represent past (foundational knowledge), present (contemporary research), and future (student perception) perspectives.

Methods

This research was conceptualized within the context of AASP's Student Delegate program in the 2017/2018 academic year. Chairing the Best Practices in Research and Undergraduate Connections initiatives, the three authors established a partnership to learn more about the most prominent research topics in applied sport psychology. We grounded this research in a constructivist methodology in the pursuit of this goal. Constructivism is a research paradigm that asserts knowledge is socially constructed, subject to interpretation, and the construction of meaning is built on both individual experiences and collective social interactions (Creswell, 2014; Denzin & Lincoln, 2013; Teddlie & Tashakkori, 2009). To that end, we believe that the very nature of this research is not only constructed upon prior research (i.e., topics) but is also subject to our collective interpretation to approach the appropriate answer to our research question.

The present study is best represented by a qualitatively driven mixed-method design that was sequential in nature (Teddlie & Tashakkori, 2009). Within three phases of the study, two methods were employed: qualitative content analyses (for phase one and two) and a survey-based questionnaire (for phase three). Using multiple methods in qualitative research can be an important design strategy for the purpose of triangulation and to gain insight about various aspects of a phenomena (Maxwell, 2013). In particular, the use of qualitative content analyses in mixed-method research can aid the development, initiation, and expansion of a study, as well as support complementarity and triangulation (Kansteiner & König, 2020). As triangulation provides an opportunity to enhance the dependability of data representation (Creswell & Poth, 2018), data were examined in three phases to achieve temporal triangulation between: (a) foundational knowledge in sport psychology, (b) contemporary research being published in AASP journals, and (c) students' perceptions of hot topics in applied sport psychology. The following sections provide a deeper description of the data extraction and coding procedures used for each of the three phases of analysis.

Phase One: Textbook Content Analysis

The purpose of phase one was to determine a set of a priori codes that appropriately represent the topics studied and taught in sport psychology/applied sport psychology. Thus, a textbook content analysis was conducted to discover general topics that the foundational literature in sport psychology considers exemplary. Put differently, textbooks represent the past topics that are fundamental to the field and are often the resources students initially use to learn about topics in applied sport psychology. Logan and Eggleston (2015) identified six commonly used sport and exercise psychology textbooks for the sport psychology classroom and three were selected for our analysis: *Foundations of Sport and Exercise Psychology* (Weinberg & Gould, 2015), *Sport Psychology: From Theory to Practice* (Anshel, 2012), and *Applied Sport Psychology Personal Growth to Peak Performance* (Williams & Krane, 2015). These textbooks were selected because they were readily available to the authors and encompass varying theory-to-practice components for learning sport psychology. Further, the adoption of three textbooks enhanced the potential to reach saturation through triangulation of multiple data sources to capture a more robust depiction of the data (Creswell & Poth, 2018).

A total of 63 chapter titles were identified. These data were extracted in the fall of 2018. All chapter titles were compared to each other through four sequential iterations of coding. Each iteration was analyzed using a two-cycle coding scheme (Saldaña, 2016), and each iteration comprised a single round of coding. See Table 2 for a description of the coding scheme. The four rounds of coding consisted of: (a) 100% similarity of terms across all three texts using in vivo coding, (b) 66% similarity of terms across at least two of the texts using in vivo coding, (c) holistic coding to combine chapter titles that were similar based on content area, and (d) axial coding to either remove the chapter topic(s) from the scheme or merge the chapter topic(s) into another category already listed as a topic from the first three rounds. The topics that emerged from the textbook analysis were used as base codes representing the most applicable topics from the foundational literature (i.e., past) and were subsequently used in phase two.

Phase Two: Journal Content Analyses

Following the textbook analysis, the authors used the set of a priori codes to assess applied sport psychology topics from two journals: *The Journal of Applied Sport Psychology (JASP)* and the *Journal of Sport Psychology in Action (JSPA)*. These two journals were selected because they were sponsored by AASP, fit the scope of our roles as AASP Student Delegate leaders, and incorporated a variety of topics ranging from practitioner-oriented best practices (i.e., *JSPA*) to original research articles in applied sport psychology (i.e., *JASP*).

In total, 1,247 topics were discovered. For *JSPA*, members of the research team recorded verbatim topics labeled as key words identified by the author(s) during the publication process. Key words were extracted from a total of 121 articles (topics *n* = 399) ranging between 2010–2017. For *JASP*, members of the research team were responsible for retrieving information on the participants, type of research, methods, and the topics for each article. Retrieval of *JASP* topics were delegated and at least two members of the research team independently extracted information from each article. A total of 327 articles (topics *n* = 848) were collected between 2008–2017.

Table 2. Type of Coding and Definitions for the Coding Scheme

Type of Coding	Code Name	Code Definition
First Cycle	In Vivo Coding	*In Vivo coding* is otherwise known as "verbatim" coding and represents the exact or actual words or phrases found in the data.
First Cycle	Holistic Coding	*Holistic coding* uses a "clumping" style of coding, where we create or adapt a general category by clumping similar topics together.
Second Cycle	Focused Coding	*Focused coding* discovers the most frequent or significant codes to develop more salient groupings of the data.
Second Cycle	Axial Coding	*Axial coding* helps reorganize data by determining which codes in the data are more or less important/applicable.

Note. Type of coding, code name, and definitions are derived from Saldaña (2016).

Procedures for Journal Content Analyses

Journal data extractions concluded in the fall of 2018 and data analyses continued through the summer of 2019. The authors meticulously analyzed the 1,247 topics derived from *JASP* and *JSPA* across five cycles of explicit coding analyses. The purpose of conducting multiple iterations was to build trustworthiness in a way that could not be demonstrated by traditional forms of inter-rater reliability. Consensus coding was adopted to categorize the topics. The consensus process has been recognized as an integral component in qualitative research (Hill et al., 2005), and helps researchers: (a) utilize multiple perspectives, (b) assess and become more aware of individual biases and expectations, (c) resolve disagreements, and (d) create an open, honest work environment with collective involvement and power among the team (Hill & Knox, 2021; Hill et al., 2005). Within the context of the present study, consensus coding represents a process where each topic was compared to the set of a priori codes and each code was subsequently examined by the authors until 100% agreement was established. An iterative multi-cycle coding scheme was created by combining consensus coding with Saldaña's (2016) two-cycle coding framework as performed in the textbook analyses (i.e., macrocycle one). The purpose of combining consensus coding and the iterative approach for the journal content analyses was to refine the set of a priori codes to discover additional codes outside the scope of the textbook analyses and to group together codes into broader themes. Two macrocycles were added to the overall scheme for the assessment of topics within the journal content analyses. See Table 3 for an overview of the structure of our iterative multi-cycle coding scheme.

Macrocycle two contained three microcycles, and these three microcycles used in vivo, holistic, and focused coding procedures, respectively. The first microcycle consisted of each author independently comparing all topics to the set of a priori codes by assessing the topics verbatim. For example, the topics of achievement motivation or motivational climate are exactly matched with the code "motivation." At the conclusion of the independent comparisons, a virtual meeting between the three authors was held and each topic was examined until consensus was established for each relevant topic that was coded during microcycle one. Any topic that was not coded through in vivo procedures were placed in the "other" category. Microcycle two involved holistic coding and represented the grouping of topics based on similarity of content. For example, topics such as attentional focus or choking were coded as "concentration" because those topics are best represented by that specific domain of applied sport psychology content. At the conclusion of independent and collaborative coding procedures (i.e., individual coding and consensus coding), all topics not categorized under an a priori code after in vivo or holistic coding procedures were again placed in the "other" category. The third microcycle consisted of focused coding and primarily assessed topics that remained within the "other" category but presented general likeness or showed likenesses as sub-categories after categorization from the first two microcycles. For example, the a priori code labeled "psychological skills training" was modified, and the code evolved into "interventions" which then contained two sub-codes labeled "psychological skills training" and "consulting and consultant effectiveness." After consensus was reached for focus coding, the authors developed a set of

Table 3. Structure of the Iterative Multi-Cycle Coding Scheme

	Textbook Analysis	**Journal Content Analyses**	
Microcycles	Macrocycle One	Macrocycle Two	Macrocycle Three
Microcycle One	In Vivo Coding (100%)	In Vivo Coding	Holistic Coding
Microcycle Two	In Vivo Coding (66%)	Holistic Coding	Axial Coding
Microcycle Three	Holistic Coding	Focused Coding	
Microcycle Four	Axial Coding		

Note. Each cycle of coding (i.e., in vivo, holistic, focused, or axial) for the macrocycles represent the multiple iterations of consensus coding where 100% agreement was confirmed for each topic before moving to the next microcycle.

initial themes which contained the adapted codes from macrocycle two. The rationale for incorporating multiple macro and microcycles was to ensure consensus that the codes and themes best represented the topics and led to the appropriate placement of each topic. However, if a discrepancy regarding the placement of a topic surfaced, an ad hoc meeting was conducted to discuss the theoretical nature of the specific topic. If a disagreement persisted, the topic was placed in the "other" category. The finalized coding structure (i.e., added themes and modified codes) for macrocycle two can be seen in Table 4.

