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"I Can't Imagine Not Being an Athlete": A Retrospective Qualitative Analysis of the Factors that Influence Sport Passion Development in Collegiate Athletes

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Athletes' motivation, well-being, and outcomes in sport are heavily influenced by passion, which can be conceptualized as either harmonious (HP) or obsessive (OP) (Vallerand et al., 2003). Although the effects of HP and OP have been repeatedly observed, factors that cause these passion types to surface have scarcely been studied (Mageau et al., 2009). The purpose of this study was to identify the major factors impacting HP and OP in collegiate athletes and note the differences in these pathways. Data collection occurred in two distinct phases: Phase I surveyed participants' sport passion levels, and Phase II selected athletes whose scores met certain criteria for follow-up interviews. During these interviews, the researcher explored each participant's sport journey from youth to college. Overarching categories identified from the athletes' rendition of their sport experiences were passion identifiers (enjoyment, time and energy investment, value), athletic identity ("I am an athlete" vs. "I am not only an athlete"), fulfillment/frustration of autonomy (autonomy support vs autonomy thwarting), perception of feedback (support independent of performance outcomes vs. pressure to perform well), and motivation (extrinsic vs. intrinsic). The main differences between groups were seen in enjoyment, extrinsic motivation, exclusive athletic identity, pressure to perform well, and autonomy thwarting. Implications from the study include that parents and coaches can foster the development of HP by providing ample autonomy support, encouraging intrinsic motivation and a well-rounded identity, offering more support than pressure, and explicitly communicating that support is not attached to contingencies.

Keywords: passion, harmonious, obsessive, collegiate athletes

Passion is an innate component of life experiences. It can provide purpose, incite motivation, promote well-being, and stimulate an enthusiastic commitment to a task or activity (Curran et al., 2015). In sport, passion plays an impactful role in one's engagement in an activity, value placed on an activity, and emotional attachment to an activity (Mageau et al., 2009). Therefore, passion likely plays a critical role in the achievement of collegiate athletes as they are required to juggle practices, workouts, and games (that often include multi-day travel) amidst their academic workload. In fact, passion

itself has been deemed a motivational force in activity engagement (Vallerand, 2008). Athletes most likely value and have a great desire to play their sport to overcome the abundant challenges that playing at the collegiate level presents. Although we might assume that collegiate athletes have a relatively high degree of passion, existing literature has seldom explored the process by which sport passion develops. A better understanding of the specific factors that engender and influence passion is needed to gain insight into the motives behind athletes' sport participation, which in turn may allow parents and coaches to shape the experiences of youth athletes from a more holistic perspective. This understanding can be achieved through considering factors that might influence passion development.

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Defining Passion

Prior to the 21st century, passion had mostly been studied as a philosophical construct, not a psychological one (Vallerand et al., 2003). However, Vallerand and colleagues pioneered the psychological investigation of passion, defining passion as “a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy” (p. 757). Though individuals are motivated in every activity in which they are involved, passion only manifests in a few central activities over the course of one’s life. Specifically, the more an activity resonates with an individual’s sense of self, the more likely they are to be passionate about it (Mageau et al., 2009). Vallerand would say that individuals who are passionate about an activity are not those who write, read, or play sports but rather are writers, readers, and athletes. The central characteristic of the activity to an individual’s identity parallels the athletic identity concept in the sport realm: “The degree to which an individual identifies with the athlete role” (Brewer et al., 1993, p. 237). In Brewer’s (1993) conceptualization, athletic identity is further described as containing three unique dimensions: “social identity” (the level to which they identify as an athlete), “exclusivity” (the extent they identify as only an athlete), and “negative affectivity” (negative emotional responses when not able to engage in sport).

In addition to general passion for an activity, Vallerand and colleagues (2003) generated a dualistic model that labels passion as being either harmonious or obsessive. Harmonious passion (HP) is facilitated by autonomous internalization of an activity in which the activity becomes part of an individual’s identity and cultivates a sense of personal enjoyment and freedom. Individuals who hold HP for an activity engage in it freely, without contingencies, and in harmony with other life domains. Conversely, obsessive passion (OP) stems from a controlled internalization of an activity in which participation in the activity becomes attached to contingencies (i.e., self-validation or social approval). Individuals with an OP for an activity oftentimes feel compelled to engage in the activity (regardless of dangerous consequences) and might feel that the activity is the only important thing in their life; consequently, they neglect other important life domains. Positive emotionality in sport can either be facilitated or hindered by passion; for instance, HP has exhibited significant predictive value for greater “enjoyment, vitality, life satisfaction, and happiness” (Stenseng et al., 2015, p. 1119). In contrast, OP has

been repeatedly correlated with unfavorable results in sport, and it is negatively related (or unrelated) to well-being, positive emotionality, and contentment with life (Stenseng et al., 2015). In general, studies examining passion and well-being suggest that HP is typically correlated to adaptive outcomes, whereas OP is related to more maladaptive outcomes (see Vallerand & Miquelon, 2007 for a summary). Even though much is known about the consequences of the differing types of passion, much less is known concerning the origin of passion.

Self-Determination Theory and Passion

The dualistic model of passion is rooted in self-determination theory (SDT; Deci & Ryan, 1985, 2000), a large-scale theory of human motivation that outlines three fundamental psychological needs—autonomy, competence, and relatedness—and illustrates how motivation can be fostered (or hindered) depending on whether these basic needs are met. Further, SDT contains several sub-theories that explain human behavior. One sub-theory in particular, organismic integration theory (OIT), is especially relevant to the internalization of passion into one’s life as it posits that individuals are motivated to engage in an activity for reasons ranging from autonomous or intrinsic (e.g., the love of the sport) to controlled or extrinsic (e.g., monetary rewards). Whether passion manifests harmoniously or obsessively depends on whether the activity is internalized in an autonomous or controlled manner (Curran et al., 2015; Mageau et al., 2009; Vallerand et al., 2003). If an individual feels self-actualized, capable, and supported in their environment, autonomous internalization likely occurs, in which the individual values the activity for the intrinsic satisfaction it brings and engages in the activity with a controllable desire (Mageau et al., 2009). However, if the environment is controlling, exceptionally taxing, and rejecting, the integration process can be impeded, and a controlled internalization of the activity may occur. In this case, OP would likely develop, in which the individual obligatorily participates—not for the activity itself but to fulfill a need, such as self-validation or seeking external social approval (Liu et al., 2011). In sum, SDT offers a clear explanation of how an individual may develop either harmonious or obsessive passion and points toward the influential role of intrinsic and extrinsic motivators in this process. However, motivation is not the only factor that is potentially instrumental in the development of passion.

The Role of Social Agents in Passion Development

Another key construct that could influence passion (general, HP, or OP) is the involvement and influence of others. For better or worse, parents and other significant social agents (e.g., family, coach, peers) can play a key role in the athlete experience. In fact, a multi-study project by Mageau and colleagues (2009) found that parental valuation of an activity was an influential factor in the development of both HP and OP. Parents who expressed the value of an activity ultimately instilled this valuation in their child, which in turn prompted the child to increase their time and energy investment in the activity. This greater value and investment enhanced the child's passion for the activity. Further, Mageau and colleagues (2009) deemed the degree of autonomy support present in an individual's social environment to be a critical variable in differentiating passionate people from those who did not develop passion for an activity. Individuals who had been provided ample autonomy support from parents, coaches, and other adults displayed optimal engagement in their activity (e.g., freely exploring it, enjoying positive emotions, and exhibiting creativity), which in turn fostered higher levels of passion.

In addition to general passion, Mageau and colleagues (2009) distinguished the role of social agents in the development of harmonious and obsessive passion. They reported that high parental valuation can cause some individuals to perceive pressure to participate, which likely promotes OP. In addition, parents who are overly involved in their child's activity experience often have controlling parental styles and may place demands on children to think, feel, and behave in a desired manner. Conversely, parents who support their child in an autonomy-supportive manner likely provide their children the freedom to express their opinions and emotions, invite them to participate in decision-making, encourage self-initiation, and provide insight into the reasons for certain requirements and procedures (Curran et al., 2015; Mageau et al., 2009). Mageau et al. (2009) observed that the nature of an individual's social environment (controlled vs. autonomy-supportive) could effectively predict the type of passion they would exhibit. The development of HP was linked with greater autonomy support, whereas the development of OP was associated with greater control from both parents and other adult leaders.

The multi-study project by Mageau and colleagues (2009) provided a foundation for what we know about

the development of passion, but other researchers have investigated several topics that parallel these factors with a focus on significant social agents. For example, Amado et al. (2015) found that parental support was a predictor of need satisfaction, intrinsic motivation, and sport enjoyment, whereas parental pressure acted as a hindrance to these processes. As these factors have been previously discussed as impacting the development of passion, it can be assumed that parental support and pressure can impact the development of general passion, as well as influence the type of passion that athletes develop for sport. Additionally, a recent study on retired elite athletes identified supportive coaching relationships as imperative to athletes' motivation and need satisfaction (Sauvé et al., 2022). Athletes who perceived unsupportive behaviors from their coaches reported experiencing a negative impact on their motivation and well-being (described as relating to basic need fulfillment). Again, an assumption can be made that a negative impact on these constructs may also mean a negative impact on the development of passion.

Context of Passion Development: Individual vs. Team Sports

In addition to how supportive others might influence passion, the sport context might itself influence this process. In support of this concept, Kovacsik et al. (2020) found that athletes in individual sports reported lower levels of HP than athletes in organized team sports. Further, they found that the correlation between OP and exercise addiction was twice as high in individual sports compared to team sports, indicating not only that passion levels may be different in these contexts, but the influence on other constructs might also differ. The researchers suggested that as team sports have factors that individual sports do not (e.g., shared success, unified ambition, and necessary collaboration as critical components of their social context), team sports might promote greater HP levels compared to individual sports (Kovacsik et al., 2020). Due to this initial study, we believe it would be worthwhile to investigate the influence of the development of passion specifically in athletes who participate in individual-level sports (e.g., track & field, tennis, gymnastics).

Addressing the Gap in Research

As mentioned previously, study of the development of passion is still in its early phases, and researchers have urged further exploration of this topic (Mageau

et al., 2009). This investigation, focused on high-level, individual sport athletes (Kovacsik et al., 2020), sought to explore collegiate athletes' past sport experiences with a specific emphasis on the factors that promoted their sport passion development in terms of general passion, HP, and OP. Increased research on the development of passion would benefit the field of psychology by providing a more thorough understanding of how to stimulate the development of HP (and prevent the occurrence of OP) in athletes, which could lead to more improved sport and holistic outcomes.

The current study had two purposes. First, we aimed to identify major factors that contributed to the origins of passion in collegiate athletes. Second, this study sought to determine key differences in this development that promoted one type of passion to develop over another (i.e., harmonious or obsessive). Therefore, the research study had two primary research questions: 1) What factors influence the development of passion in collegiate athletes who participate in individual sports; and 2) what are the differences in these factors for athletes who have been identified as either harmoniously or obsessively passionate?

Method

Positionality and Paradigmatic and Methodological Perspective

Our use of reflexive thematic analysis (Braun & Clark, 2006) requires a brief overview of our positionality and paradigmatic and methodological perspective. Recently, Braun and Clark (2019; 2023) indicated that the researcher's role in knowledge production and clear perspective-taking is one way to increase the transparency of the project. We recognize that positioning the experiences and identities of the researchers is another important step in qualitative research, as each of these aspects can impact data analysis (Charmaz, 2014). The research team consisted of three individuals who were all familiar with the sports environment from their past sports experiences. Specifically, researchers participated in sport at several levels (e.g., Division I collegiate athlete, high-level elite club athlete, high school athlete), with two of the researchers also serving as coaches once they retired from sport (e.g., elite-level coach, community-based sport coach). Two researchers' areas of study focused on coursework that included both kinesiology and psychology, with the final researcher having a background that included advanced degrees in sport and exercise psychology. These diverse backgrounds, as

well as the diversity in ages of the researchers, helped to increase the level of discussion during all aspects of the research project (e.g., creation of the interview guide, analysis, write-up). It also provided multiple viewpoints, which more homogenous research teams often lack.

In terms of the research team's paradigmatic beliefs and assumptions regarding qualitative science and the philosophy of science, we do not fully align with any one particular paradigmatic view or perspective. However, the perspective we most closely align with is the constructivist paradigm (Creswell, 2013). In this framework, we recognize that knowledge is constructed through social interaction and that reality is subjective and context-dependent. Our understanding of the research topic was influenced by our own experiences, beliefs, and values, which shaped our perspectives and guided our inquiry. By employing a constructivist framework, we sought to explore the multiple perspectives and interpretations from the interviews. Principally, we acknowledged the importance of reflexivity and self-awareness in recognizing our own biases and assumptions. We also implemented both individual (e.g., reflexive diaries, interview field notes) and collective (e.g., research team meetings) tools for reflexivity over the course of the study and engaged in ongoing critical reflection throughout the conceptualization of the project, interview process, analysis, and write-up of results. It is important to note that while our research was situated within a constructivist framework, we recognize the existence of other valid theoretical perspectives and alternative ways of understanding the research topic. Our goal was not to assert an ultimate truth but rather to contribute to the ongoing dialogue and understanding of the subject matter within the constructivist paradigm.

Our study aimed to take a generic qualitative design (Percy et al., 2015) in which we investigated collegiate athletes' subjective opinions, attitudes, beliefs, and/or reflections on their sport experiences with a particular focus on their sport passion during their athletic careers. As Percy and colleagues (2015) have indicated, we believe this approach is ideal for two main reasons: 1) this approach is well suited for mixed methods studies, and 2) we, as researchers, have a body of pre-knowledge about the topic but aim to describe the process more richly from the participants' perspectives. Further, as the study was largely exploratory, we also quantitized (Sandelowski et al., 2009) codes to explore whether patterns existed in the experiences between groups. As Sandelowski et al. (2009) have indicated, qualitative data may be converted into quantitative

data to help identify idiosyncrasies or facilitate pattern recognition. We recognize that the process of counting data patterns can be subjective; therefore, we do not want these quantitative representations to be considered anything more than a note to inform future studies that explore the development of sport passion. Our ultimate goal was to highlight the athletes' perspectives of passion development across their sport experiences and note the commonalities and differences amongst the individual narratives of HP and OP athletes. Utilizing generic qualitative inquiry allowed us to better understand athletes' experiences because we were able to identify patterns and differences between their narratives more concretely. In addition, our use of quantitative surveys to select participants allowed us to investigate the groups of interest instead of assessing a larger sample who might not hold the characteristics of interest.

We used a few steps to maintain the rigor of the data analysis process:

1. Ensuring all three members of the research team had proper training in qualitative research and data analysis.
2. Following researcher reflectivity guidelines (Creswell & Miller, 2000), we discussed how our past experiences and current perceptions of the youth sport environment might influence our analysis and conclusions drawn from the interviews.
3. Using peer debriefing whereby researchers independently coded meaning units, then jointly discussed meaning units and formed themes and subthemes until consensus was reached. This phase helped the investigative team reflect on the data and their interpretations of it and ensure the data representation was an accurate account of what athletes spoke about in their interviews (Creswell & Miller, 2000).

Procedure

Following IRB and athletic department approval, we conducted the study in two distinct phases to better investigate individuals with specific passion profiles and compare their past sport experiences. We decided to include only individual sport athletes in our sample per the findings of higher rates of OP among individual sport athletes (Kovacsik et al., 2020). Phase I of data collection took place during a team meeting where participants completed surveys to assess their levels of sport passion. During this data collection, the first

author informed the potential participants of the study's purpose, that their participation was optional, and measures that would be taken to ensure anonymity and confidentiality. Willing participants provided written consent and completed the survey individually. At the conclusion of the survey, participants could opt to include contact information to be considered for follow-up interviews concerning the primary research questions if their scores fell into one of the groups of interest.

From those athletes who provided follow-up contact information, we began Phase II. We purposely invited participants who fit the criteria of high HP/low OP (group 1; labeled "HP athletes") and high OP (group 2; labeled "OP athletes") from the larger sample to be interviewed concerning the study's primary research questions. Specifically, from the total sample, two subsets of participants ("HP athletes" and "OP athletes") were derived by investigating individual means on the harmonious and obsessive passion subscales. Participants with high levels of HP (e.g., scores at the 85th percentile or above) and low levels of OP (e.g., scores at the 25th percentile or below) were classified as "HP athletes." As sample participants who scored high on OP also scored high on HP, we classified those individuals who scored highest on OP (e.g., scores at the 85th percentile or above) from the sample regardless of HP as "OP athletes." For these athletes, an interview guide was created using existing knowledge of potential factors that could influence passion development (see literature review for reference). All participants provided verbal consent prior to interviews and were informed of procedures to ensure the confidentiality of their responses (e.g., names would not be used in data analysis, and recordings would be stored on a password-protected computer file).

Participants

In Phase I of the research process, 65 participants completed surveys that included demographic information and the Passion Scale (Vallerand et al., 2003). Participants were a mix of all grades (freshman $n = 12$; sophomore $n = 16$; junior $n = 14$; senior $n = 16$; other $n = 7$), had more female ($n = 44$) than male athletes ($n = 21$), were primarily Caucasian ($n = 41$), and were drawn from a variety of sports including track and field ($n = 17$), gymnastics ($n = 17$), tennis ($n = 16$), and golf ($n = 15$). For Phase II of the research process, five participants from each group (HP athletes, OP athletes) were interviewed ($n = 10$). Participants included nine female athletes and one male athlete from a variety of

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sports (track and field, $n = 5$; tennis, $n = 3$; gymnastics, $n = 2$). See Table 1 for the full demographics of each of these participants. The first author conducted all the interviews ($M = 64$ minutes; range 40 – 98 minutes), which took place in-person and were digitally recorded and transcribed.

Measures

Phase I

The Passion Scale (Vallerand et al., 2003) was used to measure General Passion, HP, and OP. This scale contains three passion qualifiers (General Passion), six questions related to HP, and six questions pertaining to OP, with all questions scored on a 7-point Likert scale (1 = “Do not agree at all”, 7 = “Completely Agree”). Sample items from the scale include: “My sport is important to me” (General Passion), “My sport is well integrated in my life” (HP), and “I have the impression that my sport controls me” (OP). Scores were averaged for each of the subscales to provide mean General Passion, HP, and OP values. Previous studies have demonstrated validity and reliability across all subscales (Marsh et al., 2013; Vallerand et al., 2003). For the current study, adequate Cronbach’s α were attained for all three subscales (general passion $\alpha = .85$; HP $\alpha = .83$; OP $\alpha = .85$).

Phase II

The semi-structured interview guide was designed to provide athletes with a setting where they could reflect on their past and current sport experiences, their change in motivation and passion over time, and the influence of various significant social agents in their sport participation. To design the survey, the research team used self-determination theory (Deci &

Ryan, 1985; 2000) and previous literature focused on the factors related to passion (Mageau et al., 2009; Vallerand et al., 2003) as a guide to investigate aspects most likely to influence the development of passion. The guide focused on a range of topics, including general sport background (e.g., “Can you remember why you started playing sport?”), sport motivation (e.g., “What were your motivations for sport in middle/high school?”), identity (e.g., “For many athletes, sport is something that they do (play sport), and for others, it is a central part of their identity [I am a gymnast]. If you had to say you were one or the other, what would you say, and what made you choose that option?”), general passion (e.g., “Describe the value you place on sport”), types of passion (e.g., “After reading definition of HP and OP: Which aspects, if any, of these definitions do you identify with in your sport experiences?”), and impact of others on their sport experience (e.g., “When considering your youth sport experience, can you describe how your coaches [or parents/peers] interacted with you?”). Our aim was to explore athletes’ experiences, so the interviewer was encouraged to ask follow-up questions to fully understand the factors that influenced their youth sport background.

Data Analysis

For quantitative data analysis, means and standard deviations were calculated for each participant and the sample. From these results, athletes were classified and invited to participate in follow-up interviews for purposive sampling. For qualitative data analysis, we utilized reflexive thematic analysis as a general framework for data collection (Braun & Clark, 2006; 2019; 2023). The primary data used in the thematic analysis were verbatim transcripts of the digital recordings of the interviews (Miles & Huberman, 1984). After

Table 1. Interview Participant Demographics

	Pseudonym	Sex	Scholarship	Age	Class Standing	National Origins	Sport	Harmonious Passion	Obsessive Passion
1-OP	Mary	Female	Full	20	Junior	International	Tennis	7.00	6.50
2-OP	Claire	Female	None	18	Freshman	Domestic	Track and Field	6.50	6.83
3-OP	Philip	Male	None	21	Sophomore	Domestic	Track and Field	6.50	5.67
4-OP	Abby	Female	Partial	18	Freshman	Domestic	Track and Field	6.00	6.83
5-OP	Samantha	Female	Full	22	Senior	Domestic	Track and Field	6.83	5.50
6-HP	Peyton	Female	Full	18	Freshman	Domestic	Gymnastics	7.00	3.00
7-HP	Amanda	Female	Partial	22	Junior	International	Track and Field	7.00	1.50
8-HP	Beth	Female	Full	20	Junior	International	Tennis	7.00	1.17
9-HP	Amy	Female	Full	23	Sixth year	Domestic	Gymnastics	6.83	3.33
10-HP	Ellen	Female	Full	20	Sophomore	International	Tennis	7.00	3.17

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reading each transcript repeatedly to become familiar with the data, we identified meaning units that most adequately represented the athlete's experience (Dale, 1996) and organized them with a software program, Dedoose. Even though we created the interview guide with information derived from the SDT and passion frameworks, we employed an inductive coding approach. Through inductive coding, we were able to identify the meaning units directly from the data rather than from preconceived ideas. This approach allowed us to make meaning of the qualitative data and tell the story of participants (Braun & Clark, 2019; 2023). During the open coding of meaning units, we used a combination of in vivo codes using participants' own language and descriptive codes (i.e., summarizing the content) to best illustrate the perspectives of our participants.

After completing the open coding phase, we engaged in axial coding, which allowed us to organize and connect meaning units into broader categories and themes. Ideally, a comprehensive understanding of the topic is best illustrated by the relationships between the codes (Braun & Clark, 2019). Throughout this process, we tried to identify overarching categories that

captured the essence of the data while still preserving the complexity and uniqueness of individual codes. The first and second authors completed the data analysis together with guidance from the third author. Discussion between coders allowed for the categories to be created collaboratively and reflexively for a richer, more nuanced reading of the data (Braun & Clark, 2019; 2023). In this stage, we also searched for themes that demonstrated meaningful patterns in the data (Braun & Clark, 2006). Further, to highlight the experiences of the HP and OP athletes, we noted the frequency of meaning units in each theme and reported those in Table 2. It is important to note that Table 2 does not demonstrate significant differences between the groups; rather, it serves to provide a more complete picture of each group's experiences. The use of numbers in Table 2 is, as Maxwell (2010) stated, made to supplement the richness of the interview data and "complement the participants' perspectives in providing a clearer and more in-depth understanding of what's going on in a particular setting" (p. 479). Again, reporting frequency was not to show that these differences exist in every case but rather for the researchers to show "regularities or peculiarities

Table 2. Codes of All Topics

Overarching Category	Themes	Subthemes	HP Frequency	OP Frequency
Passion Identifiers	Enjoyment	Enjoyable Elements of Sport	22	18
		Sport Components that are not Enjoyable	4	9
	Time & Energy Investment		8	12
	Value		11	8
Athletic Identity	"I am an athlete"	Individuals Identify Solely as an Athlete	4	9
		Sport is One Critical Piece of Individual's Identity	10	10
	"I am not only an athlete"	Identity is Comprised of More than Athletics	4	18
		Shift to More Well-Rounded Identity	4	3
Fulfillment/ Frustration of Autonomy	Autonomy Support	Explained Rationale/Open Communication	5	16
		Involved in Decision-Making Process	10	9
		Provided Adaptable Challenge	8	3
	Autonomy-Thwarting	Autocratic Decision-Making	5	12
		Controlling Behavior	2	2
Perception of Feedback	Support Independent of Performance Outcome		36	38
	Pressure to Perform Well	Pressure Imposed on Self	3	12
		Pressure Received from Others	8	16
Motivation	Extrinsic	External Recognition/Comparison	17	34
		Validation from Others	11	24
	Intrinsic		20	22

in qualitative data they might not otherwise see or be able simply to communicate” (Sandelowski et al., 2009, p. 210).

In addition to the initial coding, a second phase of coding was conducted after the researchers received feedback from the first round of the peer review process. During the peer review process, reviewers suggested re-investigating the data to search for greater connections between the meaning units and themes. This suggestion led the research team to re-analyze the coded data to decrease the number of themes and increase the parsimony of the results. Following this second round of coding, several of the themes were recategorized into the final themes presented throughout the results and in Table 2.

Results

Phase I: Quantitative

Participants in the total sample scored very high on general passion ($M = 6.57$), high on HP ($M = 6.16$), and moderate on OP ($M = 3.57$). In terms of the two subsets of participants, the participants in the harmonious group had higher levels of general passion ($M = 7.00$) and HP ($M = 6.97$) and lower levels of OP ($M = 2.43$) than the total sample. The OP group also had higher levels of general passion ($M = 7.00$) and HP ($M = 6.56$) than the total sample but also had much higher levels of OP ($M = 6.26$).

Phase II: Qualitative

Through the analysis of the interview transcripts, we identified five overarching categories in the athletes’ sport journeys that were related to their sport passion: passion identifiers, athletic identity, fulfillment/frustration of autonomy, perception of feedback, and motivation. In addition to the five overarching categories, we also noted several themes and subthemes represented in the overarching categories (see Table 2). A brief overview of each overarching category, theme, and relevant subthemes will be subsequently provided.

Passion Identifiers

Interview participants discussed several ways in which they perceived their sport passion to surface. We identified three main themes (with one theme having two subthemes) during data analysis to encapsulate these passion identifiers: (a) Enjoyable areas of sport (or sport components that are not enjoyable); (b) Time and energy investment; and (c) Value. In terms of enjoyable areas of sport, every athlete spoke about positive

emotions evoked by their sport or about a general love for their sport, even when it was challenging. Abby (OP) stated, “When you are [doing your sport], it is like nothing else matters. Yeah, you could have a bad [rep], but at least you got to do it, right?” Conversely, several athletes discussed sport components that they did not enjoy. Although this subtheme was observed in athlete interviews from both groups, it was seen twice as frequently in those from the OP group (see Table 2). One example of non-enjoyable sport components was cited by Ellen (HP): “I don’t want to do this anymore. I’m not enjoying it.” Participants frequently spoke about the time and energy they invested in their sport. Peyton (HP) said, “A lot of my time goes into [sport]. I think of myself sometimes as an athlete-student because . . . I just think of [sport] as the main part of my day, and everything else is just extra stuff,” indicating the extra time and effort sport requires. Finally, athletes explicitly communicated that they possessed a high value for their sport with the focus on not taking the time for granted. For example, Claire (OP) said, “. . . you don’t know what you have until it’s gone. And I learned that the hard way . . . so here I put a lot of value into it because I know what I have.”

Athletic Identity

Athletic identity appeared as an overarching category in the interviews conducted. Athletes discussed concepts related to athletic identity that aligned with the two dimensions of Brewer et al.’s (1993) conceptualization of athletic identity: social identity and exclusivity. Within the idea of athletic identity, we identified two themes the “I am an athlete” perspective (e.g., athletics was the most/only thing important to me) that partially aligned with the exclusivity aspect of athletic identity and the “I am not only an athlete” (e.g., sport is one piece of my identity) perspective that aligns with the social identity aspect of athletic identity.

“I Am an Athlete.” Within the “I am an athlete” theme, two unique subthemes were identified: individual identifies solely as an athlete, and sport is one critical piece of identity. Several participants felt their identity was solely defined by athletics; for instance, Abby (OP) stated, “. . . my identity is (sport) 100% of the time, and so, if I’m not doing that, it’s like, I don’t know . . . I don’t feel like myself.” These athletes discussed needing their sport to feel complete and that their personality and daily activities revolved around sport. Ellen (HP) expressed, “I feel like when I was younger, say 14, 15, 16, I was [sport, sport, sport, sport] and nothing else. It was tunnel vision. . . . I loved it, but everything was about that.” Some degree of identity exclusivity was

present in both groups, but the OP group had a greater prevalence (see Table 2). In terms of the sport is one critical piece of identity subtheme, Abby (OP) explained that being an athlete gave her a uniqueness and a place in her family, and said, "I fell into that athlete kind of mold because that's just how our little sibling trio was set up." Overall, the OP group identified solely as an athlete more than the HP group, and their sport was more intertwined with their identity overall.

"I Am Not Only an Athlete." We identified two subthemes within the "I am not only an athlete" theme: identity is comprised of more than athletics and shift to more well-rounded identity. In terms of identity being comprised of more than athletics, family seemed to be an important part of helping athletes view themselves as having other identities associated with their lives. For example, Abby (OP) said, "My mom is actually really good at reminding me that I have other things going on for me other than (sport)." In discussing the shift to a more well-rounded identity, Ellen (HP) said,

. . . now, with a big effort in school and I want to be a good friend, and I want to be a good daughter. And I don't know, I've become more than that (an athlete) now. I think my view of my life is, okay, I'm not just a (sport) player, I have other attributes.

Similarly, Amy (HP) talked about a moment her identity evolved, saying,

When I went to write my résumé, I saw all of the other things that I had done, and I really came to see how much other parts of my identity I had going for me besides (sport). Even though that's certainly a really big part of my life, I saw that it's only a slice of the pie.

Both groups showed a shift in identity to a more well-rounded view of themselves at some point in their sport history.

Fulfillment/Frustration of Autonomy

During interviews, participants addressed times when they perceived their basic need of autonomy to be supported or thwarted during their sporting experiences. In terms of significant social agents, collegiate athletes discussed the influence of coaches more frequently than parents, as coaches had more direct involvement in sport experiences. Across both groups, participants mentioned autonomy-supportive behaviors more frequently than autonomy-thwarting behaviors; however, discussions of autonomy-thwarting were nearly three times higher in the OP group than for the HP group. Regarding autonomy support, three subthemes were identified during data analysis: explained rationale/open communication, involved athletes in the decision-making process, and

provided adaptable challenge. Concerning the autonomy thwarting behaviors, two subthemes were identified: autocratic decision-making and controlling behavior.

Autonomy Support. Collegiate athletes spoke fondly and admirably of coaches with whom they felt they could communicate safely and openly, express opinions and emotions, and collaborate on training protocol and decisions. Claire (OP) declared that she "probably wouldn't be here" without having coaches that "you could talk to about things that you're struggling with, and they will listen to you when you're explaining how you're feeling mentally, physically . . . and give you good advice." Another participant, Abby (OP), expressed gratitude that her current collegiate coach regularly asks for her feedback (i.e., "How did that feel?" or "Why did that happen?") instead of yelling at her for a mistake she cannot take back. Abby stated, "We definitely have more communication because he never just wants to be like, 'That was wrong. Do it right.' It's like, 'Let's figure out why you did that.'" Furthermore, several athletes expressed the value of coaches allowing decision-making involvement in learning how to stand up for beliefs later in their careers. When considering her college experience thus far, Beth (HP) remarked,

We all come from different places; we've all had different training. And so, I've definitely been more comfortable with pushing back and not so much with just people-pleasing. And that's been a growing experience . . . not just saying 'okay,' but 'why?' . . . Because ultimately, it's for the best of the team, not just to make somebody happy.

Participants also discussed the benefits of coaches providing adaptable challenges, in which coaches pushed athletes to an appropriate degree (i.e., not causing undue stress) while adjusting their coaching practices according to each athlete's current situation. For instance, Peyton (HP) spoke of past coaches who would give them tough assignments but recognize when the athletes needed a break. She said, "It never got to a point where we were suffering or the coaches kept pushing us because we were afraid to speak up." The description of this adaptable challenge aligned with athletes' discussions of an overall autonomy-supportive sport environment.

Autonomy Thwarting. A majority of the athletes also voiced experiences with coaches who engaged in autonomy-thwarting behaviors. Participants indicated several coaches made them feel unvalued, controlled, or unsafe to communicate candidly and made decisions unilaterally without any athlete input. For example, Claire (OP) recalled a coach she felt unable to have a productive conversation with and said these types of coaches ". . . don't value your side [of the story]." Another

participant, Amanda (HP), spoke distastefully of a past coach who had attempted to control her life outside of sport, stating,

One time I remember I finished practice and I left like immediately, and he called me, and he was like, 'If you ever leave practice again to rush and to go see your boyfriend, I will kick you out of the team.'

Moreover, Peyton (HP) and Claire (OP) both depicted autocratic decision-making from past coaches, respectively saying: "[Coach] never gave me a clear explanation as to why [a decision was made], and she never even made an attempt to," and

[Coach] would give us workouts or have a practice that just didn't make any sense. And there were a couple times where I've been like, 'Why are we doing this?' . . . and he wouldn't explain to you why. If they can't explain what they're doing and why they're doing it, they're not doing it right.

Overall, the OP group mentioned autonomy thwarting twice as frequently as the HP group (see Table 2), indicating that a lack of autonomy support could be an influential factor in whether an individual develops HP or OP.

Perception of Feedback

Athletes in the study spoke about the feedback they received from others and how that impacted their own expectations of sport performance and continuation in sport. Specifically, we identified support independent of performance outcomes and pressure to perform well as major themes from the participant interviews. Athletes perceived the feedback they received from parents and coaches as either supportive in nature (regardless of performance quality) or as pressure on them to perform well in their sport. Moreover, some athletes mentioned that they perceived support from others in a way that created self-imposed pressure to perform. Within the theme of pressure to perform well, the research team identified two subthemes: pressure received from others and pressure imposed on self. Whether it was support independent of performance outcomes or pressure to perform well, both groups demonstrated that most of the influence came from parents and family members. There was evidence that coaches provided some of the support and pressure, but athletes cited parents much more frequently in both aspects.

Support Independent of Performance Outcomes. Athletes discussed perceived support broadly, and thus it was developed as a single theme with no subthemes. Some mentions of perceived support included tangible support (e.g., driving them to practice and games),

financial support (e.g., money to participate), and emotional support (e.g., "If I wanted to be a swimmer, she would be happy that I was a swimmer. If I wanted to be a freaking golf player, she (mom) would have been happy" -Beth). Beth (HP) cited a combination of support (emotional and tangible) and said,

She's (mom) motivated me to try everything and play every tournament I can. Yeah, I suppose knowing that all the work she's done when I was younger, it motivates me to kind of like pay it back almost by trying my hardest, I suppose.

The frequency of mentions of support did not differ prominently between the HP and OP groups; however, participants' consistently indicated that perception of support was a key influencer to athletes' overall passion levels.

Pressure to Perform Well. Both groups reported that perceiving pressure from parents and coaches was a consistent piece of their sport experience. Although the subtheme of pressure received from others was seen in both groups, only the OP group described explicit and implicit manifestations of external pressures (e.g., parents telling them they need to play better vs. perceiving pressure because of the cost of involvement). Claire (OP) spoke about an explicit pressure she perceived from her father: "He's kind of living through me in a way, so there have been times where I think he may have overstepped a little bit." Conversely, Abby (OP) experienced implicit pressure from her parents, explaining, "They never said openly that they wanted me to do good, but they always would make comments like, 'Oh, you're not working out today? Are you sure?'" Overall, athletes in the OP group perceived more pressure from others than the HP group (see Table 2).

Importantly, several athletes indicated that the support they received from others, even though meant in a reassuring, positive manner, sometimes created an internal pressure to perform well or risk disappointing these individuals. In other words, at times, athletes interpreted support in a way that created self-imposed pressure. Ellen (HP) provided an excellent example of the subtheme 'pressure imposed on self' by saying,

I think when I was younger, [parental support] actually didn't help [my motivation] really because they were doing so much for me, and when I would travel to tournaments abroad, I would see that was a lot of money . . . [sport] is very expensive. I was like, 'Oh my God, I have to win because my mom and dad . . . have put all this into it.' And they never said anything about money, about time, nothing. But I was just like, 'God, if I lose so badly, we're going to have to turn around the plane and go back home, and they've done so much.'

This subtheme of pressure imposed on self was seen much more frequently in the OP group.

Motivation Types

Collegiate athletes frequently spoke about factors that have motivated them throughout their sport careers and identified both intrinsic and extrinsic motivational factors. Overall, extrinsic motivators were mentioned more frequently by athletes than intrinsic motivators, especially by those in the OP group. In the analysis, we identified two subthemes for extrinsic motivation: external recognition/comparison and external validation. No subthemes were identified for intrinsic motivation. A short overview of each theme will be subsequently provided.