The refinement of codes and development of themes were the main goals for macrocycle two. Thereafter, the purpose of macrocycle three was to verify and further refine the structure of the themes and codes from macrocycle two. This verification and refinement process involved a final series of coding using our iterative multi-cycle coding scheme. The two coding procedures (i.e., microcycles) in macrocycle three consisted of holistic coding and axial coding. As a final attempt to situate the topics more accurately within categories based on their theoretical or conceptual underpinnings (i.e., holistic coding), all topics within each code were re-evaluated and modified accordingly. For example, the codes "group dynamics and team cohesion" and "cultural competence" were changed to "group and organizational systems" and "cultural diversity and inclusion" to better encapsulate the range of research topics that were included within each category. Other categories such as "character and moral development" and "sport transition" were formed during this process of categorization. Each author memoed possible adaptions to each code, and codes were only modified or created, again, when 100% consensus was reached. Disagreements regarding an adaption of a code resulted in no change to the code. Finally, an axial coding procedure was performed to reorganize or drop topics. A total of 51 topics were found that did not appropriately fit under their designated codes after all prior coding procedures. During this final microcycle, the authors revisited each article from the topics to determine the best classification of the topic. After consensus was reached, some items remained in their original category while others were relocated, but only one topic was deleted from the final list. See Table 4 for the progression of codes and themes through all three macrocycles.

Phase Three: Student Perception Survey

During phase three, faculty members of applied sport psychology and related academic disciplines were contacted via email and asked to share a link to an online survey with their students. Participants were also recruited through AASP student social media outlets. The student survey concluded in the fall of 2018. The survey consisted of demographics and three specific questions regarding their perception of today's hot topics in applied sport psychology, their favorite applied sport psychology topics, and the applied sport psychology topics they are interested in for future learning. Participants selected their answers from predetermined lists for each question. Specifically, predetermined answers were developed from independent examinations of sport psychology textbooks followed by collaborative peer debriefing among the research team (i.e., AASP student delegates). The two student representatives from the AASP Executive Board were also included to further support the credibility of the topics being investigated through an expert check approach to increase trustworthiness of the identified topics (Sparkes & Smith, 2014). A total of 40 topics were identified (e.g., attentional focus, cultural competence, imagery, leadership, self-confidence) and implemented as answers to the three main questions as well as a fill in option (i.e., other) to self-report a topic not listed. Participants were instructed to select their top three choices for each question.

Student Participants

Participants included students (N = 78) pursuing a bachelor's (n = 24), master's (n = 35), or doctoral (n = 19) degree. Over 85% of the participants indicated an interest in pursuing the AASP Certified Mental Performance Consultant (CMPC®) certification (n = 67), though only 42% were current student members of AASP (n = 33). Participants reported their current degrees were within academic disciplines including sport and exercise psychology (n = 56), kinesiology (n = 8), counseling psychology (n = 1), clinical psychology (n = 1), sport and exercise science (n = 1), as well as others who did not fit under the presented descriptions (n = 6) and undergraduate students who did not yet have a degree specification (n = 5). Participants were female (n = 47) and male (n = 31) with an age range between 18 to 41 (M = 24). Due to a technical issue when gathering information regarding ethnicity and nationality, self-identifications were clustered into unconventional categories. Without an appropriate avenue to clarify, contextualize, or represent the ethnic identities represented in our student data (Morris, 2007), we can only justifiably disclose that the participants who took the survey were studying sport psychology/applied sport psychology in North America.

Table 4. The Progression of Codes and Themes Through Each Macrocycle of Coding

Initial Codes from Textbook Content Analysis (Macrocycle One)	Themes and Codes from Journal Content Analyses (Macrocycle Two)	Themes and Codes from Journal Content Analyses (Macrocycle Three)
1. Sport Psychology (Overview, History)	**General Sport Psychology**	**General Sport Psychology**
2. Exercise Psychology	1. Sport Psychology	1. Sport Psychology
3. Leadership	**Applied Sport Psychology**	• [b]Student Training & Mentoring
4. Communication	2. Interventions	• [b]Methodological Considerations
5. Group (Team Dynamics/ Cohesion)	• Psychological Skills Training	**Applied Sport Psychology**
6. Motivation	• [a]Consulting & Consulting Effectiveness	2. Interventions
7. Stress, Anxiety, Arousal	3. [a]Mental Skills	• Psychological Skills Training
8. Psychological Skills Training (Interventions)	• Stress, Anxiety, & Arousal	• [a]Consulting & Consulting Effectiveness
9. Personality	• Imagery	3. [a]Mental Skills
10. Imagery	• Goal Setting	• Stress, Anxiety, & Arousal
11. Goal Setting	• Concentration	• Imagery
12. Children	• Confidence	• Goal Setting
13. Concentration	• [a]Self-Talk	• Concentration
14. Injury	**Social Sport Psychology**	• Confidence
15. Aggression	4. Leadership	• [a]Self-Talk
16. Burnout	5. Communication	**Social Sport Psychology**
17. Confidence	6. Group Dynamics & Team Cohesion	4. Leadership
18. Unhealthy Behavior	7. Motivation	5. Communication
19. Effective Coaching	8. Effective Coaching	6. [b]Group & Organizational Systems
20. Peak Performance	**Clinical Perspectives**	7. Motivation
21. Socio-Cultural Components	9. Injury	8. Effective Coaching
22. Other	10. Aggression	9. [b]Family & Relationships in Sport
	11. Unhealthy Behavior	**Clinical Perspectives**
	12. Burnout	10. Injury
	13. Personality	11. Aggression
	Developmental Perspectives	12. Unhealthy & [b]Maladaptive Behavior
	14. Children, Youth, & Adolescents	13. Burnout
	15. [a]Motor Learning & Training	14. Personality & [b]Affective States
	Peak Performance	**Developmental Perspectives**
	16. Peak Performance	15. Children, Youth, & Adolescents
	17. [a]Self-Regulation	16. [a]Motor Learning & Training
	Cultural Perspectives	17. [b]Character & Moral Development
	18. [a]Cultural Competence	18. [bc]Sport Transition
	Exercise Psychology	**Peak Performance**
	19. Exercise Psychology	19. Peak Performance
	Other	20. [a]Self-Regulation
	20. Other	**Cultural Perspectives**
		21. [b]Cultural Diversity & Inclusion
		Exercise Psychology
		22. Exercise Psychology
		Other
		23. Other

Note. Themes are outlined in bold. Numbers represent codes and bullet points represent sub-codes. [a]Codes added after generating themes via macrocycle two. [b]Codes added after verification and refinement of themes via macrocycle three. [c]Code that returned after being deleted from textbook analysis via macrocycle three.

Results

Phase One: Textbook Content Analysis

The textbook content analysis (i.e., macrocycle one), which took place in four sequential iterations (i.e., microcycles) of consensus coding, revealed a total of 22 initial codes. See Table 4 to view the list of initial codes from the textbook content analysis under the macrocycle one column. The first microcycle found eight codes: overview and history of sport psychology; exercise psychology; leadership; communication; groups in sport through team dynamics and cohesion; motivation; stress, anxiety, and arousal; and psychological skills training as interventions in sport psychology. Microcycle two identified 10 codes and consisted of topics centered on personality, imagery, goal setting, children, concentration, injury, aggression, burnout, confidence, and unhealthy behavior. The third microcycle clumped chapter titles together based on the similarity of content, and the three codes that surfaced during this iteration were effective coaching, peak performance, and socio-cultural components. Finally, the fourth microcycle took the remaining chapters and removed or merged them with already existing codes from the prior microcycles. Specifically, a chapter regarding career transition was removed because it had no clear connection to the other set of codes, a chapter on referring athletes for counseling was merged into psychological skills training, a chapter on competition and cooperation was merged into team dynamics and cohesion, and two chapters that focused on attributions and feedback for intrinsic motivation were merged into motivation. One additional code labeled as other was created for topics outside the scope of the initial 21 codes derived from the textbook content analysis.