Extrinsic Motivation. Collegiate athletes commonly mentioned a strong desire for external recognition as a motivational factor in their sport. Many participants spoke of external recognition in the form of awards and honors, whereas some discussed comparison to their peers and wanting to be seen as the better athlete than rivals. Particularly noteworthy were responses in which participants expressed the influence of social agents (i.e., coaches, parents, peers) on their desire for external recognition. For example, Peyton (HP) talked about wanting recognition from her coach to show she was advancing in sport when she said, "If you do better, then the coach sees you differently, and they give you more respect. And you're put in a higher-level group . . . I just wanted to do the best that I could and stay on top more often." Meanwhile, Abby (OP) described a strong desire for recognition of her accomplishments in terms of collegiate scholarship offers when she said, "It kept me going, being like, 'I'm going D1. I'm going to school to do (sport). I'm going to be better than all the other athletes in my grade.'"

Another extrinsic motivator repeatedly discussed by athletes was external validation, which differs from recognition in that participants implied a desire that their athletic efforts be meaningful to those around them. For example, several athletes expressed wanting to be validated by parents and coaches from which they had received ample help and support. Beth (HP) stated, "I mean, my mom worked so hard for my brother and I that I wanted to impress her . . . She sacrificed a lot for my brother and I, so that was a big motivator." Additionally, numerous athletes felt a need to prove themselves to others, whether that be through winning, achieving goals others said they could not, or showing they were an asset to their college team. For instance, Abby (OP) stated, "Because I'm on scholarship—I want to be like, 'I'm worth the money

that you're spending on me.'"

Likewise, Peyton (HP) recalled her sport participation in high school was "for approval . . . and to prove that I am capable of doing well. And for my coaches, too, I needed their approval . . . And so, I felt like . . . I was forcing myself to do it, and I wasn't enjoying it." In general, the OP group had twice as many mentions of extrinsic motivation than the HP group (see Table 2) with athletes in the OP group much more likely to strive for recognition and validation from others than athletes in the HP group.

Intrinsic Motivation. Collegiate athletes often spoke about intrinsic motivators that have been present throughout their sport journeys. Most of the participants discussed participating in their sport solely due to love and enjoyment, not for any external rewards. For a lot of the athletes, these times took place in youth sport; for example, Ellen (HP) recalled her memories growing up in her sport: "I definitely felt really free, and I felt this was my place." Other intrinsic motivators commonly mentioned by athletes were improving competency and striving for personal bests. For instance, Mary (OP) stated,

It honestly feels great when you're able to achieve those goals. You set up some goals for the season, for the year . . . and you're able to see yourself get better at something you've been putting effort in. It's just so rewarding.

Markedly, many participants noticed that as they progressed from youth sport to a serious athletic commitment, extrinsic motivators began to overshadow the intrinsic ones. However, these athletes expressed that the transition into collegiate athletics rekindled the flame of their intrinsic motivation. For instance, Claire (OP) voiced, "I'm still super motivated, and I go to practice every day with the right intentions, to get better. But I think there's just a big difference in the kind of motivation (present vs. past)." She explained that in high school her motivation was that she "wanted to go D1," whereas now that she is in college, her motivation is "to stay healthy and PR each week." Another participant, Ellen (HP), also recognized a shift from extrinsic to intrinsic motivation in her sport journey, saying,

I think when I was younger with maybe certain coaches . . . I would've wanted their approval . . . I was always searching for good opinions from other people, but now since I've gotten older . . . it's like . . . it doesn't matter. I'll do this for me and that's it.

Discussion

The purpose of the current study was to examine the passion levels of current Division I collegiate athletes in individual sports, investigate what aspects influenced

their development of passion, and explore differences in this development in terms of groups identified as harmoniously or obsessively passionate. We compared the sport experiences of athletes with contrasting passion profiles and identified aspects of their experiences as influential in the engenderment of their distinct passion type (HP or OP). Autonomy thwarting behaviors, perceived pressure, and extrinsic motivation were identified as the primary differences in experiences between OP and HP athletes. The group differences suggest that these three aspects of sport experience are influential factors in the development of distinct passion profiles. Additionally, we observed that parents and coaches play a role in these factors, and subsequently, in group differences. This observation points toward the influence of social agents as a factor in the development of passion as a whole and the differentiation of HP and OP in athletes.

Overall, the collegiate athletes in our sample were overwhelmingly passionate for their sport, and they held high levels of HP and moderate levels of OP for sport. Comparing the individual sport collegiate athletes in our own study to those individual sport athletes represented in the Kovacsik et al. (2020) study, our total sample had slightly higher levels of HP ($M = 6.16$ compared to $M = 5.37$) and slightly lower levels of OP ($M = 3.57$ compared to $M = 3.79$). Both of our sub-groups were notably higher in terms of their HP and split on their levels of OP (HP group lower; OP group higher) in relation to the individual level athletes in the Kovacsik sample. Although we cannot make a comparison to team sport athletes paired with the current sample, it seems that the current group of athletes is similar to those utilized in the Kovacsik et al. (2020) sample.

As expected, athletes in both groups reported high instances of all three precursors of passion (i.e., enjoyment, time and energy investment, and value). This finding reflects existing literature (including Vallerand et al., 2003) that demonstrates passion manifests in individuals when they enjoy their sport, spend considerable time engaging in it, and place high levels of value on it. The differences observed between the HP and OP groups in this aspect were minimal, reflecting the high levels of general passion both groups reported and illustrating that HP and OP are distinct concepts from the general passion construct. The most notable difference between the two groups occurred in the subtheme of sport components that are not enjoyable as the OP group had twice as many mentions of lack of enjoyment as the HP group. This result aligns with previous research suggesting that an autonomous internalization of an activity (associated with HP) facilitates personal

enjoyment, whereas a controlled internalization (associated with OP) does the opposite (Liu et al., 2011; Vallerand et al., 2003).

Both the OP and HP groups also discussed aspects of athletic identity that mirror Brewer and colleagues' (1993) conceptualization of the subcomponents of athletic identity, namely the dimensions of social identity and exclusivity. The central role of identity in these athletes reflects the reality of the collegiate athlete experience. For example, collegiate athletes are required to engage in practices, workouts, and games connected to their sport and are often identified as athletes instead of someone playing a sport (National Collegiate Athletic Association, 2016). Further, Vallerand and colleagues (2003) would argue that passionate athletes hold their sport at the center of their identity and are athletes instead of just playing a sport. In the coding of the interviews, both groups identified two of the major three aspects of the initial conceptualization of athletic identity (Brewer, 1993; social identity and exclusivity). However, it is important to consider how those aspects manifested. Several past studies have shown that high social identity is not necessarily problematic, but rather problems arise when exclusivity increases (Martin & Horn, 2013). In our sample, more athletes in the OP group discussed the perception that their identity was focused solely on the sport role while more athletes in the HP group described identities consisting of activities outside of athletics. This finding suggests that exclusivity may contribute to the development of OP which can be related to negative outcomes both inside and outside of sport (Martin & Horn, 2013). Additionally, negative affectivity (third dimension of athletic identity as conceptualized by Brewer, 1993) was missing from the interviews. It is possible that this construct was not mentioned by athletes as they were never forced to entirely stop participation and, thus, did not experience negative affectivity from cessation of participation.

Finally, and somewhat unexpectedly, several of the HP athletes mentioned that they shifted to a more well-rounded identity as they entered college. Many of these aspects indicated that the pursuit of the college scholarship was paramount to creating an exclusivity in their life; but once that goal was achieved, they could enjoy their sport and shift to a more holistic pursuit of excellence. This finding suggests that the HP athletes in our sample may have had more OP prior to college and future studies should investigate this phenomenon to examine whether the collegiate athletic environment can influence passion levels in athletes or if this was just something mentioned by our sample. Future research could also explore if an increase in publicity and time

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spent in their sport (which is typically seen in the college environment) could indicate an increase in athletic identity that was not seen in these athletes.

Regarding perceptions of support and pressure, most athletes spoke of experiences with parents (coaches and other family members had minimal mentions). Athletes in both groups cited numerous instances of support, whereas mentions of perceived pressure were notably more frequent in the OP group. These increased perceptions of pressure in the OP group, especially from parents, mirror results from Mageau et al. (2009), who found that pressure from parents was linked to the development of OP whereas parental support was associated with the development of HP. Further, athletes in the OP group talked about self-imposed pressure in addition to implicit and explicit pressure from others, revealing both a greater occurrence of pressure and more nuanced description of the perceived pressure. These differences speak to the importance of all significant social agents (but especially parents) in terms of how the various levels of perceived support and pressure can influence the development of HP or OP in athletes. Additionally, as the concepts of pressure from oneself (self-prescribed) and pressure from others (socially prescribed perfectionism) parallel subscales of the Hewitt and Flett (1991) conceptualization of perfectionism, the relationship between these constructs and the types of passion an individual holds in sport could be an interesting future area to explore.

In terms of motivation, both the HP and OP groups described a variety of motivators throughout their sport journeys. Levels of intrinsic motivation showed to be similar across groups, indicating that every athlete had some level of autonomous internalization of their sport (Mageau et al., 2009; Vallerand et al., 2003; Vallerand, 2008). In contrast, levels of extrinsic motivation were substantially different between groups. In the HP group, mentions of extrinsic and intrinsic motivation were almost identical in frequency, whereas the OP group reported over twice as many mentions of extrinsic than intrinsic motivation. This finding suggests that high extrinsic motivation may influence the development of OP, which is consistent with previous research (Mageau et al., 2009; Vallerand et al., 2003; Vallerand, 2008). It is also possible that the intrinsic motivation was relatively equal among the two groups because both groups had similar levels of HP and differed primarily in their OP levels. Future studies may benefit from using sample groups that are more distinctly different (e.g., high HP, low OP; low HP, high OP). Importantly, Schellenberg and colleagues (2018) have begun investigating these

different profiles using a novel quadripartite model of passion where individuals can be classified as pure HP (high HP, low OP), pure OP (low HP, high OP), mixed passion (high HP, high OP), and non-passion (low HP, low OP). However, finding these individuals might prove difficult to find as athletes who exclusively possess OP could have experienced many negative outcomes and withdrawn from sport participation fully.

Furthermore, it is imperative to consider that motivation can either be fostered or hindered depending on whether basic psychological needs are met (Deci & Ryan, 1985, 2000), especially in relation to autonomy. In this study, autonomy support/thwarting was a clear theme identified by the researchers, which pointed towards its influence in the development of distinct passion types; however, the other two basic needs were encapsulated, at least partially, in other codes. For example, athletes might see parents and other social agents providing support as a parallel to relatedness, whereas several athletes attributed their sport competence to external comparison to peers and opponents. Athletes in our sample did not explicitly indicate how relatedness and competence were influential in their passion development, but some implicit links could be made. Meanwhile, autonomy emerging as the most important SDT element to athletes parallels the findings by Mageau et al. (2009) who emphasized autonomy support as a critical factor in passion development.

Few differences were observed between the HP and OP groups in terms of how autonomy support influenced passion development, indicating that participants experienced comparable levels of need fulfillment throughout their sport journeys. Both groups had high levels of HP, and athletes who display HP are expected to have more favorable past sport experiences (Stenseng et al., 2015). The primary difference between groups was seen in reports of negative experiences (lacking need fulfillment) as the frequency of athletes discussing autonomy thwarting was much more pronounced in the OP group compared to the HP group. It is possible that these autonomy thwarting experiences contributed to the development of higher levels of OP in these athletes, and this connection deserves further study in the form of longitudinal research focused on the impact of autocratic coach behavior on athletes' levels of passion. Further, this result adds to Mageau et al. (2009)'s findings that OP individuals do not interact with as many autonomy-supportive individuals (specifically parents and other significant adults) as HP individuals. Further, because both groups had moderate to high levels of HP (and therefore some degree of need fulfillment), the group

with higher levels of OP (and likely a higher degree of need frustration) may have been more distinguished by negative aspects of the sports environment rather than positive aspects. This result aligns with Stenseng et al. (2015), who reported that HP predicts enjoyment and positive emotionality, while OP is negatively correlated with well-being and positive emotionality. In total, these findings imply that youth sport coaches may promote more favorable sport experiences among their athletes by building a need-fulfilling environment in which athletes feel valued for more than their performance, safe to openly communicate, and receive constructive (as opposed to overly critical) feedback, with additional focus toward ensuring athletes feel autonomous in their environments.

Limitations and Future Directions

Although the present study has produced findings valuable to understanding how passion manifests in athletes, it is not without limitations. First, both sample groups were high in HP. Ideally, one group would have been high HP/low OP and the other group low HP/high OP, like the groups found by Schellenberg et al. (2018). None of the athletes surveyed in Phase I of the data collection met these criteria; therefore, future research would benefit from investigating the existence and experiences of such athletes, especially those with low HP and high OP. Second, the present study only considered individual sport athletes from a single Division I university. Future research may want to include athletes from team sports and a variety of universities, including Division I and other divisions (i.e., Division II, III, NAIA, NJCAA) to obtain more comprehensive results from a wide range of athletes. Additionally, there was a substantial sex imbalance in the sample as only one male athlete was interviewed during Phase II of the project. A larger sample size may benefit future studies by increasing the likelihood that a more balanced mix of males and females will meet inclusion criteria used in the qualitative portion of the project. Thirdly, our methodology was designed to compare two groups and their experiences, but we understand that this may be at odds with the typical goals of qualitative research methods. Comparisons of the constructs' frequencies were made to bring contrast to these groups, but it would be helpful to recruit a larger number of participants and assess group differences to truly understand the magnitude of these comparisons. Finally, the study relied on retrospection to collect data with athletes recalling their own sport experience. Although retrospective data methods have shown to have some reliability (Friedenreich et al., 1998), a longitudinal design would be ideal for future studies.

Conclusion

Our study aimed to identify critical elements in the establishment and evolution of passion in collegiate athletes. Overall, athletes exhibited high sport passion. Regarding our first research question, athletes discussed the importance of significant social agents (i.e., parents and coaches) on the development of their passion in both direct (e.g., feedback) and indirect manners (e.g., creating an environment of autonomy support/thwarting). In terms of our second research question, athletes in the two groups discussed many of the same factors in the development of passion; yet athletes in the OP group were more likely to discuss coaches who utilized autocratic decision making, perceive pressure to perform from others, and internalize feedback from others as pressure on themselves. These group distinctions provide an initial conceptualization of what might prompt athletes to develop HP or OP for their sport. Based on our findings, we encourage parents to ensure their children feel unconditionally supported in sport endeavors and are not solely defining their identity as a participant in their sport. Further, we urge coaches and parents to foster environments conducive for psychological need fulfillment as this could increase the probability of HP manifesting in young athletes.

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National Collegiate Athletic Association Athletic Trainers', Head Coaches', and Student-Athletes' Perceptions of Professional Titles Used in Sport Psychology

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The purpose of this convergent mixed-methods study was to explore National Collegiate Athletic Association (NCAA) Division I athletic trainer (AT), head coach, and student-athlete perceptions of three commonly used sport psychology professional titles in the United States: Certified Mental Performance Consultant (CMPC), mental conditioning coach, and sport psychologist. Participants included 73 ATs, 79 head coaches, and 76 student-athletes. Participants completed an online questionnaire that assessed their previous exposure to these professionals, the services they believed these professionals could provide, their confidence in sport psychology consultation from these professionals, and their stigma tolerance of these professionals. A series of Friedman tests found that ATs and student-athletes perceived significantly more confidence in the services of a sport psychologist compared to a CMPC and a mental conditioning coach. A series of Kruskal-Wallis tests revealed that student-athletes perceived significantly more stigma in using services from all three professionals than head coaches and ATs. Participants reported that sport psychologists could provide mental performance and mental health services, while CMPCs and mental conditioning coaches primarily provided mental performance services. However, short answer responses from many ATs and head coaches about CMPCs demonstrated some doubt and misunderstanding of this professional title.

Keywords: certified mental performance consultant, sport psychology service provision, consumer perceptions, consumer attitudes, professional identity

Sport psychology is an interdisciplinary field that combines aspects of psychology, counseling, and traditional kinesiology (Williams & Krane, 2021). This combination produces a unique skill set that is hard to define with a single, universal title. Therefore, it makes sense that a wide variety of professional titles have been utilized by practitioners throughout the history of sport psychology (Aoyagi et al., 2012). In the United States, "sport psychologist" has historically been a commonly used professional title by sport psychology professionals (Aoyagi et al., 2012). However, in most of the United States, the terms "psychologist" and "psychology"

have received legal protection (Association of State and Provincial Psychology Boards, 2018). Specifically, this protection means that, to use "psychologist" or "psychology" in a professional title, one must have completed graduate training (usually a doctorate) through an American Psychological Association (APA) clinical or counseling psychology program and obtain state licensure (Association of State and Provincial Psychology Boards, 2018). While there is no specific requirement needed to insert "sport" into a professional title, the APA Division 47 (i.e., Society for Sport, Exercise, and Performance Psychology) has outlined a "sport psychology proficiency" (APA Divisions, 2012). Specifically, the sport psychology proficiency statement notes that "the proficiency should not be confused with the doctoral degree area of sport psychology, which has a long tradition within departments of sports science and kinesiology" (APA Divisions, 2012, para. 2). In essence,

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this statement recognizes that mental health and mental performance are distinct, but equally important, areas of specialization.

In line with this distinction, a variety of professional titles are currently used that differentiate between professionals' educational background and breadth of potential services (Aoyagi et al., 2012). Theoretically, a "sport psychologist" has expertise in mental performance and clinical mental health, as it pertains to sport or performance contexts. Conversely, a professional may solely focus on mental performance, and it is primarily among this group that a wide array of professional titles is used (Jones et al., 2022). Currently, there is limited research regarding how sport psychology's primary consumers feel about the different professional titles that are used in the field (see Woolway & Harwood, 2020). Such perceptions are important to understand because one's professional title is an important consideration of sport psychology consumers when they are determining what type of service they would like to utilize (Woolway & Harwood, 2015).

In the seminal study regarding professional titles in sport psychology, Van Raalte et al. (1990) surveyed 200 American undergraduate students regarding how similar they thought sport psychologists and performance consultants were to other professionals in sport (e.g., coaches) and mental health (e.g., psychiatrists). These authors found that participants perceived a sport psychologist to have a similar professional focus as a counselor. This also meant that participants felt that sport psychologists were more like non-sport professionals (i.e., counselors, hypnotists) than those in sport (i.e., coaches, strength coaches). The authors suggested that the term "psychologist" being in the title may have overpowered the sport association that the term clearly holds. Contrary to this, participants felt that a performance consultant was a unique title that had equal focus on the mental and physical aspects of a client and was very sport-related.

Different results were found in subsequent studies that analyzed the same professional titles but utilized either attendees at the Association for Applied Sport Psychology (AASP) annual conference (Van Raalte et al., 1993) or British athletes (Brooks & Bull, 1999; Van Raalte et al., 1996) as participants. In these studies, a sport psychologist was believed to be a unique, sport-focused professional who had equal expertise in sport, physical, and mental performance. On the other hand, these populations considered a performance consultant to be more akin to a coach and have less expertise in the mental aspects of a client than a sport psychologist. It is

important to consider that, at the time these studies were conducted, the title "sport psychologist" was used by most sport psychology practitioners, regardless of their previous education and training (Aoyagi et al., 2012). Since these studies surveyed sport-based populations, the familiarity and exposure to "sport psychologists" may have distorted how "performance consultants" were viewed compared to the participants in Van Raalte et al. (1990).

These early studies provide evidence that there are important differences in how professional titles in sport psychology are perceived by potential consumers. That said, these early studies did not include direct comparisons regarding which professional a consumer would prefer to utilize. Maniar et al. (2001) expanded on previous research by asking 60 American collegiate student-athletes which professional they would prefer to work with in three different situations (i.e., slump, injury, and optimal). In all three conditions, participants preferred to work with someone who had "sport" in their title compared to someone who did not (e.g., sport psychologist vs. clinical psychologist, sport counselor vs. counselor). Like previous research (Brooks & Bull, 1999; Van Raalte et al., 1996), this result shows that "sport" is an important component of a professional title that can shift consumer perceptions.

Additionally, Maniar et al. (2001) found that under all three conditions, male student-athletes preferred to utilize a performance enhancement specialist, whereas female student-athletes preferred to work with a sport psychologist when in a slump or injured. This particular result may reflect the trend of female athletes being more willing to seek out and accept mental health support than male athletes (Martin, 2005). However, it should be noted that under all conditions, both the male and female student-athletes in this study had a higher preference to consult with a coach or friends/family instead of a performance enhancement specialist or sport psychologist. Maniar et al. (2001) do not fully comment on this result, but this may have indicated an overall hesitation by these student-athletes about receiving psychological services.

In a more recent study conducted by Woolway and Harwood (2015), an international group of athletes (e.g., elite international, national level, district level) were asked to indicate which professional they would prefer to utilize for sport psychology services based on the professional's title, interpersonal skills, athletic background, and sport-specific knowledge. This study was unique in that the researchers provided an educational intervention in which participants

were given information regarding the protected status of the professional title and the training that each professional is expected to receive. Prior to the educational intervention, professional title was the third most preferred attribute behind interpersonal skills and sport-specific knowledge. However, after the intervention, professional title was reported as the most important attribute by a significant margin. These results suggest that a professional title is a clear indicator of a professional's competencies if the consumer has some understanding of what the professional title entails.

The current body of research suggests that, in the sport psychology field, a professional title can emit one's professional competencies, and it can also instill varying levels of perceived confidence or stigma in the consumer. These two variables (i.e., confidence and stigma) are particularly important to understand for specific professional titles in sport psychology, as previous research has found that these perceptions influence potential consumers' intent to use psychological services (Hilliard et al., 2022; Zakrajsek et al., 2011; Zakrajsek et al., 2023). However, the world of sport psychology has evolved significantly over the past few decades, and, besides the work of Woolway and Harwood (2015), there has been a lack of research surrounding professional titles in sport psychology. AASP is one of the most prominent professional organizations dedicated to sport psychology in North America. In 2017, AASP revised its certification procedures and, with this, changed its proprietary professional title from "Certified Consultant – AASP" to "Certified Mental Performance Consultant" (CMPC; AASP, 2017). Currently, there is no empirical evidence regarding consumer perceptions of the CMPC as a professional title and how these compare to perceptions of other commonly used professional titles in sport psychology (e.g., "sport psychologist," "mental conditioning coach").

Although research regarding which professional titles sport psychology professionals regularly use is lacking, Jones et al. (2022) recently conducted a content analysis of National Collegiate Athletic Association Division I (NCAA DI) athletic department websites. These authors found that variations of "sport psychologist" and "mental performance consultant" were regularly used to identify mental health and mental performance staff, respectively. On the other hand, "mental conditioning coach" is the nomenclature that has been used by IMG Academy, a sport performance-focused college preparatory school that has several sport psychology professionals on staff (Hamilton & Stutzman, 2017; IMG Academy, 2022). It should be noted that these professional titles are not necessarily mutually exclusive.

For example, someone whose professional title is "sport psychologist" can also have the CMPC credential. However, CMPC is also used as a professional title on its own.

Moreover, much of the research surrounding professional titles in sport psychology has focused on athletes' perceptions (e.g., Brooks & Bull, 1999). Although athletes are the traditional beneficiaries of sport psychology services, the perspectives of other sport-related professionals should also be considered (e.g., athletic trainers [ATs], coaches). The reason for this is twofold. First, it is often these trusted professionals who will initiate the contact between a sport psychology professional and an athlete (Haltermann et al., 2020; Zakrajsek et al., 2018). Furthermore, there is evidence that non-athletes, including ATs and coaches, can also utilize sport psychology services and receive many of the same benefits that athletes do (Bianco, 2022; Sheehy et al., 2019).

In summation, previous research regarding professional titles provides limited information about contemporary titles and the perspectives of non-athlete consumers. Therefore, the purpose of the present study was to explore ATs', coaches', and student-athletes' perceptions of three commonly used professional titles in sport psychology: CMPC, mental conditioning coach, and sport psychologist. Because this topic has a limited body of previous research, a mixed methods design was adopted to offer rich insight and capture diverse information that can be used to guide future research (Creswell, 2014; Ryba et al., 2022). Specifically, this study was guided by a quantitative (i.e., how do consumer perceptions differ based on the sport psychology professional's title and the consumer's own role?) and a qualitative research question (i.e., what services do consumers believe that sport psychology professionals with different titles can provide?).

Method

Participants

In total, 73 NCAA DI ATs, 79 NCAA DI head coaches, and 76 NCAA DI student-athletes completed the first portion of the study and were included in some of the analyses. However, only 56 ATs (76%), 52 head coaches (66%), and 56 student-athletes (74%) completed the study in its entirety. We selected the NCAA DI setting (specifically the Football Bowl Subdivision) for this investigation because it represents an elite level of sport that more commonly incorporates sport psychology services than other collegiate levels (Jones et al., 2022; Menaker et al., 2023).

Athletic Trainers

Twenty-one ATs identified as male, 34 identified as female, and one preferred not to answer. ATs' racial demographics were as follows: 43 White, five Latino/a, three Black, two multiracial, one Asian/Pacific-Islander. Two ATs preferred not to answer this question. These ATs averaged 34.34 ($SD = 11.12$) years of age and 9.90 ($SD = 9.19$) years of experience in the NCAA DI environment. The majority (51.8%) of participants identified as an assistant AT. All ATs were certified by the National Athletic Trainers' Association (NATA). ATs in this study identified 20 different "primary sports" that they worked with. The top three sports were American football, track & field/cross-country, and baseball.

Head Coaches

Twenty-three head coaches identified as male, 27 identified as female, and two preferred not to answer. Head coaches' racial demographics were as follows: 39 White, three Black, two multiracial, two Asian/Pacific-Islander, one Middle Eastern. Five head coaches preferred not to answer this question. The head coaches averaged 48.20 ($SD = 9.14$) years of age and 21.09 ($SD = 10.13$) years of experience in the NCAA DI environment. Participants coached 24 different sports. The top three sports were softball, track & field/cross-country, and volleyball.

Student-Athletes

Eighteen student-athletes identified as male, and 38 identified as female. Student-athletes' racial demographics were as follows: 45 White, three Black, four Asian/Pacific-Islander, two Latino/a, and two multiracial. These student-athletes averaged 20.30 ($SD = 1.28$) years of age and 2.68 ($SD = 1.6$) years of experience in the NCAA DI environment. Nine students were freshmen, 16 were sophomores, 12 were juniors, 18 were seniors, and one was a post-graduate. The student-athletes in this study participated in 19 different sports. The top three sports were track & field/cross-country, swimming & diving, and American football.

Procedures

Following institutional review board approval, we invited potential participants to participate in this project via email between January and March of 2021. We collected emails for ATs and head coaches from the publicly available athletic department websites of 130 NCAA DI FBS universities. To keep the three population groups similar in number, we only recruited student-athletes from two of the universities associated with

the researchers and 12 other randomly selected institutions. All universities that had a publicly available student-athlete database were assigned a number. A random number generator was then used to select which institutions would be included. This process was counterbalanced to ensure that student-athletes from all 10 NCAA DI FBS conferences were recruited for this investigation. Once the universities were selected, we contacted student-athletes in one of two ways. Either permission was given from an official within the athletic department (e.g., assistant athletic director), or an email database was created by visiting publicly available student email databases.

The first author sent recruitment emails to 1,850 ATs, 2,061 head coaches, and 3,446 student-athletes. To increase participation, we sent two follow-up emails to all potential participants one week apart from each other. Overall, ATs and head coaches responded at a rate of 3.9% and 3.8%, respectively. At two universities, recruitment emails were forwarded to student-athletes from an athletic department official. It is unclear exactly how many additional student-athletes were recruited from these two institutions, making it difficult to calculate an exact response rate for this participant subgroup; however, it is likely similar to that of ATs and head coaches. Each email contained an explanation of the study, expressed the voluntary nature of participation, and included a link to a survey that took participants roughly 15 minutes to complete.

Convergent Mixed-Methods Design

After indicating consent to participate, the participants completed a Qualtrics survey that included both short answer and quantitative questions. While each stream of data was primarily used to address a specific research question, all data was interpreted simultaneously to better understand the topic of interest (i.e., professional titles in sport psychology). Therefore, the current study employed a convergent mixed-methods approach, meaning that both data types were collected at the same time point and "converged" to provide a more thorough understanding of a topic (Creswell, 2014). A mixed-methods approach was adopted to provide a more comprehensive and nuanced understanding of an understudied topic (Creswell, 2014; Ryba et al., 2022).

Instrumentation

We first presented participants with three open-ended questions in a randomized order. These questions were used to better understand what services they felt someone with each professional title could provide.

SPORT PSYCHOLOGY PROFESSIONAL TITLES

Specifically, each question read, “When you hear the title (insert title), what services do you think they can provide?”

Next, we provided participants with the following brief definitions of each professional title:

- *Certified Mental Performance Consultant*. Trained in sport psychology. Provide individual or group consultations geared towards sport performance-related issues.
- *Mental Conditioning Coach*. Trained in sport psychology. Provide individual or group consultations geared towards sport performance-related issues.
- *Sport Psychologist*. Trained in clinical or counseling psychology. Provide individual or group therapy relative to a broad range of behavioral and emotional issues (e.g., depression, eating disorders, anxiety disorders). Can also provide individual or group consultations geared towards sport performance-related issues.

These definitions were specifically developed for this study and are less detailed than those found in Woolway and Harwood (2015) because the purpose of the current investigation was to gauge the immediate perceptions of each professional title itself. Thus, there was no need to provide additional background information (e.g., level of education), which may have altered participants’ perceptions.

After reviewing these definitions, participants completed three variations of the confidence in sport psychology consultation and stigma tolerance subscales of either the Sport Psychology Attitudes – Revised (SPA-R; Martin et al., 2002) or the Sport Psychology Attitudes Revised Coaches – 2 (SPARC-2; Zakrajsek et al., 2008). Each variation replaced “sport psychology consultant” with either “certified mental performance consultant,” “mental conditioning coach,” or “sport psychologist.” The Qualtrics survey presented these scales to participants in a randomized order.

Specifically, student-athletes completed the SPA-R, while coaches completed the SPARC-2. ATs were shown a slightly modified version of the SPARC-2 in which the wording of some questions was altered to better reflect their role. For example, the question “I think a certified mental performance consultant would help my athletes perform better under pressure” was changed to “I think a certified mental performance consultant would help athletes cope with pressure during injury rehabilitation.”

The confidence in sport psychology consultation (e.g., “A sport psychology consultant would help me perform better under pressure”) and stigma tolerance (e.g.,

“I feel uneasy going to a sport psychology consultant because people would disapprove”) subscales of the SPA-R and SPARC-2 are eight and seven questions long, respectively. Each question is measured via a Likert-type scale that ranges from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Martin et al. (2002) reported initial Cronbach’s alpha values of .84 for the confidence in sport psychology consultation subscale and .82 for the stigma tolerance subscale of the SPA-R. Zakrajsek et al. (2008) found similar Cronbach’s alphas of .87 and .90 for these two subscales in the SPARC-2, respectively.

Following completion of these scales, participants answered questions about their previous exposure to sport psychology. Specifically, ATs, coaches, and student-athletes were asked if they had ever worked with a CMPC, a mental conditioning coach, or a sport psychologist. If participants indicated that they had worked with one of these professionals, they rated this experience using a five-point Likert-type scale that ranged from 1 (*Very negative*) to 5 (*Very positive*).

Lastly, participants answered basic demographic questions regarding constructs such as age, gender, race, primary sport, level of experience. All participants had the opportunity to provide their email address to be entered into a raffle for one of fifty \$10 Amazon gift cards. Fifteen ATs, 15 head coaches, and 20 student-athletes were randomly selected to receive compensation. Funding for this study was provided by an AASP – Foundation research seed grant.

Data Analysis

All data was imported into IBM Statistical Package for the Social Sciences (SPSS) v.26 and reviewed for missing and invalid responses. Seventeen ATs, 27 head coaches, and 20 student-athletes completed the initial open-ended questions but did not continue to the rest of the survey. Therefore, demographic information, SPARC-2 or SPA-R, and sport psychology exposure data was not collected for these 64 participants. However, their responses were included in the qualitative analysis. Outside of these 64 participants, only one AT and one student-athlete had data missing from SPARC-2 and SPA-R, respectively. These two participants were excluded from subsequent quantitative analyses pertaining to these scales in a listwise manner.

Quantitative Analyses

We first interpreted demographic information, including previous sport psychology exposure, using basic summary statistics. Table 1 shows SPA-R and SPARC-2 descriptive statistics and Cronbach’s alpha values. It must be noted that the alpha value for ATs’

stigma tolerance of sport psychologists was quite low (.55) compared to the other 17 values. While this is not optimal, this alpha value has previously been deemed “sufficient” for analysis (Taber, 2018, p. 1278).

Next, we performed measurement invariance testing to confirm that results from the SPA-R, the SPARC-2, and the modified SPARC-2 for ATs could be compared across groups. We explored configural, metric, scalar, and partial scalar invariance between the three population groups using the R package, ‘lavaan’ (Rosseel, 2012; see Table 2). The results of invariance testing revealed that

all configural, metric, and partial scalar models had an acceptable fit (i.e., robust comparative fit index > .95; Hu & Bentler, 1999). Furthermore, results confirmed that no metric or partial scalar models had a significantly different chi-square from their corresponding configural model (Putnick & Bornstein, 2016). Because measurement invariance was established, between-subjects analysis of the latent variables of each scale measured (i.e., confidence in sport psychology consultation and stigma tolerance) was appropriate (Putnick & Bornstein, 2016).

Table 1. SPAR-C and SPA-R Descriptive Statistics

Subscale	Athletic Trainer	Head Coach	Student-Athlete
	<i>M (SD)</i>		
Confidence: CMPC	3.93 (.86)	4.60 (.93)	4.24 (.90)
Confidence: MCC	3.83 (.99)	4.52 (1.10)	4.41 (.93)
Confidence: SP	4.92 (.72)	4.86 (.96)	4.80 (.83)
Stigma: CMPC	1.56 (.62)	1.32 (.62)	2.21 (.95)
Stigma: MCC	1.53 (.64)	1.30 (.60)	2.22 (1.10)
Stigma: SP	1.27 (.38)	1.20 (.46)	2.19 (1.06)
Cronbach's Alpha	α		
Confidence: CMPC	.88	.90	.88
Confidence: MCC	.90	.92	.90
Confidence: SP	.81	.89	.85
Stigma: CMPC	.82	.88	.87
Stigma: MCC	.86	.92	.90
Stigma: SP	.55	.88	.88

Note. CMPC = Certified Mental Performance Consultant; MCC = Mental conditioning coach; SP = Sport psychologist.

Table 2. Measurement Invariance Models

Model	χ^2 (df)	CFI	RMSEA	SRMR	Model Comp.	$\Delta\chi^2$ (df)
CMPC Scale						
Configural (M1)	184.88 (267)	.96	.07	.09	-	-
Metric (M2)	248.32 (293)	.96	.07	.11	M1	31.36 (26)
Scalar (M3)	297.95 (319)	.94	.08	.12	M2	78.21 (26)*
Partial Scalar (M3a)	253.62 (311)	.96	.07	.11	M2	11.58 (18)
MCC Scale						
Configural (M1)	143.89 (267)	.98	.05	.09	-	-
Metric (M2)	196.10 (293)	.98	.05	.11	M1	32.80 (26)
Scalar (M3)	228.25 (319)	.96	.06	.11	M2	61.29 (26)*
Partial Scalar (M3a)	201.66 (311)	.97	.06	.11	M2	12.97 (18)
SP Scale						
Configural (M1)	154.86 (267)	.97	.05	.11	-	-
Metric (M2)	187.75 (293)	.98	.04	.12	M1	21.59 (26)
Scalar (M3)	247.26 (319)	.94	.06	.13	M2	92.47 (26)*
Partial Scalar (M3a)	199.56 (309)	.97	.04	.12	M2	19.56 (16)

Note. CMPC = Certified Mental Performance Consultant; MCC = Mental conditioning coach; SP = Sport psychologist; CFI = comparative fit index (robust); RMSEA = root mean square error of approximation (robust); SRMR = standardized root mean squared residual; $\Delta\chi^2$ = chi-square difference test; p = probability value of chi-square difference test. *p < .05.

Due to the non-normal structure of the data, we used non-parametric tests to analyze SPA-R and SPARC-2 responses. To analyze within-subjects differences regarding confidence in and stigma tolerance of sport psychology services from the three providers, we used Friedman tests. Additionally, we used Kruskal-Wallis H tests to explore between-subjects differences regarding confidence in and stigma tolerance of sport psychology services from the three providers. For all tests, we analyzed pairwise comparisons post-hoc and interpreted them using a Bonferroni correction.

Qualitative Analyses

We analyzed the qualitative data through general inductive analysis. The purpose of a general inductive approach is to develop frequent, dominant, or significant themes from raw data (Thomas, 2006). Two researchers (the second and third authors) performed close readings of the text to become familiar with the content and gain a general understanding of potential themes. Then, the researchers engaged in independent parallel coding to confirm consistency (Thomas, 2006). That is, the two coders independently developed themes from the raw data. These two sets of themes were then compared to one another to identify consistencies between them. The researchers then reduced the overlapping themes among the categories by considering how one segment of the text may be coded into more than one category and how some text may not be relevant to the theme of interest. Both researchers revised and refined the themes until they were agreed upon.