Phase Two: Journal Content Analyses

Macrocycle Two Modifications

After conducting three iterations of analyses assessing the pool of topics generated from JASP and JSPA, broader themes were developed. Nine themes were established: general sport psychology, applied sport psychology, social sport psychology, clinical perspectives, developmental perspectives, peak performance, cultural perspectives, exercise psychology, and other. After the creation of these broader themes, modifications to the initial codes were warranted. Specifically, we made six deliberate adjustments to the codes by re-arranging codes and creating new codes. All changes can be viewed in Table 4 under the macrocycle two column.

The overarching code from the textbook analysis "psychological skills training" was examined and reconsidered because the topics were grouping in distinctly different ways. The code was changed to "interventions" which then contained sub-codes described as "psychological skills training" (i.e., the training program) and "consulting and consultant effectiveness" (i.e., the person implementing the program). Further, because of the important role of interventions in applied sport psychology, the code "mental skills" was created as an equal-level code to "interventions" to highlight the difference between skills and approaches. Therefore, the code "mental skills" contained the sub-codes "stress, anxiety, and arousal," "imagery," "goal setting," "concentration," and "confidence" as derived from the textbook analyses. The code "self-talk" was created due to the important role of verbal and non-verbal self-dialogue described in texts from macrocycle one. For example, in the Williams and Krane (2015) text, Williams et al. (2015) outlined that self-talk has an important role for physical skills learning, changing habits, honing attention, creating and changing emotion and mood, controlling effort, and building self-efficacy, although self-talk was not directly stated in the title of the chapter.

Similarly, two additional codes were created. The codes "motor learning and training" and "self-regulation" were developed based on contextualization and generalization. The code "motor learning and training" was created for the research articles that focused on learning sport skills outside the scope of the code "effective coaching." The code "self-regulation" was created to broadly capture topics that are geared toward the adaptive use of psychological mechanisms for performance enhancement (see review by Crews et al., 2001). The last change during this series of iterations was modifying "socio-cultural components" to "cultural competence." This change was made to reflect how scholars have recently been debating cultural sport psychology terms, therefore we selected cultural competence as the most appropriate term to represent applied sport psychology (see Schinke et al., 2016).

Macrocycle Three Modifications

While themes were not modified during macrocycle three, coding procedures from the two final microcycles produced nine changes to the codes. First, the code "general sport psychology" was broken down into two sub-codes labeled "student training and mentoring" and "methodological considerations." Further, during these final iterations of coding, several changes were

made to the overall code name for the purpose of a broader integration of topics into a code. Four codes were slightly modified: the code "group dynamics and team cohesion" changed to "group and organizational systems;" the code "cultural competence" changed to "cultural diversity and inclusion;" the code "unhealthy behavior" changed to "unhealthy and maladaptive behavior;" and the code "personality" was changed to "personality and affective states."

One additional code was created and labeled "character and moral development." This new code reflects the growing body of literature focused on life skills development comprised of skills and values that enable successful integration into the contexts that are occupied (see Danish et al., 1996; Holt, 2016). Finally, a code returned after being taken out earlier in the coding process. Due to the number of articles that were geared toward sport and career transitions (e.g., youth sport transitions, transition into college, transition out of sport), the code "sport transition" was reexamined after being deleted during the textbook analysis and reestablished. The new code was then positioned under developmental perspectives due to the topics generally emphasizing developmental changes one may experience.

Hot Topics from Final Themes and Codes

See Table 5 for a summary of the frequency and percentage of themes and codes across *JASP*, *JSPA*, and the combined total. When examined together, the most frequently published themes over the ten-year span included social sport psychology (27.3%) and applied sport psychology (24.9%), and together accounted for more topics than the other seven themes combined. A comparatively equal number of topics were published under developmental perspectives (11.5%), peak performance (11.2%), and clinical perspectives (11%). The least published themes included cultural perspectives (5.6%), exercise psychology (3.4%), other (2.8%), as well as general sport psychology (2.4%).

The following section identifies the most salient topics derived from the journal content analyses as outlined by the themes and codes. The topics listed below consisted of both verbatim topics as well as categories (e.g., coaches) of verbatim topics (e.g., coach behavior). The most frequently published topic under general sport psychology included the verbatim term sport psychology (f = 9), but also included topics such as graduate training (f = 3), sport psychology training (f = 2), supervision (f = 2), and evaluation (f = 2).

The applied sport psychology theme was partitioned by mental skills (f = 8) and interventions (f = 6), and the most frequent verbatim topic for mental skills included imagery (f = 20) with a variety of imagery related sub-sets observed (e.g., imagery speed, visualization, PETTLEP). Other popular topics were anxiety (f = 17), attentional focus, attention, and/or focus (f = 13), and goal setting (f= 8). Among the intervention topics, equal frequencies were found between consulting (f = 6), sport psychology consulting (f = 6), and psychological/mental skills training (f = 6), which were then followed by mental training (f = 4), consultant effectiveness (f = 3), and mindfulness (f = 3).

Within the theme of social sport psychology, motivation topped the chart with the highest frequency as a standalone verbatim topic (f = 25). Other topics such as self-efficacy (f = 15), self-determination theory (f = 14), motivational climate (f = 14), and enjoyment (f = 8) were among the most frequent sub-sets of motivation. Of the social agents and significant others, the most frequent topics concerned coaches (f = 45; e.g., coach behavior, coach-athlete relationship), teams (f = 32; e.g., team cohesion, team building), parents (f = 18; e.g., parent behavior, parent involvement), and peers (f = 6; e.g., peer leadership, peer mentoring).

The most frequent topic within clinical perspectives was centered on emotion (f = 20; e.g., emotional abuse, emotional intelligence). On the abnormal/maladaptive side of clinical perspectives, eating disorders (f = 9), burnout (f = 6), substance use (f = 5; alcohol, marijuana), anger (f = 5), and risk-taking behavior (f = 3) were among the most frequently studied. Positive/adaptive topics such as empathy (f = 4), well-being (f = 3), gratitude (f = 2), self-concept (f = 2), and self-esteem (f = 2) were not as frequently studied.

The most frequently published topic under the theme of developmental perspectives was youth sport (f = 18) which was followed by specific topics such as positive youth development (f = 11) and life skills (f = 7). Regarding sport transitions, the main topics focused on transitions between sports or youth-to-elite transitions (f = 7), transitioning out of sport (f = 5), and transitioning into a career post sport (f = 10). Other topics consisted of transfer (f = 4), motor skill acquisition (f = 3), and skill development (f = 2).

The theme of peak performance included a large variety of performance-oriented topics (f = 53; e.g., expert performance, Olympic performance, performance accomplishments, performance challenges) while other specific topics consisted of coping (f = 17; e.g., coping

Table 5. Frequency and Percent of Hot Topics from JASP and JSPA by Themes and Codes

	JASP (*n* = 848)		*JSPA* (*n* = 399)		Total (*N* = 1247)	
Themes and Codes	Frequency	%	Frequency	%	Frequency	%
General Sport Psychology	**10**	**1.2**	**20**	**5.0**	**30**	**2.4**
Sport Psychology	4	0.5	9	2.3	13	1.0
Student Training & Mentoring	5	0.6	5	1.3	10	0.8
Methodological Considerations	1	0.1	6	1.5	7	0.6
Applied Sport Psychology	**171**	**20.2**	**139**	**34.8**	**310**	**24.9**
Interventions	6	0.7	27	6.8	33	2.6
Psychological Skills Training	19	2.2	13	3.3	32	2.6
Consulting & Consulting Effectiveness	20	2.4	41	10.3	61	4.9
Mental Skills	10	1.2	10	2.5	20	1.6
Stress, Anxiety, & Arousal	38	4.5	18	4.5	56	4.5
Imagery	25	2.9	10	2.5	35	2.8
Goal Setting	10	1.2	9	2.3	19	1.5
Concentration	26	3.1	7	1.8	33	2.6
Confidence	9	1.1	0	0	9	0.7
Self-Talk	8	0.9	4	1.0	12	1.0
Social Sport Psychology	**265**	**31.3**	**75**	**18.8**	**340**	**27.3**
Leadership	21	2.5	6	1.5	27	2.2
Communication	3	0.4	2	0.5	5	0.4
Group & Organizational Systems	39	4.6	17	4.3	56	4.5
Motivation	149	17.6	15	3.8	164	13.2
Effective Coaching	31	3.7	24	6.0	55	4.4
Family & Relationships in Sport	22	2.6	11	2.8	33	2.6
Clinical Perspectives	**116**	**13.7**	**21**	**5.3**	**137**	**11.0**
Injury	7	0.8	3	0.8	10	0.8
Aggression	8	0.9	4	1.0	12	1.0
Unhealthy & Maladaptive Behavior	30	3.5	5	1.3	35	2.8
Burnout	9	1.1	0	0	9	0.7
Personality & Affective States	62	7.3	9	2.3	71	5.7
Developmental Perspectives	**88**	**10.4**	**55**	**13.8**	**143**	**11.5**
Children, Youth, & Adolescents	19	2.2	25	6.3	44	3.5
Motor Learning & Training	22	2.6	9	2.3	31	2.5
Character & Moral Development	27	3.2	11	2.8	38	3.0
Sport Transition	20	2.4	10	2.5	30	2.4
Peak Performance	**98**	**11.6**	**42**	**10.5**	**140**	**11.2**
Peak Performance	53	6.3	28	7.0	81	6.5
Self-Regulation	45	5.3	14	3.5	59	4.7
Cultural Perspectives	**45**	**5.3**	**25**	**6.3**	**70**	**5.6**
Exercise Psychology	**35**	**4.1**	**7**	**1.8**	**42**	**3.4**
Other	**20**	**2.4**	**15**	**3.8**	**35**	**2.8**

Note. Themes are outlined in bold.

skills, coping strategies), self-regulation (*f* = 11; e.g., emotional regulation, self-regulated learning), mental toughness (*f* = 9), decision-making (*f* = 7), flow (*f* = 4), grit (*f* = 3), and resilience (*f* = 3).

The most popular topics under cultural perspectives included gender (*f* = 14; e.g., gender differences, gender identity), disabilities (*f* = 9; e.g., Paralympics, ADHD, ASD), athletic identity (*f* = 7), and body image (*f* = 5). Exercise psychology-oriented topics included physical activity (*f* = 7), physical education (*f* = 5), and exercise (*f* = 5), but also included other general topics such as fitness (*f* = 4; e.g., fitness interventions, fitness program experiences) and health (*f* = 4; e.g., healthy lifestyle, obesity). Topics described as other were much less frequent, but the most popular topics involved referees (*f* = 5; e.g., decision-making, officiating excellence), videogames/ video technology (*f* = 5), and music (*f* = 3). Other unique topics with a frequency of one included media, military, and outreach activities.

Phase Three: Student Perception Survey

Overall, students who completed the questionnaire reported that they were more interested in employment opportunities with a focus on applied work as compared to research. Specifically, students indicated they were moderately (*n* = 9), very (*n* = 16), or extremely (*n* = 41) interested in pursuing applied sport psychology whereas students were moderately (*n* = 13), very (*n* = 26), or extremely (*n* = 8) interested in research as a pathway for their future career.

Results were centered on student responses to three questions exploring their perceptions of hot topics in applied sport psychology today, their favorite applied sport psychology topics, and which applied sport psychology topics they are most interested to learn more about in the future. The top five most reported topics they perceived to be the most prevalent today were mental toughness/resiliency (*f* = 23), anxiety (*f* = 20), flow/peak performance (*f* = 19), mindfulness (*f* = 17), and a tie between coaching effectiveness and injury (*f* = 15) for fifth place. The top five favorite topics were injury (*f* = 19), athletic identity (*f* = 17), a tie between anxiety and motivation (*f* = 14) for third, youth development (*f* = 13), and mindfulness (*f* = 12). Finally, the top five topics selected for future learning were mental toughness/resiliency (*f* = 18), counseling (*f* = 17), athletic identity (*f* = 16), mindfulness (*f* = 14), and flow/ peak performance (*f* = 12). Notably, there was a three-way tie for future learning between injury, coaching effectiveness, and cultural competence (*f* = 10) for sixth place.

Further, when student participants were separated by degree being pursued (i.e., bachelor, master, doctoral), the most frequently selected topic was assessed relative to the three main questions outlined above. Undergraduate student participants considered both anxiety and mental toughness/resiliency (*f* = 9) as hot topics today, anxiety (*f* = 8) as their favorite, and mental toughness/ resiliency and mindfulness (*f* = 5) as the future topics to learn. Master-level student participants considered flow/peak performance (*f* = 12) as today's hot topic, injury (*f* = 12) as their favorite, and athletic identity (*f* = 9) as a future topic to learn. Finally, doctoral-level student participants considered mindfulness (*f* = 7) as today's hot topic, athletic identity (*f* = 6) as their favorite, and cultural competence (*f* = 7) as a topic for future learning.

Discussion

The present study assessed the past, present, and future dimensions of applied sport psychology research to identify the current trends in applied sport psychology topics. In so doing, the present study adopted a qualitatively driven mixed-method approach (i.e., iterative multi-cycle coding scheme) situated in the analysis of exemplar texts, AASP research journals, and students' perceptions and interests. These data were temporally triangulated to determine the contemporary hot topics in applied sport psychology. Twenty-two initial codes were discovered from the textbook analysis which informed the development of themes and codes from the journal content analyses. Through multiple iterations of coding, nine overarching themes were found (see Table 4). Of all the codes (23 total) and sub-codes (10 total), 13 emergent codes were distinct from the textbook analysis and consisted of: student training and mentoring, methodological considerations, consulting and consulting effectiveness, mental skills, self-talk, group and organizational systems, family and relationships in sport, maladaptive behavior, affective states, motor learning and training, character and moral development, self-regulation, and cultural diversity and inclusion. Notably, only one code (i.e., sport transition) re-emerged from the initial textbook analysis.

Prior research has identified several re-emergent and emergent themes regarding sport psychology research (Lindahl et al., 2015; Weiss & Gill, 2005). Themes such as sportsmanship and moral development, social development and significant others, and attitudes and motivation were expected to increase in popularity (Weiss & Gill, 2005), and more recent research has confirmed topics such as motivation, leadership, and

youth development have remained popular (Lindahl et al., 2015). The present study supports some, but not all, of these trends within applied sport psychology research. Generally, the theme social sport psychology yielded 27% of the total topics in our analysis and showed that the most popular topics were motivation, coaching, emotion, and youth sport (e.g., positive youth development). Our findings are in alignment with prior reviews (Lindahl et al., 2015; Weiss & Gill, 2005), apart from sportsmanship and moral development. To that end, instead of sportsmanship (or, what is now more commonly known as sportspersonship; Vallerand et al., 1997) and moral development being re-emergent themes within the broader area of developmental perspectives, applied sport psychology appears to have taken a larger interest in topics such as sport transitions and the development and transfer of life skills through sport participation.

When considering the primary differences between modern-day applied sport psychology topics and the general themes of sport psychology's past, topics in our study categorized under interventions and mental skills—codes that represented 25% of the published topics—appear to be a key emergent theme as compared to prior reviews in sport psychology (Lindahl et al., 2015; Weiss & Gill, 2005). For example, Lindahl et al. (2015) categorized research topics such as mental skills and sport psychology practitioners/consultants as smaller higher-order themes. Our current results of hot topics in applied sport psychology research represent slightly different trends compared to reviews focused more broadly on sport psychology research (Lindahl et al., 2015; Weiss & Gill, 2005). Put differently, the differences between the trends reported in sport psychology as compared to our applied sport psychology research reinforces previous claims that applied sport psychology represents a notable sub-discipline of sport psychology (Sly et al., 2020; Wylleman et al., 2009).

Of Weiss and Gill's (2005) emergent topics (e.g., issues surrounding measurement and exercise adherence), our review did not support or reflect the expected trend relative to measurement development and validation and interest in the adoption, maintenance, and adherence for physical activity within the AASP sponsored literature. Evidence for this is grounded in our results where the methodological considerations code and exercise psychology theme only accounted for 0.6% and 3.4% of the applied sport psychology topics, respectively. Though the field of sport psychology is now commonly known and accepted to be sport and exercise psychology, our results indicate that the emphasis in applied sport psychology is much more focused on sport rather than exercise. This finding is consistent with Lindahl et al. (2015) as they suggested research in the domain of sport psychology is highly skewed (i.e., approximately a 3:1 ratio) toward sport rather than exercise research. The lack of measurement-oriented and exercise-oriented topics may be related to publishing biases. That is, psychometric and exercise researchers may be publishing their work in other outlets that are more focused on including measurement and exercise psychology as opposed to the two AASP journals analyzed in the current study.

Student participants in the present study reported an interest in re-emerging topics consistent with the topics discovered in the journal content analyses (e.g., motivation, flow/peak performance), but also revealed a high degree of interest in pursuing careers in applied work. Johnson's prior empirical investigations have illustrated similar interests among Swedish students (Johnson, 2006; Johnson & Anderson, 2019). The students from three cohorts in 1995, 2005, and 2015 were also interested in motivation and other topics related to psychological skills training. However, students in the 2015 cohort were interested in health issues and exercise within the broader sport community (Johnson & Anderson, 2019), which was not reflected in the present study.