Results

Exposure to Sport Psychology Professionals

Athletic Trainers

Out of 56 ATs, 11 (19.6%) reported that they had previously worked with a CMPC. Of these, eight (72.7%) indicated that their interaction was either positive or very positive. Seven ATs (12.5%) noted that they had previously worked with a mental conditioning coach, with three ATs (42.8%) reporting that this experience was either positive or very positive. Finally, 52 ATs (93%) reported that they had previously worked with a sport psychologist. Fifty (96%) of these ATs found this experience to be either positive or very positive.

Head Coaches

Out of 52 head coaches, 11 (20%) reported that they had previously worked with a CMPC, of which

eight (72.7%) indicated that this experience was either positive or very positive. Thirteen head coaches (25%) had previously worked with a mental conditioning coach. Ten (33.3%) of these head coaches reported that this interaction was either positive or very positive. Finally, 49 head coaches (94.2%) noted that they had previously worked with a sport psychologist. Forty-one (83.6%) of these coaches found this experience to either be positive or very positive.

Student-Athletes

Out of 56 student-athletes, three (5.4%) reported that they had previously worked with a CMPC. All three (100%) of these student-athletes found the experience to be either positive or very positive. Six student-athletes (10.7%) reported that they had previously worked with a mental conditioning coach, of which five (83.3%) felt the experience was either positive or very positive. Finally, 42 (75%) of the student-athletes indicated that they had previously worked with a sport psychologist. Forty-one (97.6%) of these student-athletes noted that this experience was either positive or very positive.

Confidence in Sport Psychology Consultation

A Friedman test revealed that ATs, $\chi^2(2) = 59.41$, $p < .001$, head coaches, $\chi^2(2) = 7.86$, $p = .02$, and student-athletes, $\chi^2(2) = 25.08$, $p < .001$, all had significantly different perceived confidence in sport psychology consultation from the three types of sport psychology professionals. Wilcoxon signed-rank tests (see Table 3) showed that ATs and student-athletes both had significantly more confidence in sport psychology consultation from a sport psychologist than from a CMPC or a mental conditioning coach. Even though there was a significant omnibus test for head coaches, post-hoc tests did not reveal any specific differences based on professional title among this participant subgroup.

Three separate Kruskal-Wallis H tests demonstrated that there were significant differences between participants' perceived confidence in sport psychology consultation from a CMPC, $H(2) = 14.26$, $p < .001$, and from a mental conditioning coach, $H(2) = 15.33$, $p < .001$. However, there was no significant difference between participants' perceived confidence in sport psychology consultation from a sport psychologist, $H(2) = 1.126$, $p = .549$. Dunn's tests (see Table 4) showed that, compared to head coaches, ATs had significantly lower confidence in sport psychology consultation from a CMPC. Additionally, compared to both head coaches and student-athletes, ATs had significantly lower confidence in sport psychology consultation from a mental conditioning coach.

Stigma Tolerance

A Friedman test revealed that ATs had significantly different stigma tolerance of the three sport psychology professionals, $\chi^2(2) = 15.58, p < .001$. Neither head coaches, $\chi^2(2) = 5.07, p = .079$, nor student-athletes, $\chi^2(2) = 1.74, p = .419$, had significantly different stigma tolerance of the three sport psychology providers. Wilcoxon signed-rank tests (see Table 5) showed that ATs perceived significantly less stigma in services from a sport psychologist than from a CMPC or mental conditioning coach.

Three separate Kruskal-Wallis H tests demonstrated that there were significant differences between participants stigma tolerance of a CMPC, $H(2) = 35.45, p < .001$, a mental conditioning coach, $H(2) = 32.56, p < .001$, and a sport psychologist, $H(2) = 51.06, p < .001$. Dunn's tests (see Table 6) showed that compared to head coaches, ATs perceived significantly more stigma

in services from a CMPC. Furthermore, compared to ATs and head coaches, student-athletes perceived significantly more stigma in services from all three sport psychology providers.

Open-Ended Results

Seventy-three ATs, 79 head coaches, and 76 student-athletes responded to the open-ended questions. Overall, participants believed that sport psychology professionals with different titles could provide similar services within the sport context but under different constraints. For example, participants felt that sport psychologists could provide athletes with mental health services, whereas CMPCs and mental conditioning coaches could not. Yet, participants were often unsure of or incorrect about the qualification requirements for CMPCs and mental conditioning coaches. Full results of the general inductive analysis are presented below.

Table 3. Rank Comparisons of AT, Head Coach, and Student-Athlete Confidence in Sport Psychology Consultation (Within-subjects)

Professional Title	Athletic Trainer	Head Coach	Student-Athlete
	Mean Rank		
CMPC	1.65	1.84	1.63
MCC	1.55	1.87	1.87
SP	2.79	2.30	2.51
Post-Hoc Analyses	Effect Size		
CMPC vs. MCC	.04	.01	.12
CMPC vs. SP	.57**	.23	.44**
MCC vs. SP	.62**	.21	.32**

Note. CMPC = Certified Mental Performance Consultant; MCC = Mental conditioning coach; SP = Sport psychologist. * $p < .05$; ** $p < .01$.

Table 4. Rank Comparisons of AT, Head Coach, and Student-Athlete Confidence in Sport Psychology Consultation (Between-subjects)

Sport Role	Certified Mental Performance Consultant	Mental Conditioning Coach	Sport Psychologist
	Mean Rank		
Athletic Trainer	67.04	62.95	84.84
Head Coach	101.35	97.08	85.83
Student-Athlete	80.46	88.52	77.07
Post-Hoc Analyses	Effect Size		
AT vs. HC	.36**	.35**	.03
AT vs. SA	.14	.26*	.08
SA vs. HC	.21	.09	.08

Note. AT = Athletic Trainer; HC = Head Coach; SA = Student-athlete. * $p < .05$; ** $p < .01$.

Certified Mental Performance Consultant (CMPC)

Mental Training Services. Many of the ATs, head coaches, and student-athletes noted that a CMPC helps athletes engage with mental skills training ($n = 144$, 63.16%). One student-athlete described a CMPC as, “A consultant who has the ability to help individuals with their mental state during a performance - such as learning how to not get nervous under pressure, not overthink during a competition, etc.”

Unsure of Services Provided. Several ATs and head coaches were unsure of what services a CMPC provides and questioned the validity of their certification ($n = 51$, 22.37%). One AT stated: “I have no idea what this title means. It is another made-up title. Certified in what? A weekend course? I would look into it more.” Similarly, a head coach responded, “Who is certifying them? I don’t know what they might provide. I suppose this person is trying to identify lapses in mental performance.”

Clinical Mental Health Services. A few ATs, head coaches, and student-athletes interpreted a CMPC’s responsibilities as providing clinical counseling services ($n = 14$, 6.14%). For example, one student-athlete defined a CMPC as “Someone who provides an athlete with mental help when they’re struggling with anxiety, depression, or some mental illness that may affect their ability to perform.” A few other participants viewed CMPCs to have the same role as sport psychologists ($n = 6$, 2.63%). Two head coaches noted that a CMPC’s role was “The same as a sport psychologist.”

Life Skills Services. Some of the head coaches and student-athletes noted that a CMPC may provide mental skills resources to an athlete that may enhance their life beyond sport ($n = 20$, 8.77%). For example, one student-athlete stated, “I would think they treat the whole person, not just the athlete. They will give you techniques for your athletic performance, but also focus on how to better your mentality throughout your whole life.”

Table 5. Rank Comparisons of AT, Head Coach, and Student-Athlete Stigma Tolerance in Sport Psychology Consultation (Within-subjects)

Professional Title	Athletic Trainer	Head Coach	Student-Athlete
	<i>Mean Rank</i>		
CMPC	2.21	2.15	2.05
MCC	2.14	1.99	2.07
SP	1.65	1.86	1.88
Post-Hoc Analyses	<i>Effect Size</i>		
CMPC vs. MCC	.03	.08	.01
CMPC vs. SP	.27**	.14	.09
MCC vs. SP	.24*	.06	.10

Note. CMPC = Certified Mental Performance Consultant; MCC = Mental conditioning coach; SP = Sport psychologist. * $p < .05$; ** $p < .01$.

Table 6. Rank Comparisons of AT, Head Coach, and Student-Athlete Stigma Tolerance in Sport Psychology Consultation (Between-subjects)

Sport Role	Certified Mental Performance Consultant	Mental Conditioning Coach	Sport Psychologist
	<i>Mean Rank</i>		
Athletic Trainer	78.89	78.56	71.88
Head Coach	56.99	58.73	57.01
Student-Athlete	109.79	108.51	116.79
Post-Hoc Analyses	<i>Effect Size</i>		
AT vs. HC	.23*	.21	.16
AT vs. SA	.56**	.54**	.65**
HC vs. SA	.33**	.32**	.49**

Note. AT = Athletic Trainer; HC = Head Coach; SA = Student-athlete. * $p < .05$; ** $p < .01$.

Mental Conditioning Coach

Mental Training Services. Many ATs, head coaches, and student-athletes noted that a mental conditioning coach can enhance athletes' mental performance ($n = 158, 69.30\%$). One AT stated, "Mental Conditioning Coaches assist student-athletes in identifying how psychological factors may affect performance and how participation in sport and exercise affect psychological and physical factors . . . [and] how to deal with these factors."

Questions of Perceived Competency. Many participants were unsure of mental conditioning coaches' responsibilities, qualifications, and credibility ($n = 42, 18.42\%$). For example, an AT stated that the title of mental conditioning coach "sounds made up." Another AT perceived mental conditioning as "Unlicensed, non-professional, and not true services. More likely to do be anything along the lines of self-help guru to Navy SEAL-wannabe-like activities or exercises." Furthermore, a head coach stated that a mental conditioning coach was "Someone who's trying to make money by claiming to be able to help people perform better!"

Strength and Conditioning Services. Additionally, some ATs, head coaches, and student-athletes perceived mental conditioning coaches had similar responsibilities as strength and conditioning coaches ($n = 11, 4.82\%$). One AT described a mental conditioning coach as "a strength coach who also include [sic] 'mental work' during their strengthening/lift sessions." Additionally, some head coaches perceived mental conditioning coaches to help athletes with "weight training."

Clinical Mental Health Services. A few ATs and student-athletes believed that mental conditioning coaches provided clinical mental health services to athletes ($n = 10, 4.39\%$). One student-athlete noted that mental conditioning coaches "aid student-athletes in digesting their thoughts/compartimentalizing their sport." Another student-athlete believed mental conditioning coaches to provide "psychological help" to athletes. Furthermore, one AT noted that mental conditioning coaches "help with disorders such as OCD, etc." and are "not sport specific."

Sport Psychologist

Clinical Mental Health and Mental Performance Services. The responses from most ATs, head coaches, and student-athletes expressed that a sport psychologist can provide either mental health or mental performance services ($n = 192, 84.21\%$). However, several participants

specifically reported that this professional could provide athletes with both mental performance and mental health services ($n = 45, 19.74\%$). One student-athlete reported the following:

If I was to use one of these titles, it would likely be sport psych[ologist] because they focus on the whole person and might connect my performance struggles with something going on in a different part of my life (anxiety, etc.).

A head coach similarly noted that a sport psychologist's role is "sometimes just listening and being a safe place an athlete can come to and discuss whatever might be causing issues in their life." Additionally, an AT said, "I would like this to mean full psychological services including anxiety/depression and other mental health disorders as well as sport performance."

Credibility of Perceived Training. Many ATs, head coaches, and student-athletes recognized that a sport psychologist must have a high level of training and some sort of licensure ($n = 30, 13.16\%$). One head coach described a sport psychologist as the following:

Someone licensed in practicing psychology that can help players get out of their own way of being great. Person holds a PhD in their respective field. Using a blend of cognitive and behavioral techniques to improve overall performance through helping the athlete strengthening their mental approach. Can also help identify larger underlying issues that could be holding an athlete from reaching their fullest potential.

Additionally, student-athletes reported that they viewed a sport psychologist as more trustworthy due to their training and qualifications. One athlete compared their perceptions of training across the three titles:

A sports psychologist and certified mental performance consultant seem like they have gone through more professional training. Additionally, a sports psychologist seems trustworthy, as they have taken training and education in helping those with mental disorders and are very skilled. The job title of 'mental conditioning coach' also does not sound very credible in itself, even though this is most likely not true.

Discussion

The purpose of this study was to explore NCAA DI ATs', head coaches', and student-athletes' perceptions of three professional titles commonly used in sport psychology. Correspondingly, this study was guided by two research questions. The first research question was, how do consumer attitudes toward sport psychology consultation differ based on professional title and their own role (i.e., AT, head coach, or student-athlete)? In

the spirit of mixed-methods research, the results of this investigation were interpreted in a holistic manner that involved equal consideration and integration of the quantitative and qualitative data (Creswell, 2014).

ATs and student-athletes both had significantly more confidence in sport psychology consultation from a sport psychologist compared to a CMPC or a mental conditioning coach. Although head coaches did not demonstrate significance in this area, the post-hoc pairwise comparisons were of moderate effect size. Overall, these populations of potential consumers (i.e., NCAA DI ATs, head coaches, student-athletes) seem to prefer the services of a sport psychologist compared to other professionals. This is in line with the results of Woolway and Harwood (2015), who found that an international group of athletes preferred the services of a sport psychologist compared either to a neuro-linguistic programming practitioner or a life coach.

There are several reasons why participants may have displayed more confidence in a sport psychologist compared to the other professionals. The short answer results support the contention made by previous researchers that sport psychologist is a unique title that emits expertise in both mental performance and mental health (Van Raalte et al., 1990; Van Raalte et al., 1993; Van Raalte et al., 1996). Therefore, it may be that consumers are simply more confident in the services of a professional who they feel can address a wider range of concerns.

However, it is also important to consider that trust in a sport psychology professional is an important antecedent of sport psychology service use, and having regular exposure to sport psychology and sport psychology professionals may enhance this sense of trust (Zakrajsek et al., 2023). Many more participants in the current investigation reported previously working with a sport psychologist than with a CMPC or mental conditioning coach. This result is not particularly surprising since most (76.8%) professionals working full-time within NCAA DI athletic have a license, either providing both mental performance and mental health services (56.5%) or solely mental health services (20.2%; Jones et al., 2022). "Sport psychologist" was even one of the titles used by some of the professionals identified as solely providing mental health services. It is likely that more familiarity, exposure to, and experience with professionals who use the title of "sport psychologist" enhances the confidence that a consumer has in the services of others with the same professional title. Additionally, as previously mentioned, in the United States, the term "sport psychologist" has historically

been used to refer to any professional who works in the sport psychology field (Aoyagi et al., 2012). The historical use of this term may have been another factor that enhanced participants' sense of familiarity and trust toward this professional title.

However, it must be noted that although "psychologist" is a legally protected term in most of the United States and several other countries (e.g., Canada), many professionals who do not meet the requisite qualifications or have the appropriate expertise use the title of "sport psychologist" (Aoyagi et al., 2012). Such inappropriate use of the "sport psychologist" title by providers may make this professional seem more commonplace than they truly are. Because a "sport psychologist" appears to be preferred by consumers (Woolway & Harwood, 2015), the oversaturation of this title may artificially reduce consumers' confidence in the services of a CMPC or mental conditioning coach.

This notion is further supported by the short answer results that the participants provided regarding service provision. Many head coaches and ATs provided unprompted doubts surrounding the expertise and competence of someone who used either the CMPC or mental conditioning coach professional titles. Specifically, several participants questioned the legitimacy of the "certified" component of CMPC. Conversely, no such doubts were reported regarding the sport psychologist professional title from ATs, head coaches, or student-athletes. It may be that no doubts were reported regarding the sport psychologist title because of participants' familiarity with these professionals and a general respect for the term "psychologist." However, this result is quite ironic because the full professional title of "sport psychologist" has no standardized obtainment procedures. On the other hand, obtaining the CMPC requires a master's degree in sport psychology (or related field), 400 hours of mentored experience with performance populations, and a certifying examination (AASP, 2024). Unfortunately, participants' short answer responses (particularly those of ATs and head coaches) suggest that many consumers of sport psychology services are not aware of this training.

Despite the fluctuations that were seen regarding participants' confidence in the services of these three professionals, it was promising to see that stigma tolerance for CMPC, mental conditioning coach, and sport psychologist were all quite low. In fact, all nine means for the stigma tolerance subscale scores of the SPA-R and SPARC-2 were below 2.25 out of six on the Likert-type scale. Furthermore, stigma tolerance scores

in the current investigation were lower than those reported in previous research concerning coaches (Zakrajsek et al., 2011) and athletes (Martin et al., 2004; Martin, 2005). This result points to a continued normalization and acceptance of sport psychology and sport psychology practitioners, particularly within NCAA DI settings (Jones et al., 2022; Zakrajsek et al., 2018).

That said, it should still be noted that student-athletes reported significantly more stigma in receiving services from all three sport psychology professionals than head coaches or ATs. This result is interesting to consider in light of previous research, which demonstrated that student-athletes tend to underutilize the psychological resources that are available to them due to perceived stigma (Chow et al., 2020; DeLenardo & Terrion, 2014; Zakrajsek et al., 2023). It is possible that student-athletes do not recognize how confident head coaches and ATs are in sport psychology services and, to a certain extent, worry that the use of sport psychology services indicates “mental weakness” that could result in the loss of playing time or respect from others. Potential miscommunication such as this is why it is essential that all members of athletic organizations openly discuss and normalize the use of sport psychology (Bianco, 2022; Zakrajsek et al., 2018).

The second research question that guided this investigation was, what services do consumers believe that sport psychology providers with these professional titles can provide? Participants had a strong grasp of the general services that these professionals can offer. Specifically, participants correctly recognized that a sport psychologist should have additional training that allows them to help athletes with clinical mental health challenges (e.g., eating disorders, depression) in addition to mental performance challenges.

Conversely, all three populations recognized that a CMPC and a mental conditioning coach were primarily tasked with teaching life skills (e.g., leadership) and strategies that enhance mental performance in sport. This understanding was particularly impressive, considering that most participants reported that they had never worked with a CMPC or mental conditioning coach. In general, it appears that CMPC and mental conditioning coach are effective professional titles when it comes to highlighting the services these individuals can provide.