Even though student participants in the present study did not indicate interests within physical health issues, our findings do suggest they have interests in mental health issues. Specifically, student participants identified that counseling was a topic they would like to learn more about in the future, but verbatim topics in applied sport psychology research related to counseling were sparse. This finding parallels the rich discussion surrounding the need for practitioners to develop competencies in psychotherapy to effectively work in applied sport psychology (Sly et al., 2020). Previously, students have claimed applied sport psychology is strictly for elite athletes (Johnson, 2006), who are more at risk for developing mental health deficits such as depression and anxiety (Sly et al., 2020). A lack of counseling-oriented topics from the journal content analyses suggests more research is needed to further examine counseling competencies required so that applied sport psychology practitioners can ethically and competently adapt to the contextual complexities of applied settings (Sly et al., 2020).

Future Considerations for Applied Sport Psychology Research

Though variations were observed in applied sport psychology research compared to sport psychology research trends, it is important to consider topics that warrant future consideration to develop emergent empirical investigation in applied sport psychology research. First, despite frequently appearing as a topic in AASP conferences and other applied sport psychology-oriented platforms, mindfulness appeared only a few times in our review. In stark contrast, students rated mindfulness as a top five topic in all categories, which makes it one of the most popular student topics. It is important to note that mindfulness in sport is perhaps published more in other outlets for empirical research (e.g., Goodman et al., 2014) and reviews (e.g., Gardner & Moore, 2012) that would otherwise promote the popularity of mindfulness for applied sport psychology. Given the high student interest and the relative fit within the scope and mission of AASP research journals, mindfulness will likely become an emergent topic in applied sport psychology research. For example, a special issue on the application of mindfulness for performance enhancement in sport has been recently published (see review by Zhang & Baltzell, 2019). Therefore, future research should continue to investigate mindfulness and sport performance as an emerging hot topic for applied sport psychology research.

A second finding that was not prevalent in applied sport psychology research involved cultural diversity and inclusion. The several modifications to this code during the multiple iterations of analysis reflect the growing debate in applied sport psychology regarding the appropriate terminology that describes cultural competence (e.g., Schinke et al., 2016). That said, most of the topics found under cultural diversity and inclusion were related to gender, disability, athletic identity, and body image. Only two papers focused on gender and sexual minorities (Mattey et al., 2014; Morris & Van Raalte, 2016). Relatedly, only one paper focused on racial identity (Kamphoff et al., 2010). While Kamphoff and colleagues (2010) focused on racial identities, the study broadly examined cultural diversity from abstract submissions across AASP conferences. Further, athletic identity and body image were coded under cultural diversity and inclusion due to their respective focus on one's perceived self and its connection to cultural identity (Kudryavtsev, 2016). This was also reflected in our analysis as the advanced students were interested in athletic identities (i.e., as a future topic to learn for master-level students; favorite topic for doctoral-level students) and cultural competence (i.e., as a future topic to learn for doctoral-level students). Therefore, we suggest future research should aim to incorporate more research on athletic and cultural identities in applied sport psychology.

Expanding on our findings that there is an overall lack of research on cultural diversity and inclusion but holds a large degree of student interest, Johnson and Anderson's (2019) students reported a need to conduct research across cultural variations to comprehend how to provide prosocial sport and exercise experiences for diverse individuals. Our finding that cultural diversity and inclusion is largely missing from applied sport psychology research is consistent with earlier examinations of the broader field of sport psychology research (Lindahl et al., 2015; Weiss & Gill, 2005). Given that current events related to racial inequalities in the United States and COVID-19 worldwide have sparked several instances of athlete activism and league-wide policy shifts, applied sport psychology as a field should consider the important role of research to support these social justice initiatives in sport. Therefore, researchers should continue to explore the intersections of cultural diversity and inclusion within applied sport psychology research.

Among the topics that did not fit broader themes and codes (i.e., other), the most salient were technology oriented. Perhaps this may be an indication of an emergent theme in applied sport psychology research as virtual technologies may be necessary moving forward due to the impact of the COVID-19 pandemic. For example, the trend has been generally recognized from Weinberg and Gould's (2019) textbook in that major changes between the sixth and seventh edition were based on the integration and use of technology in sport psychology (cf. Weinberg & Gould, 2015). That is, the most recent edition of the textbook (published after data analysis of the present study) discussed the important role of technology in applied sport psychology and featured research studies using technology in sport. Though research tools such as eye tracking technologies that assess gaze fixation (i.e., quiet eye; Vickers, 1996, 2016) and the NeuroTracker that assesses the efficacy to enhance perceptual-cognitive skills (Faubert & Sidebottom, 2012) are not new approaches to applied research, the virtual platform may be a new topic for empirical research regarding the application of technology to applied sport psychology research. The onset of research focused on virtual reality for sport and exercise appears to be a line of inquiry that is grant fundable (e.g., Feltz et al., 2014) and connected

to increases in performance and enjoyment (Murray et al., 2016). Applied sport psychology researchers should consider the impact of virtual consultations as compared to traditional face-to-face formats and the effectiveness of learning management systems for athlete learning and performance (e.g., Weinberg et al., 2012).

Strengths and Limitations

The current study adopted temporal triangulation to identify the evolution of hot topics in applied sport psychology from past (e.g., exemplar texts) to present (e.g., scholarly publications) while taking into consideration future perspectives (e.g., student perceptions). A strength to the design was the incorporation of our iterative multi-cycle coding scheme along with consensus coding to assess evidence derived from multiple sources of data. In doing so, threats to validity were reduced (e.g., researcher bias and reactivity; Maxwell, 2013). *JASP* and *JSPA* were the two journals used to represent the topics being published in applied sport psychology, and this decision was made due to the rigor of our coding procedures and how the two journals embody the nature of applied work. To that end, our study was limited in that we only incorporated topics from these two journals and caution is warranted for generalizing these findings outside the scope of North American applied sport psychology research. To address this limitation, future research should incorporate more applied sport psychology-oriented journals as they would expand the breadth of the topics being researched and published nationally and internationally.

Our study was further limited as the themes, codes, and sub-codes from phases one and two were not directly incorporated into phase three of the study. Though the predetermined set of topics within the student survey were generated through multiple iterations by the members of the research team, the design of phase three would have been strengthened if the topics were in direct alignment to the preceding phases to assess student perceptions. Nevertheless, due to the comprehensive nature of our qualitatively driven mixed-method approach, it is recommended that future research utilize the themes, codes, and sub-codes from the present study as base codes for future investigations. Altogether, researchers could expand upon the present study by using other applied sport psychology-oriented journals and explore other research designs that could be used to uncover hot topics in applied sport psychology (e.g., a quantitatively driven mixed-method approach).

Conclusion

The current study extended previous trends in sport psychology (Lindahl et al., 2015; Weiss & Gill, 2005) by discovering contemporary hot topics in applied sport psychology research derived from multiple data sources (i.e., textbooks, contemporary research, and student perceptions). Specifically, this research represents a step toward a more holistic understanding of the popular topics in applied sport psychology research. Educators and practitioners are informed through consuming knowledge generated within applied sport psychology research to better engage in applied sport psychology practices. To that end, our results hold the potential to inform all stakeholders (e.g., practitioners, educators, and students) within the applied profession and can be used as a framework to better understand the evolution of empirical research and interests within applied sport psychology.

Author Note

At the time of research, Dr. Goffena was a Doctoral student at George Mason University, College of Education and Human Development, 4400 University Drive, Fairfax, VA 22030, USA.

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Introducing #ResearchMountain: A Metaphor for Mentoring Student Research

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This paper introduces the concept of #ResearchMountain – a metaphor for conducting and mentoring research in sport, exercise, and performance psychology. First, the paper outlines the origins of #ResearchMountain, followed by a narrative description of specific #ResearchMountain locations corresponding with key steps of the scientific method. The locations of *Basecamp, Literature Forest, Preparing for the First Climb, Institutional Review Board Icefall, Ice Fields of Data Collection, Analysis Hill, Proposal Mountain & Defense Peak*, and *Dissemination Pass* are described in detail with instructional approaches to mentoring students in research projects. Benefits of using #ResearchMountain as a metaphorical approach are highlighted and narrative feedback from past student-climbers are shared

Keywords: narrative scholarship, #ResearchMountain, research mentoring

Welcome to #ResearchMountain. In the Twitter world, I am known as @DoctorSizzle and I will be your professional guide on this journey. It is my goal to help you understand the steps you, a novice #ResearchMountain climber, will need to take to successfully prepare and execute a rigorous research project. In this scholarly narrative, I will introduce you to #ResearchMountain, a metaphorical concept that presents a practical framework that both student "climbers" and mentor "guides" can use to navigate the mountain's challenging terrain. I am hoping this article offers a conceptual model that can be adapted for use outside of its original discipline – psychology of sport, exercise, and performance – for use in other domains. I am also hopeful that individual students, like you, can find meaning in #ResearchMountain as a metaphor to inspire your own research climb.