However, there were some distinctions between these two professionals that demonstrate how important terminology can be. For instance, unlike a CMPC, participants felt that a mental conditioning coach could

also provide services related to physical training (e.g., strength and endurance training). This result is similar to that of Van Raalte et al. (1990), who found that someone titled “coach” was perceived to have expertise in the physical aspects of sport performance. It may be that, for some consumers, the terms “conditioning” and “coach” overpowered the term “mental.”

Practical Implications

The Association for Applied Sport Psychology developed the CMPC to “demonstrate to clients, employers, colleagues, and the public at large that an individual has met the highest standards of professional practice” (AASP, n.d., para. 1). Although it is important to remember that the CMPC is still in its infancy, the misunderstandings regarding the training and services provided by this professional title are important to note. That said, the results of this study do highlight several practical implications surrounding how to both promote the CMPC and strengthen the field of sport psychology. First, AASP should continue developing educational materials on the CMPC and distribute them to other professional organizations such as the NCAA and the National Athletic Trainers’ Association. These materials could include information on certification criteria and how a CMPC can effectively work with and through other professionals (e.g., ATs, head coaches) to support student-athletes and athletic organizations.

Additionally, sport psychology professionals should recognize that consistent use of professional titles can lead to a stronger professional identity, which would help the field thrive (Wagstaff & Quartiroli, 2020). Recently, Jones et al. (2022) found that 32 different professional titles were used by sport psychology professionals working full-time in NCAA DI athletic departments. The use of so many different professional titles may be confusing to potential consumers and interfere with the validity of the field. Moreover, if current and prospective CMPCs want the certification to be as valuable as possible, it is important that CMPC (or at least “mental performance consultant”) is consistently used as a professional title in practice.

Finally, sport psychology professionals should be cognizant that misuse of the term “sport psychologist” may contribute to inaccurate perceptions of other sport psychology professionals (e.g., CMPC). Sport psychology professionals should ensure that their professional title is correct in visible locations such as their offices and university websites. If “sport psychologist” is used inappropriately or unethically, sport psychology professionals should, to the best of

their ability, notify and educate the responsible party (e.g., media organization, employer, consumer). Finally, sport psychology professionals with any title should always explain their role and competencies when working with clients and organizations.

Limitations and Future Research Directions

This study did have certain limitations that can inform future research. First, it is important to consider the response rate of the Qualtrics survey. We expect these poor completion rates were due to recruitment occurring during the COVID-19 pandemic. During this time, many individuals developed “survey fatigue,” which resulted in reduced response rates across many academic fields (de Koning et al., 2021, p. 2). It is also important to consider that the populations included in this study were from a single United States setting which limits the generalizability of the results to other contexts. It is possible that different populations have had different types of exposure to sport psychology and thus have unique perceptions of the professional titles that are used in the field. Future research surrounding professional titles should explore different populations, such as professional athletes, youth sport parents, international settings, and non-sport performers (e.g., military).

Additionally, participants in this study could have previously worked with a CMPC but were unaware because this professional utilized a different title (e.g., mental skills coach). Moreover, the full extent to which the current group of participants previously interacted with the sport psychology providers is unclear. Future studies utilizing qualitative methodology (e.g., ethnography) may provide valuable insight into what exactly these interactions entail. Along these same lines, there is evidence that past sport psychology experience can positively and negatively influence attitudes toward sport psychology, depending on the quality of the interaction (Wrisberg et al., 2009). Unfortunately, due to the small sample size, we were unable to include previous experience as a covariate in the non-parametric tests. Regardless, the current results do provide insight and preliminary data on NCAA DI ATs', head coaches', and student-athletes' perceptions of professionals providing sport psychology services.

Finally, consumer perceptions of professional titles change when they are provided education on the meaning of the title (Woolway & Harwood, 2015). Therefore, an educational intervention similar to that conducted by Woolway and Harwood (2015) should be pursued to determine if consumer perceptions

of CMPC change when they are made aware of the certification criteria.

Conclusion

Professional titles are an important aspect of professional identity and can influence consumer preferences. However, there is limited research surrounding contemporary professional titles in sport psychology. Therefore, the purpose of this study was to explore ATs', head coaches', and student-athletes' perceptions of three commonly used professional titles in sport psychology. NCAA DI ATs and student-athletes reported significantly more confidence in sport psychology consultation from a sport psychologist compared to a CMPC or mental conditioning coach. Additionally, student-athletes perceived significantly more stigma in using the services of all three sport psychology professionals than ATs and head coaches. While participants recognized that CMPCs provide services meant to improve mental performance in sport, head coaches and ATs harbored doubts and misconceptions surrounding the credibility of these professionals. The Association for Applied Sport Psychology should continue its efforts to market the CMPC and educate potential consumers on the certification criteria. Current and prospective CMPCs must also recognize that consistent use of professional titles can help the field of sport psychology thrive.

Author Note

I, the first/corresponding author, and at least one other co-author(s) have financial and/or personal relationships with an individual or entity that could have arguably or perceptively inappropriately influenced the present study. Specifically, all four of the authors are members of the Association for Applied Sport Psychology (AASP). Furthermore, the third and fourth authors are Certified Mental Performance Consultants (CMPCs). Finally, this study was supported by an AASP Foundation Research Seed Grant. Because this study concerns AASP and the CMPC credential, it is important that people who read this manuscript are aware of this.

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“That’s How We Do Things Here”: An Investigation into Athlete Perceptions of Coach and Peer Leadership Behaviors, and Team Culture

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Team culture can be considered essential for the success of any sport team, and it is known that leaders of all kinds play a unique role in making team success a reality. Utilizing survey tools developed by industrial/organizational psychology, this study investigated how athlete perceptions of head coach and peer leadership behaviors are predictive of athlete perceptions of team culture. A sample of 155 current collegiate athletes representing 17 NCAA teams across three divisions participated in an online survey. A path model analysis found that perceptions of leadership behaviors of both head coaches and peer leaders were significantly predictive of athlete perceptions of team culture. Further, perceptions of head coach leadership behavior were predictive of perceptions of group communication, while perceptions of peer leadership were more significantly related to the social aspects of team culture. The results of this study provide insight into the unique ways in which athletes’ perception of leadership can influence team culture and can aid in the understanding of how team culture works within a sport context.

Keywords: team culture, coach leadership, peer leaders, group dynamics

In sport, team culture has been defined as the shared values, expectations, and behavioral practices of a particular group (Cruickshank et al., 2014; Schein & Schein, 2016). These various components are sometimes called group dynamics (Beauchamp et al., 2005), but as a whole, they can be referred to as organizational or team culture (Glaser et al., 1987; Schein & Schein, 2016). Having an effective team culture has been associated with numerous positive outcomes, such as stronger team cohesion (Shields et al., 1997) and team performance success (Frontiera, 2009). As a result of these benefits, team culture is often considered to be an impactful contributor to overall team success. However, due to its multifaceted nature, team culture intersects with many additional constructs that are associated with team success (e.g., leadership, motivational climate), making the exact impact of team culture difficult to discern.

Because an operationalized definition of team culture

in sport has yet to be determined, it is important to have a theoretical understanding of what team culture is and how it can be experienced (McDougall et al., 2020). The construct of team culture in sport is understood similarly to organizational culture in industrial/organizational (I/O) psychology. *Organizational culture* refers to the values, beliefs, and experiences shared by the members of a particular organization or group (Schein & Schein, 2016). Although most of the research guiding this work was done in reference to organizational culture, the term “team culture” will be used for the remainder of the paper when discussing the unique culture of groups. Team culture is a mark of distinction between groups. For example, the team culture between elite sport and lower-level recreational sport in the United States is noticeably different when considering the structure, values, and normative behaviors of the group (Green & Oakley, 2001). In the context of NCAA intercollegiate athletics, different teams possess different values that make them unique even in their shared higher level of competition.

Researchers have long been interested in the effects of groups on performance outcomes (Beauchamp & Eys, 2014; Carron et al., 1985; Horn et al., 2012; Kwantes &

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Boglarsky, 2007; Levy, 2017; Loughhead & Hardy, 2005; Schein & Schein, 2016). Schein's Culture Model provides a theoretical understanding of team culture (Schein & Schein, 2016). This model frames team culture as an iceberg, composed of three parts: artifacts (i.e., symbols, stories, rituals), values (i.e., reasons and/or rationalizations for why group members do what they do), and core assumptions (i.e., how members think, feel, and perceive). These three components serve as guides for a group in the process of problem-solving, adapting external behaviors, and internal integration (Cole & Martin, 2018; Schein & Schein, 2016). This model reflects the internal components of team culture. A team can define their values and beliefs and then associate them with tangible artifacts to guide behavior. However, the external behavior itself is not accounted for.

Even with models such as Schein's, there has been disagreement on the overall conceptualization of team culture (Denison & Mishra, 1995; Maitland et al., 2015; Scott et al., 2003), especially regarding practical applications. Team culture has been called "the twilight zone" of sport psychology and sport management (Cruickshank & Collins, 2013, p. 7). This is because team culture is often used to describe sport teams independently and in the context of a larger business organization. This is particularly notable in the context of collegiate sport. Individual teams are connected to a larger department that promotes its own culture. Individual teams may share the values and expectations of the larger department but are still unique within the larger system (Schroeder, 2010). Glaser and colleagues (1987) sought to measure team culture via action-based perceptions rather than psychological constructs. Action-based perceptions of team culture are the observable actions made by team members that represent the shared culture. Through the development of the Organizational Culture Survey (OCS), they identified behavioral demonstrations of teamwork, climate and morale, information sharing, member involvement, supervision, and meetings as areas that prominently displayed the values and underlying assumptions of a team's culture.

In the OCS, teamwork is conceptualized as the interpersonal coordination with others on the team, such as the way they speak to one another and handle conflict when it arises. Climate and morale refer to the environmental experience of being within the group, along with the resulting atmosphere of trust or motivation that can come from that experience. Information sharing and involvement refer to an

individual's access to knowledge and autonomy within the team to fulfill their designated role. Lastly, Glaser and colleagues (1987) considered the actions of leaders as essential in the way culture is perceived by an individual within the team, as well as meeting productivity and the usage of time. Glaser and colleagues (1987) noted that this list is not exhaustive, nor is it exclusive. Several additional factors can come together to influence the perception of team culture, such as sociocultural setting or various group demographics (Hofstede et al., 1990). However, their goal in developing this measure was to highlight these specific action-based factors as essential to the creation of team culture and thus important to an individual's perception of team culture (Glaser et al., 1987).

The components outlined by Glaser and colleagues (1987) are not unlike the conceptualization of group constructs that are often studied in the sport psychology domain. Group dynamics are a popular topic of study, especially as they relate to performance (Kleinert et al., 2012). Group dynamics are understood as various elements, processes, and set conditions that help develop a group (Beauchamp & Eys, 2014; Denison, 1996) and contribute to their successes and/or failures (Chelladurai, 2004). The group dynamics framework is a more common approach to the study of groups in sport psychology (Beauchamp & Eys, 2014; Kleinert et al., 2012), thus making the topic of team culture in sport an under-studied area. For example, Carron and colleagues (1985) provided a conceptualized measure of group cohesion, which is understood to be the dynamic process in which groups tend to stick together in pursuit of their common goals and/or group satisfaction. Additionally, motivational climate has been understood as a psychological environment created via interpersonal interactions to influence an individual's drive toward achievement via mastery or task motivations (Chelladurai, 2004; Harwood & Thrower, 2020). These concepts, as well as role clarity, leadership, and many others, are considered to sit underneath the larger umbrella of team culture by both industrial/organizational (Denison, 1996; Glaser et al., 1987) and sport psychology researchers (Cruickshank & Collins, 2013; Maitland et al., 2015; McDougall et al., 2020). This suggests that individual study of these elements tells only part of a larger story.

Leaders whose behaviors are included in action-based descriptions of team culture are influential to an individual's experience of belonging to a sport team (Cruickshank & Collins, 2013; Frontiera, 2009; Shields et al., 1997). Shields and colleagues (1997) found that

generally group cohesion and athlete perceptions of leadership behavior were strongly related in the collegiate sport context. Leadership behaviors of collegiate and elite head coaches have been studied—primarily via qualitative methods—to explore their influence during times of culture change or implementation (i.e., the transient times when team culture is not yet firmly established). Researchers have found that the manner in which a head coach communicates with a team is essential to generating “buy-in” to the team culture (Cruickshank et al., 2014; Donoso-Morales et al., 2017; Fletcher & Arnold, 2011; Schroeder, 2010; Scott, 1997).

However, head coaches are not the only individuals in positions of leadership that influence the group dynamics. For example, peer leaders often demonstrate a role in shaping athletes’ perceptions of the motivational climate (Ntoumanis & Vazou, 2005). Peer leaders are athletes who are members of the team that also possess a leadership role either formally (e.g., team captain) or informally (e.g., veteran team member). A study by Loughhead and Hardy (2005) found that head coaches and peer leaders of club, collegiate, and national teams tend to exhibit different types of leadership behaviors. For example, athletes perceived head coaches to display more leadership behaviors surrounding training and instruction and more autocratic behaviors (e.g., controlling, independent decision-making) than peer leaders, who were found to display more behaviors of social support, positive feedback, and democratic behaviors (Loughhead & Hardy, 2005). Research on peer leadership behaviors and their influence on collegiate athletes’ experiences of team culture is limited compared to the literature on head coach influence on team culture. Although some studies, such as one by Cole and Martin (2018), explored how peer leaders might influence and disrupt team culture, a majority of the research emphasizes the head coaches’ experience of team culture rather than that of the athletes who make up the group.

For this reason, this study sought to determine if athlete perceptions of leadership behaviors of the head coaches and peer leaders were predictive of athlete perceptions of team culture. It was hypothesized that athlete perceptions of the leadership behavior of head coaches would be positively related to athlete action-based perceptions of team culture. Secondly, it was hypothesized that athlete perceptions of peer leadership behaviors would be positively related to athlete action-based perceptions of team culture. The final hypothesis involved the use of a simultaneous investigation of

athlete perceptions of head coach leadership behaviors and peer leadership behaviors. It was hypothesized that the perception of peer leadership behaviors would be uniquely related to athlete action-based perceptions of team culture while controlling for athlete perceptions of coach leadership behavior.

Method

Participants

This study was conducted with a sample of NCAA collegiate sports teams. Participants needed to be at least 18 years old and currently participating in their collegiate varsity-level sport team. The emphasis was placed on interactive team sports due to the increased importance of working as a group toward a successful team performance. Sports represented in this study were volleyball, basketball, field hockey, ice hockey, softball, lacrosse, and soccer.

One hundred and fifty-five athlete participants initially agreed to participate in this study, but only 130 participants provided necessary responses for the three main outcomes of this study. Given our approach to missing data (to be detailed), the effective sample size was 130 (for main outcomes) and less than or equal to 130 for demographic variables ($n_{age} = 105$, $n_{gender} = 130$, $n_{race/ethnicity} = 129$). Participant ages ranged between 18 and 24 years ($M_{age} = 20.25$, $SD_{age} = 1.43$). A majority (77.7% or $n = 101$) of participants identified as women and as Caucasian/white (88.5% or $n = 115$). Additional sample demographic information can be found in Table 1.

Measures

This study was conducted utilizing several self-report questionnaires, which were administered via the online survey tool, Qualtrics. The questionnaires included participant demographics, an open-ended prompt asking athletes to describe their team culture in their own words, the Leadership Scale for Sport (Chelladurai & Saleh, 1980) for the head coach, the Leadership Scale for Sport for a peer leader, and the Organizational Culture Survey (Glaser et al., 1987).

Head Coach and Peer Leadership Behaviors

The Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) was used to measure participants’ perceptions of leadership behaviors on five subscales: Training/Practice, Democratic, Autocratic, Social Support, and Positive Feedback behaviors.

TEAM CULTURE AND LEADERSHIP BEHAVIORS

Developmental studies by Chelladurai and Saleh (1980) demonstrated that the five-factor questionnaire was meaningful for the conceptualization of leadership behaviors. Current participants responded to 40 items on a five-point Likert Scale, 1 (“my coach never does this behavior”) to 5 (“my coach always does this behavior”). Internal consistency estimates from a Cronbach’s alpha test ranged from .45 to .93, with test re-test reliability ranging from .71 to .82, suggesting a relatively stable tool (Chelladurai & Saleh, 1980). Since its development, the LSS has been used in various studies set in the intercollegiate sport context (Rierner & Toon, 2001; Witte, 2011; Zhang et al., 1997).

Two versions of the LSS were used in this study: one referring to the leadership behavior of participants’ head coach and the second referring to the leadership behavior of an influential peer leader chosen by participants. We used Vincer and Loughhead’s (2010) Athlete Leader Version of the LSS, a survey utilized with collegiate athletes in previous research (Burkett et al., 2014). Specifically, participants were asked to choose an individual they believed to be an influential leader on the team; importantly, this individual did not have to be a *designated* team captain. Participants provided basic demographic information about their chosen leader (i.e., class level and team captain status) and were then asked to consider that individual when responding to the items of the LSS. No additional identifying data were collected.

The influential peer leader version also utilized the same five-point scale, switching “coach” for “team leader.”

Both versions of the LSS included the same 40 items with the word “athlete” replaced with “teammates” in the influential peer leader survey (Vincer & Loughhead, 2010). For example, the item “Lets athletes share in decision making” is used in the head coach version, and “Lets teammates share in decision making” is the corresponding item in the influential peer leader survey. The data set of this study demonstrated appropriate reliability standards for both versions of the LSS. Cronbach’s alphas for both surveys ranged from .71 to .91, meeting the standard for alpha values larger than .70 (Nunnally & Bernstein, 1994).

Team Culture

The Organizational Culture Survey (OCS; Glaser et al., 1987) was used to measure perceptions of team culture. Participants responded to 31 items that represented six different subscales: Teamwork, Climate/Morale, Communication Flow, Involvement, Supervision, and Meeting Participation. Subscales of Teamwork, Climate and Morale, and Involvement addressed the athletes’ own personal experiences on the team. The Teamwork subscale addressed if the athlete feels a sense of interpersonal coordination with others on the team. The Climate and Morale subscale considered the extent to which the athletes perceive the environment to feel welcoming or motivational. The Involvement subscale considered whether athletes feel their opinions are valued within the context of the team. The subscale of Supervision focused on the interpersonal skills of the direct supervisor. This was the head coach in the context of this study. Communication Flow referred to the accessibility of information among all members of the team, and Meeting Participation would be the occurrence and productivity of team meetings (Glaser et al., 1987).

The OCS was developed in the context of I/O psychology, but for this study, the survey was adapted to fit a sport team as no such survey exists specifically for measuring team culture in athletic settings. Stem words were changed to adapt the scale for a sport-specific context. For example, the word “office” was changed to “team,” and “coworkers” was changed to “teammates.” As such, the item: “people in my office are honest and direct with each other” was modified to “people on my team are honest and direct with each other” to fit the context of this study. Respondents utilized a 5-point Likert scale (1, “this is nothing like my team’s culture,” to 5, “this is very much like my team’s culture”). An average

Table 1. Participant Demographic Information

	<i>N</i>	%
Gender		
Men	29	22.3
Women	101	77.7
Race/Ethnicity		
Caucasian	115	88.5
Black/African American	9	6.9
Asian	2	1.5
Hispanic	3	2.3
Indigenous American	2	1.5
Native Hawaiian or Pacific Islander	2	1.5
Other	4	3.0
Sport Types		
Basketball	6	36.2
Volleyball	5	29.0
Field Hockey	2	11.7
Ice Hockey	1	5.8
Softball	1	5.8
Soccer	1	5.8
Lacrosse	1	5.8

score for each subscale represents an overall score for each action-based characteristic of one's team culture. At the development of the survey, authors accepted internal consistency measures of alpha larger than .64 for their subscales. These data possessed alphas larger than .80 for all subscales, meeting the standards of the authors (Glaser et al., 1987) and the field (Nunnally & Bernstein, 1994).

Procedure

Upon gaining approval from an institutional ethics review board, recruitment began utilizing purposive sampling methods. All teams invited to participate were NCAA varsity level team sports that had publicly available contact information for coaching staff. E-mail invitations were sent to the head coaches of teams for permission to contact their athletes regarding study participation. Data were intended to be collected midway through the season of participating teams to allow teams time to acclimate to their team cultures, however, due to the schedules of participating teams, data were accepted at all periods of time. Researchers sent three invitation emails to head coaches before removing them from the contact list. An email list of student-athletes, provided by the head coach, allowed researchers to directly contact the student-athletes with an invitation to participate. Similarly, researchers sent participating athletes two reminder emails over two weeks after the initial participation invitation. Questionnaires included a demographic section, the LSS for Head Coach, the LSS for peer leaders, and the OCS. Questionnaires were counterbalanced to account for potential biases that might come from completing the various surveys in a certain order and to dissuade any survey fatigue.

Missing Data

Missing data were handled consistent with recommendations from Patel and associates (2021). There were 111 measured variables: 40 LSS – head coach items, 40 LSS – peer leader items, 31 OCS items. Missing data on the 40 LSS – head coach items ranged from 14.62% ($n = 19$; e.g., item 3) to 0.90% ($n = 22$; e.g., item 5). Missing data on the 40 LSS – peer leader items ranged from 8.46% ($n = 11$; e.g., item 1) to 10.00% ($n = 13$; e.g., item 6). Missing data on the 31 OCS items ranged from 13.08% ($n = 17$; e.g., item 1) to 15.38% ($n = 20$; e.g., item 23). In summary, across measured variables, missing data comprised 12.68% of possible observations (i.e., 1,830 out of 14,430 total cells were missing data). Missing data were handled under the assumption that data were missing at random (Rubin,

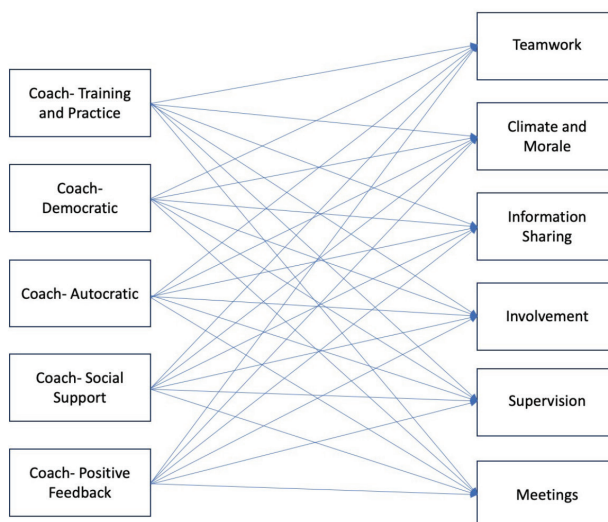
1987). Multiple imputations with 1000 imputed data sets were requested from the unrestricted model. Parameter estimates and their standard errors were then combined across replications according to rules provided by Rubin (1987) and Schafer (1997). These approaches to missing data resulted in an analytic sample size of 130.

Data Analytic Approach

Three separate observed path models (see Figures 1–3) were fit to the data to test the three separate hypotheses of the observed variables with robust maximum likelihood estimation (MLR; Yuan & Bentler, 2000) in Mplus 8.7 (Muthén, 1989; Muthén & Muthén, 1998). Each path model was just-identified ($df = 0$), which made investigation of model-data fit not possible. Each path model specified team as a cluster variable and modeled a pooled within-cluster covariance matrix to account for dependency due to team (e.g., Muthén, 1989). The first path model regressed the six team culture subscales on the five leadership behaviors of head coach subscales. This model estimated 57 parameters with the 30 regression coefficients as the focal parameters. The purpose of this model was to test if athlete perceptions of leadership behavior of head coaches predicted their perceptions of team culture. Path models with latent variables were not imposed due to the modest sample size (e.g., Ntoumanis & Myers, 2016).

The second path model regressed the six team culture subscales on the five leadership behaviors of peer leader subscales. This model estimated 57 parameters with the

Figure 1. Path Analysis Model Regressing Team Culture on Head Coach Leadership Behaviors



30 regression coefficients as the focal parameters. The purpose of this model was to test if athlete perceptions of peer leadership behavior predicted their perceptions of team culture. The third path model regressed the six team culture subscales on both the five leadership behaviors of head coach subscales and on the five leadership

behaviors of peer leader subscales simultaneously. This model estimated 87 parameters with the 60 regression coefficients as the focal parameters. The purpose of this model was to test if athlete perceptions of peer leadership behavior predicted their perceptions of team culture, after controlling for athlete perceptions of leadership behavior of head coaches.

Figure 2. Path Analysis Model Regressing Team Culture on Peer Leadership Behaviors

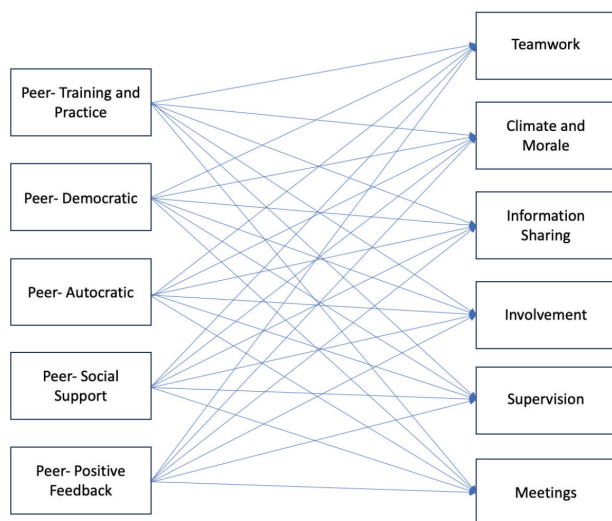
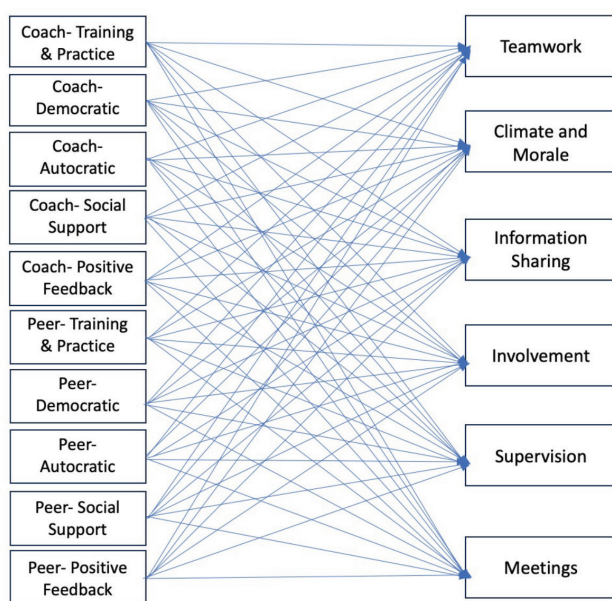


Figure 3. Path Analysis Model Regressing Team Culture on Head Coach Leadership Behaviors and Peer Leadership Behaviors



Results

Three models were generated for each of the three hypotheses. The first model analyzed the LSS coach data related to the OCS data. The second analyzed the LSS peer leader data related to the OCS, and the third analyzed both sets of LSS data (coach and peer) simultaneously in their relation to the OCS. Table 2 provides a summary of study variables, including Pearson's R correlations.

Relationship Between Perceived Coach Leadership Behavior and Team Culture

Table 3 shows that a significant relationship was found between the LSS Coach and the OCS. The R-Squared values revealed that OCS subscales of Supervision ($R^2 = .639$, $p < .001$), Information Sharing ($R^2 = .190$, $p = .008$), Meetings ($R^2 = .176$, $p = .01$), and Involvement ($R^2 = .182$, $p = .036$) were most significantly related to the LSS Coach subscales. Examination of the unstandardized beta values show that Head Coach Training and Practice Behavior were significantly predictive in nature of two of the OCS subscales—Information Sharing ($B = .52$, $p = .004$) and Meetings ($B = .43$, $p = .007$). Additionally, three of the LSS Coach variables were predictive of the OCS subscale of Supervision. Social Support ($B = .33$, $p < .001$) and Positive Feedback ($B = .28$, $p = .011$) were positively related to Supervision, while Autocratic Behaviors and Supervision ($B = -.18$, $p = .001$) possessed a negative relationship. None of the subscales of the LSS Coach survey were significantly predictive of the OCS subscales of Teamwork, Climate and Morale, or Involvement. These findings demonstrate the ways in which athlete perceptions of head coach leadership behaviors are significantly related to their perceptions of action-based team culture.

Relationship Between Perceived Peer Leadership Behavior and Team Culture

As shown in Table 4, a significant relationship exists between the LSS Peer survey and the OCS. The R-squared values indicated that the OCS subscales of Teamwork ($R^2 = .253$, $p = .003$), Involvement

Table 2. Pearson's R Correlations, Means, Standard Deviations, Possible and Obtained Ranges for All Study Variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Coach Training and Practice	-	-	-	-	-	-	-	-	-	-	-	-	--	-	-	-
2. Coach Democratic	0.67***	-	-	-	-	-	-	-	-	-	-	-	--	-	-	-
3. Coach Autocratic	-.04	.00	-	-	-	-	-	-	-	-	-	-	--	-	-	-
4. Coach Social Support	.66***	.69***	-.09	-	-	-	-	-	-	-	-	-	--	-	-	-
5. Coach Positive Feedback	.75***	.64***	-.09	.73***	-	-	-	-	-	-	-	-	--	-	-	-
6. Peer Training and Practice	.38***	.41***	.08	.36***	.40***	-	-	-	-	-	-	-	--	-	-	-
7. Peer Democratic	.11	.23*	.09	.13	.24*	.43***	-	-	-	-	-	-	--	-	-	-
8. Peer Autocratic	.13	.26*	.45***	.26**	.13	.16	-.06	-	-	-	-	-	--	-	-	-
9. Peer Social Support	.11	.16	-.04	.24**	.20*	.42***	.45***	-.14	-	-	-	-	--	-	-	-
10. Peer Positive Feedback	.20*	.13	-.01	.19**	.34***	.32***	.55***	.28***	.52***	-	-	-	--	-	-	-
11. Teamwork	.30***	.29**	.03	.20**	.29**	.44***	.33***	-.00	.31***	.35***	-	-	--	-	-	-
12. Climate	.18*	.04	-.02	.06	.16	.29*	.20*	-.04	.17	.30**	.78***	-	--	-	-	-
13. Information	.41***	.21**	-.09	.26**	.32***	.35***	.24**	.07	.12	.23*	.55***	.59***	--	-	-	-
14. Involvement	.33***	.36***	-.13	.38***	.33**	.35**	.37***	.02	.21**	.25*	.55***	.52***	.63***	-	-	-
15. Supervision	.64***	.60***	-.24*	.72***	.71***	.31**	.19**	.07	.13	.15	.29**	.08	.40***	.58***	-	-
16. Meetings	.41***	.31***	-.03	.29**	.33***	.36***	.21**	.07	.15	.21*	.63***	.66***	.58***	.55***	.34***	-
M	4.15	3.45	2.81	3.77	3.93	3.79	4.05	2.14	4.28	4.47	3.94	4.38	4.26	4.05	3.95	3.94
SD	.65	.78	.78	.83	.78	.69	.70	.88	.67	.66	.69	.74	.72	.79	.79	.80
Obtained Range	1.92-5	1.8-5	1.8-5	1.75-5	1.83-5	1.46-5	2.22-5	1-5	2.25-5	2.4-5	1-5	1.2-5	1-5	1-5	1.71-5	1.25-5
Possible Range	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

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($R^2 = .187, p = .011$), and Information Sharing ($R^2 = .160, p = .042$) were the most significantly influenced by the scores of the subscales of the LSS Peer survey. Review of the unstandardized beta values from the model shows Training and Practice Behavior of peer leaders was significantly predictive of Teamwork ($B = .33, p = .047$), Information Sharing ($B = .32, p = .045$), and Meetings ($B = .38, p = .033$). Positive Feedback Behavior of peer leaders also significantly predicted Climate and Morale ($B = .30, p = .014$). Democratic behavior was significantly predictive of scores of team culture Involvement ($B = .28, p = .014$). The analysis shows that peer leadership autocratic behavior and social support were not significantly predictive of perceptions of

Table 3. Results of Athletes' Perceptions of Head Coach Leadership Behavior as it Relates to Team Organizational Culture

Variable	<i>beta</i>	<i>B</i>	<i>SE</i>	<i>z</i>	95% CI
Teamwork					
Training and Practice	.15	.16	.16	.99	[-.16, .47]
Democratic	.18	.16	.15	1.02	[-.15, .46]
Autocratic	.04	.04	.11	.31	[-.19, .26]
Social Support	-.15	-.13	.14	-.91	[-.40, .15]
Positive Feedback	.19	.17	.15	1.10	[-.13, .46]
Climate and Morale					
Training and Practice	.22	.25	.16	1.53	[-.07, .57]
Democratic	-.13	-.13	.14	-.92	[-.39, .14]
Autocratic	-.004	-.004	.10	-.04	[-.19, .19]
Social Support	-.12	-.11	.11	-1.04	[-.32, .10]
Positive Feedback	.17	.17	.16	1.03	[-.15, .48]
Information Sharing					
Training and Practice	.47	.52	.18	2.85**	[.16, .87]
Democratic	-.15	-.13	.11	-1.19	[-.35, .09]
Autocratic	-.07	-.06	.09	-.68	[-.24, .11]
Social Support	.03	.02	.09	.25	[-.16, .21]
Positive Feedback	.03	.03	.11	.29	[-.18, .24]
Involvement					
Training and Practice	.08	.10	.15	.70	[-.19, .39]
Democratic	.16	.16	.15	1.06	[-.14, .46]
Autocratic	-.10	-.10	.09	-1.19	[-.28, .07]
Social Support	.20	.19	.11	1.82	[-.02, .40]
Positive Feedback	.01	.01	.18	.04	[-.35, .36]
Supervision					
Training and Practice	.13	.16	.11	1.40	[-.06, .38]
Democratic	.09	.10	.08	1.21	[-.06, .25]
Autocratic	-.18	-.18	.06	-3.19***	[-.29, -.07]
Social Support	.35	.33	.08	4.33***	[.18, .49]
Positive Feedback	.28	.28	.11	2.55*	[.07, .50]
Meetings					
Training and Practice	.34	.43	.16	2.68**	[.11, .74]
Democratic	.08	.08	.12	.70	[-.14, .31]
Autocratic	-.02	-.02	.10	-.20	[-.22, .18]
Social Support	-.02	-.02	.12	-.14	[-.26, .22]
Positive Feedback	.03	.03	.14	.25	[-.23, .30]

Note. *beta* = estimated standardized beta; *B* = estimated unstandardized beta; CI = confidence interval.

* $p < .05$, ** $p < .01$, *** $p < .001$

team organizational culture. No significant relationship was found between the LSS Peer subscales and the OCS subscale of Supervision, suggesting that peer leadership behaviors do not influence perceptions of the head coach in the context of culture. These findings show that athlete perceptions of peer leadership behavior are significantly predictive of athlete perceptions of team culture.

Simultaneous Relationship Between Perceived Leadership Behaviors and Team Culture

Table 5 presents the results of a simultaneous analysis of the LSS Coach and the LSS Peer in relation to the OCS. The R-squared values of all OCS subscales suggest that the two LSS surveys, both head coach and peer leader, demonstrate significant influence on athlete perception

Table 4. Results of Athletes' Perceptions of Peer Leadership Behavior as it Relates to Team Organizational Culture

Variable	<i>beta</i>	<i>B</i>	<i>SE</i>	<i>z</i>	95% CI
Teamwork					
Training and Practice	.33	.33	.17	1.98*	[.00, .66]
Democratic	.07	.07	.11	.60	[-.15, .29]
Autocratic	.01	.01	.06	.13	[-.12, .13]
Social Support	.05	.05	.14	.34	[-.23, .33]
Positive Feedback	.19	.20	.11	1.78	[-.02, .42]
Climate and Morale					
Training and Practice	.24	.26	.18	1.45	[-.09, .61]
Democratic	-.02	-.02	.14	-.16	[-.29, .25]
Autocratic	-.02	-.01	.08	-.17	[-.18, .15]
Social Support	-.06	-.07	.12	-.60	[-.30, .16]
Positive Feedback	.26	.30	.12	2.45*	[.06, .53]
Information Sharing					
Training and Practice	.31	.32	.16	2.00*	[.01, .64]
Democratic	.07	.08	.11	.71	[-.13, .28]
Autocratic	.05	.04	.07	.62	[-.10, .18]
Social Support	-.13	-.13	.11	-1.17	[-.36, .09]
Positive Feedback	.17	.19	.16	1.15	[-.13, .50]
Involvement					
Training and Practice	.24	.27	.18	1.51	[-.08, .62]
Democratic	.25	.28	.12	2.46*	[.06, .51]
Autocratic	.01	.01	.08	.15	[-.14, .16]
Social Support	-.04	-.04	.13	-.32	[-.29, .21]
Positive Feedback	.06	.07	.16	.45	[-.24, .39]
Supervision					
Training and Practice	.28	.32	.17	1.88	[-.01, .65]
Democratic	.06	.07	.15	.45	[-.22, .36]
Autocratic	.04	.04	.09	.42	[-.14, .21]
Social Support	-.04	-.05	.17	-.27	[-.39, .29]
Positive Feedback	.06	.07	.16	.45	[-.24, .37]
Meetings					
Training and Practice	.33	.38	.18	2.13*	[.03, .73]
Democratic	.03	.03	.12	.25	[-.21, .27]
Autocratic	.05	.05	.08	.58	[-.11, .20]
Social Support	-.07	-.08	.16	-.49	[-.40, .24]
Positive Feedback	.13	.16	.11	1.42	[-.06, .39]

Note. *beta* = estimated standardized beta; *B* = estimated unstandardized beta; CI = confidence interval.