The Origins of #ResearchMountain

Around 2012, after a dozen years as university faculty, I noticed our students were struggling to make progress on their research alongside all other demands of an applied graduate program. Their teaching and consulting experiences were often exciting and novel, and the easiness of prioritizing their efforts in these domains over research was often justified because of the immediacy of both student and client needs, and the quick return on investment in applied experiences. In contrast, efforts in research were experienced as isolated and, at times, meaningless. I wanted to change the tone of these seemingly mundane and boring research experiences to joyful and epic. Quite a challenge, right?

As a student research mentor, or a guide on #ResearchMountain, I have always been practical in my approach. For example, balancing the quality of the research study, the student's skillset, and the intended timeline for graduation are all important considerations. I subscribe to the motto "a good research project is one that is finished and submitted for publication." I am also a visual person with a tendency for strategic thinking. I often found myself drawing out models to make sense of the variables students intend to study or creating tables and figures to make sense of results. As a researcher and an educator, I have always needed to see the big picture first, but I often find students getting stuck on the details. In my quest to entice students into putting the same effort into their research experiences as they did to teaching and consulting, I was searching for a metaphor and visual image to give us all the same "big picture." I also wanted this metaphor and image to provide a common path

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for my students to walk that would bring meaning and shared validation to the research experiences.

I soon sketched out a picture of a couple hills and mapped out various stages of the research process across the sketch. I liked the idea of "the climb" because doing research feels like hiking uphill much of the time. Also, we are all sport, exercise, and/or performance enthusiasts at our core, so the concept of moving and trekking up and around something seemed fitting, much like summiting is seen by some as symbolic of high performance and achievement. The fundamental stages of conducting research, including carrying out literature reviews, writing and defending a research proposal, collecting data, analyzing data, and preparing a manuscript for submission and presentation are nearly universal across different fields of study.

This draft visual found its way on a photo of the Himalayas in Nepal I had personally taken on a visit in 2014. Next, I created course materials (assignments and associated rubrics, lectures, and class activities) to guide students through each of the #ResearchMountain stages. Essentially, I mapped the scientific research process onto a photo of the highest mountains on Earth and used that as the backdrop for various courses and independent studies. What could be more epic than Mount Everest?! The culmination of this map allowed me to merge both my practical and philosophical approaches to guiding student research. I have been climbing #ResearchMountain up and down ever since.

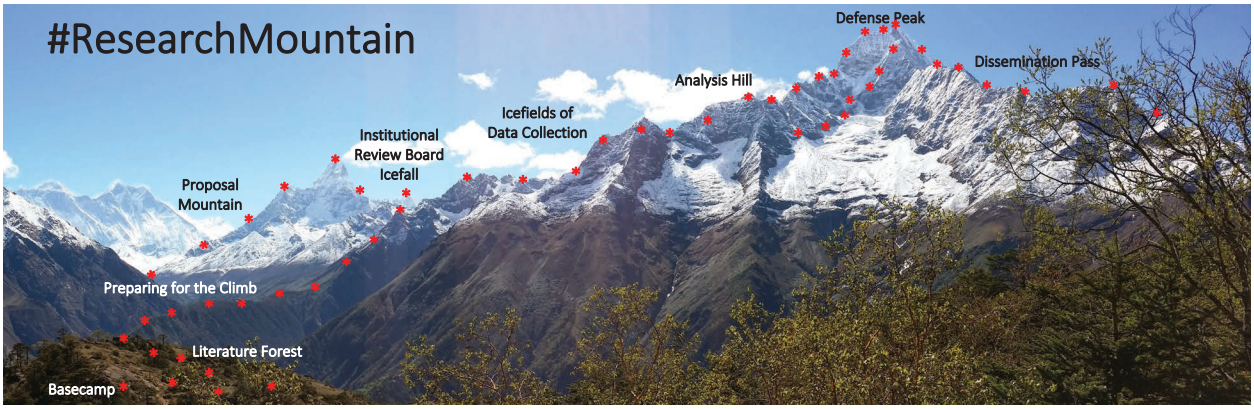
Getting to Basecamp: My Experience as a Mountain Guide

As a faculty member in one of the longest-running sport and exercise psychology (SEP) programs in the United States, I have been blessed with two decades of experience mentoring undergraduate and graduate students in their research. In addition to the undergraduate and graduate students I serve in sport and exercise psychology, I have also mentored students from athletic training, coaching education, physical education, and counseling psychology. My mentoring experiences to date include supervising numerous independent studies, teaching undergraduate research methods and graduate statistics to hundreds of students, serving on more than 60 graduate thesis or dissertation committees, and supervising more than two dozen of my own PhD students.

I have spent so much time on #ResearchMountain that eventually, I built myself a metaphorical cabin in a secluded section of woods overlooking a pristine mountain lake. I would invite aspiring student-climbers for a coffee or tea and to rest while they acclimated to the experience of climbing #ResearchMountain. Beautiful visions for future research projects have bubbled up in the space created in these mentoring moments. These shared philosophical and artistic experiences are some of the best parts of my job because of the challenge of the assignment (i.e., most students hate research methods and statistics) and because of the growth and insight I have witnessed in my students afterwards. Once students leave my cabin in the woods filled with caffeine and exciting new ideas, they often gather with their peers and process these conversations.

For me, creating a social climate where research is discussed and supported is a key component to a successful climb up #ResearchMountain. Talking research amongst peers can yield many positive benefits for both students and faculty (see Visek et al., 2020). Having a research culture with structure and support keeps students on track and can lead to greater satisfaction in graduate school (Tompkins et al., 2016). On one of

Figure 1. The Himalayas, Nepal; image taken in 2014.



my course evaluations, a graduate student comment affirmed the above by stating: "[#ResearchMountain] kept me accountable, the timeline and structure, and I think the feedback I received helped me become a clearer and more confident writer."

Locations on #ResearchMountain

When approaching #ResearchMountain for the first time, the good news is that there are trail markers all over, put there by former climbers. Signposts such as *be aware of large crevasses as you start to collect data, and attention – be kind to all Institutional Review Board (IRB) administrators*, to name a few, are firmly in place to alert new climbers. The paths along the mountain have been trampled by decades of dedicated researchers pursuing their own summit attempts. Another graduate student noted this benefit by sharing "Oh the joys of climbing #ResearchMountain… it was helpful in facilitating our learning process and providing a trail map of sorts." So, let's explore #ResearchMountain and its locations.

Basecamp

Before venturing out to search for relevant literature, gathering at Basecamp is an important step of the climb. It is where we, faculty and students together, make the necessary preparations for the climb up #ResearchMountain. The Basecamp metaphor makes a lot of sense to students, because planning and organization are necessary before any trip of significant length. At Basecamp, we discuss details of what needs to be accomplished (e.g., assignments, university requirements, committee structure, timeline) and how to approach the process of synthesizing literature, decoding results sections, and writing effectively in a clear voice. As part of the Basecamp preparation, students are required to pursue ethical training related to their research (e.g., protecting human research participants for social scientists). Depending on the research project and the level of student, Basecamp is a good moment to form intentional climbing groups if the planned research projects warrant a team approach. Basecamp orientation typically lasts for 1-2 weeks, just long enough for student climbers to be acclimated to the higher altitudes on #ResearchMountain. For independent studies and master's thesis projects with individual students, I recommend using Basecamp to clarify expectations and creating a basic contract for the work ahead. Having a contract helps students clearly see the specific work products and the timeline by which they are to be completed (e.g., produce a 12-15-page review of literature that integrates 20-30 quality sources by an agreed upon date), and clarifies expectations between the student and faculty.

Figure 2: Student climbers supporting each other on #ResearchMountain

At Basecamp, I often ask individual students or climbing groups to come up with a phrase that provides meaning to their upcoming climbing experience. These mottos can be useful for students when their motivation wanes, or when their efforts seem fruitless. I borrowed this strategy from my own very first intense research experience as a master's student. For our thesis research projects at the University of North Carolina at Chapel Hill, my colleague Matt Martens and I were fixated on graduating on time. We carefully reviewed the campus calendar for the last date it was possible to defend a thesis and still graduate in May. That date was April 23rd. Yes, I still remember it and to this day, Matt and I celebrate it annually like a national holiday. Our motto was "April 23rd is the salvation." It may sound a little absurd or even religious, but that motto fit the moment, and we plastered that phrase all over our department and in our apartments. Matt and I were united in our efforts. We shared the suffering of each step up #ResearchMountain. There was great value in that first journey up that I still appreciate today. The motivation of shared suffering has been noted by my own graduate students in their evaluations, such as this comment by a former PhD student: "Knowing everyone was in the same boat made this feel less like a grind and more exciting." One of my particularly perfectionistic PhD students developed the motto of "Good + Done = Perfect" to get around her worries about each draft having to be just right and the procrastination that accompanied her pursuit to perfection. Another PhD student selected a motto of "Slow motion is better than no motion" to emphasize the incremental nature of a long trek. There are many others – each powerful and meaningful in their own way. What will yours be?