* $p < .05$, ** $p < .01$, *** $p < .001$

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of action-based team culture. The R-squared values of five of the six subscales were highly significant with p-values of less than .001 (Teamwork, $R^2 = .290$; Information Sharing, $R^2 = .300$; Involvement, $R^2 = .302$; Supervision, $R^2 = .663$; Meetings, $R^2 = .243$). The OCS subscale of

Climate and Morale was slightly less influenced by the LSS subscales while still having a significant R-squared value ($R^2 = .178, p = .028$). The analysis of the LSS Coach, the LSS Peer and the OCS showed seven significant relationships between the head coach LSS and OCS and

Table 5. Results of Athlete's Perceptions of Head Coach and Peer Leadership Behavior as it Relates to Perceptions of Team Organizational Culture

Variable	<i>beta</i>	<i>B</i>	<i>SE</i>	<i>z</i>	95% CI
Teamwork					
Coach Training and Practice	.17	.18	.18	1.04	[-.16, .52]
Coach Democratic	.12	.11	.15	.73	[-.18, .40]
Coach Autocratic	-.003	.00	.13	-.02	[-.25, .24]
Coach Social Support	-.17	-.14	.15	-.92	[-.44, .16]
Coach Positive Feedback	.02	.02	.14	.13	[-.25, .28]
Peer Training and Practice	.26	.26	.18	1.47	[-.09, .61]
Peer Democratic	.06	.06	.11	.55	[-.15, .27]
Peer Autocratic	.01	.01	.09	.10	[-.17, .19]
Peer Social Support	.09	.09	.14	.66	[-.18, .37]
Peer Positive Feedback	.17	.18	.14	1.31	[-.09, .45]
Climate and Morale					
Coach Training and Practice	.22	.26	.16	1.59	[-.06, .57]
Coach Democratic	-.17	-.16	.14	-1.15	[-.44, .12]
Coach Autocratic	-.07	-.07	.11	-.60	[-.29, .15]
Coach Social Support	-.13	-.12	.12	-1.02	[-.35, .11]
Coach Positive Feedback	.02	.01	.16	.09	[-.31, .34]
Peer Training and Practice	.23	.25	.19	1.31	[-.13, .63]
Peer Democratic	.01	.01	.14	.09	[-.25, .28]
Peer Autocratic	.07	.06	.11	.54	[-.15, .27]
Peer Social Support	-.03	-.03	.13	-.22	[-.28, .23]
Peer Positive Feedback	.25	.28	.14	2.01*	[.01, .55]
Information Sharing					
Coach Training and Practice	.50	.55	.18	3.15**	[.21, .90]
Coach Democratic	-.25	-.23	.10	-2.40*	[-.42, -.04]
Coach Autocratic	-.19	-.17	.11	-1.55	[-.39, .05]
Coach Social Support	.03	.02	.10	.22	[-.18, .22]
Coach Positive Feedback	-.10	-.10	.13	-.73	[-.35, .16]
Peer Training and Practice	.22	.23	.17	1.33	[-.11, .56]
Peer Democratic	.17	.18	.12	1.53	[-.05, .41]
Peer Autocratic	.16	.13	.09	1.51	[-.04, .30]
Peer Social Support	-.10	-.11	.13	-.85	[-.35, .14]
Peer Positive Feedback	.12	.13	.17	.77	[-.20, .46]
Involvement					
Coach Training and Practice	.14	.17	.14	1.19	[-.11, .44]
Coach Democratic	.05	.06	.14	.40	[-.21, .32]
Coach Autocratic	-.15	-.15	.12	-1.26	[-.40, .09]
Coach Social Support	.26	.25	.12	2.15*	[.02, .48]
Coach Positive Feedback	-.14	-.14	.18	-.82	[-.49, .20]
Peer Training and Practice	.14	.16	.17	.91	[-.18, .49]
Peer Democratic	.30	.35	.10	3.30***	[.14, .55]
Peer Autocratic	.01	.01	.11	.09	[-.20, .22]
Peer Social Support	-.07	-.09	.11	-.81	[-.30, .12]
Peer Positive Feedback	.05	.06	.16	.35	[-.25, .36]

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Variable	<i>beta</i>	<i>B</i>	<i>SE</i>	<i>z</i>	95% CI
Supervision					
Coach Training and Practice	.14	.17	.11	1.53	[-.05, .38]
Coach Democratic	.05	.05	.07	.71	[-.09, .19]
Coach Autocratic	-.15	-.16	.07	-2.25*	[-.29, -.02]
Coach Social Support	.41	.39	.08	4.65***	[.22, .55]
Coach Positive Feedback	.29	.29	.11	2.56*	[.07, .52]
Peer Training and Practice	.01	.02	.08	.19	[-.15, .18]
Peer Democratic	.15	.17	.07	2.36*	[.03, .31]
Peer Autocratic	-.07	-.07	.07	-.96	[-.20, .07]
Peer Social Support	-.07	-.08	.10	-.80	[-.28, .12]
Peer Positive Feedback	-.13	-.16	.10	-1.61	[-.35, .03]
Meetings					
Coach Training and Practice	.35	.44	.17	2.54*	[.10, .78]
Coach Democratic	.01	.01	.12	.10	[-.22, .24]
Coach Autocratic	-.09	-.09	.12	-.72	[-.32, .15]
Coach Social Support	-.02	-.02	.13	-.16	[-.28, .24]
Coach Positive Feedback	-.07	-.07	.16	-.45	[-.38, .24]
Peer Training and Practice	.21	.25	.18	1.41	[-.10, .59]
Peer Democratic	.07	.08	.11	.72	[-.14, .30]
Peer Autocratic	.07	.06	.10	.65	[-.13, .25]
Peer Social Support	-.04	-.04	.16	-.27	[-.35, .27]
Peer Positive Feedback	.09	.11	.13	.85	[-.14, .36]

Note. *beta* = estimated standardized beta; *B* = estimated unstandardized beta; CI = confidence interval.

* $p < .05$, ** $p < .01$, *** $p < .001$

three significant relationships between the LSS Peer and OCS, suggesting the greater influence of the head coach leadership behaviors on athlete perceptions of action-based team culture.

Coach Training and Practice behavior significantly predicted scores of Information Sharing ($B = .55$, $p = .002$) and Meetings ($B = .44$, $p = .011$). Coach Democratic behavior showed a significant negative relation to Information Sharing ($B = -.23$, $p = .016$). This negative relationship was observed in the individual analysis of the LSS Coach and the OCS. However, it was not significant ($B = -.13$, $p = .23$). Coach Social Support was positively predictive of Involvement ($B = .25$, $p = .031$). Additionally, Coach Social Support behavior ($B = .39$, $p < .001$) and Coach Positive Feedback behavior ($B = .29$, $p = .011$) both possessed significant positive relationships to the OCS subscale Supervision, a subscale specific to the interpersonal behaviors of the head coach.

Coach Autocratic behavior demonstrated a significant negative relationship to Supervision ($B = -.16$, $p = .024$), suggesting that higher Coach Autocratic scores would relate to lower scores of Supervision. Peer Positive Feedback was significantly predictive of scores on Climate and Morale ($B = .28$, $p = .044$). This was the only subscale related to Climate and Morale. Peer Democratic

behavior was significantly related to Involvement ($B = .35$, $p = .001$) and Supervision ($B = .17$, $p = .018$). These findings demonstrate that perceptions of peer leadership behavior are significantly related to athlete perceptions of action-based team culture even after controlling for athlete perceptions of coach leadership behavior.

Discussion

The purpose of this study was to determine if athlete perceptions of leadership behaviors of the head coach and peer leaders are predictive of athlete perceptions of team culture. Overall, the results indicated that both the perceptions of head coach and peer leader behaviors were predictive of the way team culture is perceived by athletes, supporting the primary hypotheses of this study. An additional goal of this study was to determine the nature of peer leadership influence on perceptions of team culture when controlling for the perceptions of the head coaches' behavior. While a significant predictive relationship was evident, this study found that the ways in which athletes' perceptions of peer leaders influence their perceptions of team culture differ from that of their perceptions of the head coach. Specifically, perceptions of peer leadership behavior predicted more social aspects of culture, while the perceptions of the

head coach leadership behavior appeared to be more predictive of organizational components of team culture.

Coach Leadership Influence on Team Culture

The results of this study support the findings of Schroeder (2010) and Frontiera (2009) that head coach communication, information sharing, and feedback behaviors are closely tied to team culture. Specifically, results showed that perceptions of the head coach leadership behaviors of training and practice instruction, social support, and the use of positive feedback significantly related to athlete perceptions of action-based culture via information sharing, the effectiveness of meetings, and the interpersonal efforts of the head coach. The leadership behaviors of head coaches demonstrate the action-based components of team culture. This supports the assumption that the behaviors of head coaches can impact the way in which their athletes perceive the team culture.

The findings of the initial model suggest that collegiate athletes' perceptions of team culture are influenced by the way their head coach shares information and interacts socially with the team. This indicates that communication from the head coach during structured and unstructured time is considered valuable to collegiate athletes. Head coaches who are intentional in their interactions with their players, specifically during unstructured time, can positively influence team culture.

The results of this study also show that certain leadership behaviors of the head coach can possess a negative relationship with the athletes' perception of team culture. For example, autocratic leadership behavior, or the "my way" approach, provides athletes with little room for mutual discussion with their head coach (Frontiera, 2009). An environment that does not provide space for mutual discussion or agency within the group limits the positive benefits of group belonging (Frontiera, 2009; Nascimento-Júnior et al., 2018). These findings suggest that teams who perceive their coaches' leadership to be more autocratic will likely show fewer positive perceptions of team culture than those more democratic in nature.

Current literature highlights the effects of transformational leadership on the experience of team athletes (Bass & Avolio, 1994; Callow et al., 2009; Tucker et al., 2010). It is possible that this form of leadership will transcend the head coach leadership behaviors outlined in the LSS and add to the understanding of how head coaches can lead effectively to create a

positive team culture. It is recommended that future research investigate the impact that transformational leadership may have on collegiate athlete's experience and perception of team culture.

Peer Leaders Influence on Team Culture

Results of the second model showed that peer leaders offer their own unique influence on the perception of culture. Peer leaders in this study were any individual whom participants viewed as influential to the team, not necessarily a team captain. Descriptive statistics showed that over 40 percent of the leaders identified for this portion of the study were not team captains, and the majority of leaders chosen were upperclassmen. The perceptions of training and practice behavior, democratic behaviors and positive feedback were significantly related to perceptions of teamwork, climate and morale of the group, information sharing within the team, involvement, and meeting productivity. These findings are consistent with Loughhead and Hardy (2005) in their comparison between the way head coach and peer leaders are perceived on a team.

Athletes regarded their peer leaders in their ability to engage with the team through social behaviors, such as through the use of feedback and supportive interactions. This is taken in comparison to more organizational leadership behaviors of head coaches centered around critical feedback and practice structure. The social support offered by peer leaders can assist in the development of team social cohesion (Burkett et al., 2014; García-Calvo et al., 2014). Team leaders play an important role in their teammates' social experience of team culture.

This model showed perceptions of peer leadership training and practice behaviors related significantly to teamwork, information sharing, and meetings; demonstrating how communication between peer leaders and their teammates is valuable to team culture. This was similar to the perceptions of communicative behaviors by the head coach. Perceptions of peer leader use of positive feedback were positively related to perceptions of climate and morale, the subscale that conceptualizes trust and likeness within the group (Glaser et al., 1987). This suggests that the feedback given by peers can help shape a trusting environment within the team. The phrase "that's how we do things here" is a common sentiment regarding the expectation of a shared work ethic. Having shared behavioral expectations reinforced by peers can allow athletes to trust the commitment of their teammates to the larger group (Ntoumanis & Vazou, 2005).

Likewise, democratic behavior was significantly related to perceptions of involvement; as teammates create space for the insights of others, feelings of inclusion and value within the group are likely to be more positive. Peer leaders, through their social behaviors, help create the environmental aspect of culture. The perception of peer leadership behavior is uniquely connected to athlete perceptions of climate and morale, which was not a relationship found within the reports of head coach behavior. Through their actions, peer leaders can help cultivate feelings of trust, respect, and belonging within their team's culture. Previous research has shown positive relationships between peer behaviors and athlete experiences within their team context through constructs of team culture such as motivational climate (Ntoumanis & Vazou, 2005), perceived efficacy (Lent & Lopez, 2002), and team cohesion (Burkett et al., 2014; García-Calvo et al., 2014). However, as mentioned earlier, it is not sufficient to only know a concept by its parts alone; it is important to continue the expansion of study surrounding the influence that peer-leaders can have on athlete experiences of team culture.

Head Coach and Peer Leaders Influence on Team Culture

The actions of peer leaders are not independent of the actions of their head coach; such interrelated behaviors are important to account for when discussing team culture (McDougall et al., 2020). The results of a simultaneous analysis of the perceptions of the two leadership levels showed the perception of head coach instructional behavior had the most significant influence on athlete perceptions of culture. These findings are consistent with those of Loughead and Hardy (2005), who sought to compare the leadership behaviors of athlete leaders and head coaches using the LSS. They found that head coaches demonstrated instructional behaviors, while peer leaders demonstrated social support behaviors. The same relationships were found within the present study.

The results of the current study showed that all five demonstrations of leadership behaviors outlined by the LSS were related to team culture in a given way. Team culture perceptions of information sharing, involvement, supervision, and meetings were all related to perceptions of the head coach's leadership behaviors. These constructs highlight group processes like communication and collaboration, which are necessary for promoting effective group structure (Cruickshank & Collins, 2013; LaVoi, 2007; Schein & Schein, 2016).

Meanwhile, the peer leadership behaviors of positive feedback and democratic behavior were significantly related to climate and morale, involvement, and supervision. The way peer leaders provide feedback or the extent to which they include their peers in conversation about the workings of the teams can relate to feelings of trust, respect, and inclusion within the group. Information sharing was positively related to head coach instruction of training and practice and negatively related to democratic behaviors. It is suggested that providing too much space for discussion or additional input makes the translation of important knowledge difficult and can lead to uncertainty regarding roles and expectations (Beauchamp et al., 2005). As a result, head coaches provide a certain level of directiveness in the process of team decision-making to provide structure for team members.

Team culture is made up of many individuals working together to create a collective experience for all members (Hofstede et al., 1990; Schein & Schein, 2016). Everyone involved with the team has a different level of influence depending on their role within the group (Bosselut et al., 2012). This research found athletes perceive their peers as having more social influence within the team's culture, while their head coaches have more involvement in the group structures of the team itself. Understanding athlete perceptions of leadership and team culture allows collegiate coaches and additional team leaders to consider more intentionally how their position within the team can help support or thwart positive perceptions of team culture among their athletes. This knowledge can also allow for coaches to utilize their team leaders more directly during times of culture change or implementation, especially when responding to negative perceptions of culture.

Limitations and Future Directions

This study, while exploratory by nature, was privy to several limitations. The first limitation identified was insufficient recruitment methods. Recruitment occurred through email communication with NCAA head coaches which relied on receiving responses. This made data collection difficult and ultimately limited the scope of the sample. Research suggests the number of emails an individual can receive in a day can limit the effectiveness of using email as a recruitment tool (Sapleton & Lourenço, 2016). To build this line of research, more effective recruitment methods will be needed to obtain a more substantial sample size (Maxwell, 2004). Additionally, the amount of missing data within our sample proved to be a challenge. Although missing data were accounted

for prior to analyzing the data set, adjustments to recruitment methods and survey design should be considered for future research. A more complete data set would allow for the specific investigation of nested team data.

The sample demographics possessed limitations. The analyzed sample was primarily made up of athletes who identified as women (77%), and an overwhelming majority of participants identified as Caucasian/white (88.5%). A noticeable lack of diversity within the sample hinders the generalizability of findings to athletes of color or male athletes. While the comparison between gender identities was not a primary focus of this study, previous group dynamics research has shown that perceptions of cohesion do differ between athletes of different sexes (i.e., male and female) (Bruner, Boardley, et al., 2014; Bruner, Eys, et al., 2014). Study recruitment was also aimed specifically at interactive team sports due to the emphasis on collaborative efforts from group members to accomplish a task. However, coactive teams (or individual sports) are still comprised of group members who can share in a unique team culture. Exploring how team leadership and team culture are perceived by these “individual” athletes is recommended for future research.

The extent to which team culture is understood in the context of sport psychology could be considered a limitation; however, this supposed limitation served as the primary rationale for the present study. Future research can attempt to conceptualize team culture as it relates specifically to sport. While the use of tools from I/O psychology was beneficial for the purposes of this study, the identification of sport-specific elements of team culture will allow for more effective measures in the future. Such a measure would benefit both research and practical settings and would allow for more direct study of team culture in relation to the numerous variables that may be influential to the experience of sport team culture, such as team record (Cole & Martin, 2018), coach tenure (Schroeder, 2010), and larger sociocultural environments (Hofstede et al., 1990). Additionally, future research could continue to explore the ways head coaches can utilize peer leaders in fostering team culture.

Conclusion

In conclusion, the study of athlete perceptions of team leadership and team culture has shown how collegiate athletes conceptualize team culture. Athlete perceptions of head coach behaviors were related to perceptions

of action-based team culture through various group processes such as communication of instruction, feedback, and organizational structure. Additionally, athlete perceptions of peer leadership behaviors were related to perceptions of action-based team culture on a social level via inclusionary behaviors, instruction, and feedback. These findings provide practical insight into the specific ways head coaches and peer leaders can influence athlete experiences of culture within their teams. This study advances the understanding of team culture as athletes experience it themselves, not just from the perspective of head coaches. The continuation of this research will advance the conceptualization of team culture within sport and the understanding of how team culture is related to sport performance outcomes.

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