Literature Forest

One of my jobs as a research mentor is to free students from worries, guilt, and other barriers that

impede the thing they must do – which is to write. Now, let's get onto the writing. The Basecamp preparations lead the students to the "forest" of literature. The journey through the Literature Forest typically starts with leisurely walks together, stopping and looking at a small group of trees (i.e., data-based journal articles on a particular topic area) and discussing the anatomy of each one. With faculty support, students learn to search for the right area of the forest (i.e., specific topic areas of research in high quality journals) and to take detailed "field notes" on each tree they find along their way. While in the Literature Forest, faculty and student discussions are also focused on how to evaluate the quality of each study and how to integrate and compare sources. As the student-climbers gain skills, they are encouraged to camp out overnight in the forest or, if they are a PhD student, to consider building their own permanent cabin for longer stays. Students are encouraged to "get lost" and to expect to occasionally lose hope in the seemingly endless search for the right trees. As any seasoned researcher already knows, gaining expertise on a research topic by scouring the literature is a critical, laborious step that cannot be skipped. Build a hut, warm yourself by the fire, get comfortable - you are going to be there a while. Short day trips are not going to get you very far, and there are few shortcuts. "Read to write" are common words of encouragement I use with my students, as is "let the evidence speak." After a successful stay in the Literature Forest, students learn how to get out of their own way (i.e., remove their opinions), and write about the literature in a clear, parsimonious way. Well, at least that is the goal anyway. As a #ResearchMountain guide, I do my best to provide specific feedback on writing and to help students understand that it takes time and multiple drafts to produce quality writing. This lesson about the iterative nature of scientific writing is usually not well-received, especially among undergraduate students.

Figure 3: Lessons learned while climbing the #ResearchMountain

One particularly studious PhD student encapsulated his time in the Literature Forest by quoting author Robert Frost: *"These woods are lovely, dark and deep. But I have promises to keep, and miles to go before I sleep, and miles to go before I sleep"* (Frost, 2001). This quote embodies the feelings of fatigue and isolation that can occur when wandering in the Literature Forest. Students often emerge from this darkness flush with new ideas on how to write about the literature or how to evolve the literature by proposing a new, innovative study. Their detailed field notes eventually serve as the source material for an introduction that provides a rationale for their study, a set of research questions, and a complete methods section that can be taken to an IRB and/or research committee for additional feedback.

Preparing for the First Climb

After emerging from the Literature Forest, students will leave the sheltered canopy of knowledge and expose themselves to the elements on #ResearchMountain. Building a new research proposal as part of their first climb is a usually daunting experience. In this #ResearchMountain location, the students encounter barriers and resistance, and their motivation will be challenged. Doubts start to creep in. One graduate student affirmed the struggle: "well this journey has definitely been uncomfortable, but growth doesn't come from comfortable." I have found that by preparing students to expect a difficult climb, though initially intimidating, helps them to understand that quality work takes quality effort, and through this effortful growth, their journey takes on meaning.

I believe one way to express compassion towards students while climbing the #ResearchMountain is to hold them accountable for doing quality work, which involves critically synthesizing literature and writing in their own voice. These are difficult things to do well, and I emphasize the iterative nature of writing. I often use examples from other industries, to illustrate the value of drafts, and how not to be attached to the words you write. They are, after all, just written words. I remember listening to an interview with Eddie Vedder (lead singer of the band Pearl Jam) when he was asked about song writing and how he knew if he was any good at that. He told a story about meeting a famous painter, who said her approach was to paint 100 paintings and then decide if she was any good at it. This idea is truly incredible and liberating! I suggest to students to simply focus on doing their best each draft and then wait to judge their skills until they have written 100 research papers, or perhaps never at all. Just be free and write. Personally, after

nearly 100 published journal articles and book chapters, I am still figuring out if I am any good at writing myself.

Institutional Review Board Icefall

The next location on the #ResearchMountain is an important "safety checkpoint" with a goal to ensure the planned climb up is well thought out and safe for all involved. A student's research proposal usually gets formally evaluated by a research committee and/or the university's IRB. These groups, usually consisting of established faculty researchers, evaluate the student's proposal for its potential contributions to the literature. The evaluators also make sure the research meets institutional policy requirements for things like: (a) benefits and risks to participants, (b) informed consent, (c) data protection, and (d) adverse events. Most institutions have different levels and processes of review depending on the potential methodological risk and the population being studied. The review process can take as little as a day or two for low-risk research or it can take weeks for a longer, more invasive intervention research involving protected health information or vulnerable populations.

Ice Fields of Data Collection

Once the research has received committee and IRB approval, students are free to climb up #ResearchMountain and begin their planned data collection on the sample population. This approval is usually quite exciting, which is exactly why the ice fields are an appropriate #ResearchMountain metaphor for this stage of the research process. Most students are not experienced ice skaters, so unexpected slips and falls are commonly encountered. Slips and falls can also lead to delays or changes in climbing plans, no matter how well prepared in advance. Students will need to be resourceful and persistent in getting up again, to ensure data collection is completed. Many things can go wrong in a research project, but if the data are a mess, then the results, and the rest of the climb will be meaningless. The simple principle of data collection should be "garbage in, garbage out." This frightening imagery helps students have realistic expectations about the process and to be extra careful during their recruitment and data collection efforts. If the student has spent adequate time in Basecamp and the Literature Forest, and they are willing to be persistent in their recruiting efforts, this part of the #ResearchMountain climb can go quite well. In addition to getting feedback from the committee or other seasoned researchers, pilot research is critical to identifying where the crevasses are for each specific study. Extending the analogy, this preliminary work helps the student lay a ladder across one or two crevasses to prevent falls. Having these "ladders" in place prior to starting data collection can improve the reliability and validity of the data and ensure data collection goes as planned, and helps the student climb up #ResearchMountain.

Figure 4: Not all #ResearchMountain climbs are a breeze

Analysis Hill

For data heads like me, Analysis Hill is one of the most exciting phases of the #ResearchMountain climb. There are few academic tasks as joyful and anxiety-provoking as the first look at the dataset. One thing that is tricky about #ResearchMountain is that although the trails are all clearly marked, depending on the method and size of the study, the length of time it takes to make it from point to point can differ dramatically. For example, I used a survey design for my master's thesis. I remember a long weekend where I did all of my descriptive and inferential statistical analysis. That section of Analysis Hill was short but steep. For qualitative projects I have led or supervised, the path up the Analysis Hill is not as steep but rather like a set of never-ending switchbacks. At this point in the process, students need to execute the plan they have laid out in their methods, then decide how to visually display their results (e.g., creating tables and figures). As a research mentor, I spend a lot of time with students in this phase making sure they are interpreting their data correctly and guiding them to appropriate resources for displaying their results. Once the analysis is complete, I encourage students to "stop at the top" of the Analysis Hill and take in the view. This pause is important. Students just hiked up a big hill and the view is gorgeous! It is important to savor the view and see how far you have climbed! Equally, the pause serves as an opportunity to "reset" yourself, rest, and get ready for the next climb up #ResearchMountain. Most students need to catch their breath and clear their minds so they can get out of the intricate details of Analysis Hill and see the broader patterns of results and how the patterns fit

with existing literature, to be able to write an effective and meaningful discussion section. This process requires a shift in both thinking and writing. I have found that letting the results section sit for a few days, or weeks, always produces a better discussion section.

Proposal Mountain and Defense Peak

For graduate students engaging in research as part of their degree (and even for undergraduate seniors pursuing honors or other research projects), research is typically guided, and ultimately approved by, a committee of several faculty members. When preparing for the first climb, these committee members contribute their expertise and intellectual property by helping students find literature, create research questions, identify an approach to assessment, and build a method section. Some committee members may also assist with participant recruitment or data collection, and some are chosen because of their ability to assist with data analysis and interpretation. My experience has taught me that committees always make a student's project better if the attitude of the student is *"all feedback is friendly"* (attributed to my mentor Dr. Ed Etzel).

How to build an effective committee is a topic for another narrative scholarship, but students should know that pleasing academics can sometimes be quite challenging. There can also be much frustration when there are "too many guides on the mountain." Ideally, the committee will provide the student with multiple perspectives, which forces the student to assert their expertise into the project, and consequently build a strong rationale for the decision making that informed the research study.

After a few weeks or months together on #ResearchMountain, my goal is to have provided the students enough tools and wisdom so they can navigate their own climb up #ResearchMountain with autonomy and confidence. As their guide, I like to be out of sight so they can appreciate the view without me in the way. I mean, who wants a selfie from the summit with my bald head in the photo?! In all seriousness, as a research mentor, I aspire to give just enough guidance and support that the student feels as though the entire climb up #ResearchMountain was their own. I want them to own their successes and failures, both of which are equally important learning tools. Other mentors, however, may prefer a different relationship with students – there are many ways to effectively guide students up #ResearchMountain, and my approach is only one. For students, it is good to ask your mentor about their guiding style and to inquire about their expectations, including things like authorship for presentations and publications (see Pearl 2 of Arvinen-Barrow & Visek, 2020 for further reading).

Figure 5: Ascending the #ResearchMountain

Dissemination Pass

We have all heard the saying, *"If a tree falls in the forest, and no one is there to hear it, does it make a sound?"* Sticking with this metaphor as it relates to #ResearchMountain, I ask: *"If you write a master's thesis or dissertation and no one reads it, did you really do anything?"* The last stage of the scientific method – dissemination – is often skipped on the way to earning graduate degrees. Unfortunately, many students engage in research projects to improve their resume and curriculum vitae and not necessarily with a goal to contribute to the literature. This, in more ways than one, is a missed opportunity to advance the field of sport, exercise, and performance psychology or any other discipline for that matter.

One important aspect of mentoring student research is to ensure students gain awareness of the collective community of researchers, past and present, in their area of interest. As a mentor, I want my students to feel part of that community, connected, and engaged in the shared pursuit of knowledge that helps those who would benefit from the research the student conducted. Becoming part of the collective research community is one of the great unseen benefits of doing research. When students arrive at the top summit and take their selfies, it is ok to rest a bit and simply admire the views in silence. Then, students need to be reminded descending down #ResearchMountain involves passing through Dissemination Pass.

Additionally, there is a hidden ethical issue with dissemination that is important for mentors to share

with their students. Any data-based project involves a burden on participants. This burden could simply be the time participants have taken to fill out a survey, or it could be more intensive involvement like participating in an interview or an intervention. Even a "short and simple" involvement like survey participation has the potential for harm, particularly with participants experiencing myriad of mental health conditions like anxiety, depression, and trauma. Summiting #ResearchMountain is a lot of work, and if the students merely write up their research to satisfy the requirements for their degree program but never publicly present or publish their findings, what benefit has emerged for those who participated in the research, or for the field in general (see Jackevicius, 2017)? One way we have addressed this issue at West Virginia University, at the graduate level, is to require submission of at least one manuscript as first author prior to awarding either a master's or doctoral degree. This requirement could easily be integrated into other types of research projects as well.

Go Tell It from the Mountain: Student Testimonials about Research Mountain

So far, I have led dozens of graduate students and hundreds of undergraduate students on treks of various lengths up and around #ResearchMountain. Many undergraduate students in research methods courses wonder why they even need research. My PhD students on the other hand know they must make the #ResearchMountain climb to earn their degree. Regardless of the level of student, and the research focused course I teach, I have a standard item on my course evaluations that asks the students to describe their journey on #ResearchMountain and any lessons learned.

What have students said about their experience on #ResearchMountain? Well mostly, and unsurprisingly, they talk about their suffering and how challenging it is to do research well. They also talk about the value of that struggle and the meaning they find in shared suffering and new skills learned. One undergraduate student commented: "The journey was long and challenging. It was well worth the pain and suffering that took place completing this project."

The students also seemed to embrace their "failures" and the specific feedback they received throughout the #ResearchMountain climb. One student noted that "the analogies which correspond to the course set an enthusiastic tone throughout the semester" while another stated that "the journey on research mountain has been the most beneficial of my entire college career."

Tweet Your #ResearchMountain

With a goal to engage undergraduate students and facilitate a research-focused social climate outside of the classroom, I have had success in using social media. For me, Twitter has been the preferred medium to share student successes and to encourage students to share their failures and successes. You can check out some of the tweets by searching #researchmountain on Twitter.

Table 1. Memorable Student Feedback from their Journey on #ResearchMountain

Undergraduate Student Feedback	Graduate Student Feedback
"The analogies which corresponded to the course set an enthusiastic tone throughout the semester."	"It really kept me accountable [the timeline and structure] and I think the feedback I received helped me become a clearer and more confident writer."
"Brought knowledge of the entire curriculum together… much different than other courses, but I will say that I did enjoy research mountain."	"Well, this journey has definitely been uncomfortable but growth doesn't come from comfortable."
"The journey on research mountain has been the most beneficial of my entire college career."	"Oh, the joys of climbing research mountain…it was helpful in facilitating our learning process, and providing a trail map of sorts."
"The journey…was long and challenging. It was well worth the pain and suffering that took place completing this project."	"Knowing everyone was in the same boat made this feel less like a grind and more exciting."
"The metaphors relating to research mountain made the class more fun."	

To evaluate the impact of including social media as part of the #ResearchMountain experience, I created specific questions for my undergraduate capstone course student evaluations across several semesters. These questions asked students about the impact of using Twitter on their motivation to do research, their connection with me as a course instructor, and an open-ended question about their personal experiences on #ResearchMountain.

The results from the evaluation research on #ResearchMountain showed a moderate effect on class participation and engagement in many students in the class. Themes that emerged from the evaluation research included: (a) validation for student frustration with research, (b) hard work, and (c) appreciation for shared experiences with their peers. Some students also described how using social media increased their joy and enthusiasm for the research process! To quote one student: "the metaphors relating to research mountain made the class more fun."

Although using Twitter as a means of enhancing the #ResearchMountain experience, it worked better for groups of undergraduate students than individual graduate students. However, some PhD students fully embraced the #ResearchMountain metaphor by creating their own avatars for a physical image of the #ResearchMountain (see image above, Figure 1) in their graduate student offices. The shared office space was appropriately named "Basecamp", and the avatars were used to show current locations of each of the students on #ResearchMountain that made their progress (or lack thereof) available to their peers.

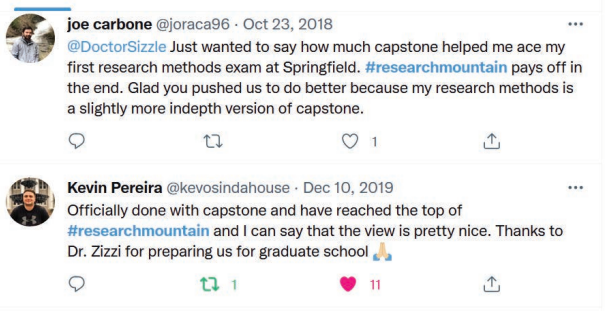
Final Words from Your Guide

In this paper, I have explored the realities and expectations of student research and why engaging students in research is worth doing. The framing of the research process as an epic climb on #ResearchMountain continues to resonate with many students. The concept I have created and presented here can be used as a framework for student research, both at the undergraduate and graduate levels. It can help faculty and students to: (a) shape initial expectations of what to expect from research, (b) identify specific steps necessary to succeed in research, and (c) appreciate the potential outcomes of that work. I have successfully used the #ResearchMountain metaphor in a range of undergraduate and graduate research projects including literature reviews, group-based empirical research projects, independent studies, and thesis and dissertation projects. Ultimately, the purpose of using the #ResearchMountain approach is to provide students both support and accountability to accomplish goals, earn degrees, and make a scientific contribution to the field.

All of us are indebted to past #ResearchMountain climbers who have built the knowledge base in our field. Their climbing efforts, and descents down through Dissemination Pass fills our textbooks and our classrooms. It is important students feel a part of this larger search for truth, as is helping them see the value of the skills they generate during the #ResearchMountain climbing process.

For the readers who are currently working on a research project, congratulations, you are already on #ResearchMountain! I hope you can identify with some of the metaphors and experiences described in this scholarly narrative and can find some inspiration for your own climb. For the readers who are mentoring students, please take and use anything here that you find useful. You will strengthen as a #ResearchMountain guide over time and find your own ways, not mine, to prepare for and approach the upcoming climb. The #ResearchMountain will remain long after we are gone. No one can claim ownership. I invite you all to join me, as spending time with students on #ResearchMountain is one of the best parts of my job. It is truly an honor to be trusted as a #ResearchMountain guide, and each year I continue to be humbled by the work ethic and passion of my students. Climb on.

Figure 6: Reaching a top of the #ResearchMountain



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