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Field Audit of Strength and Conditioning Coaches' Instructional and Motivational Language Repertoire

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Abstract

Strength and conditioning (S&C) coaches must employ psychological skills to optimally motivate athletes and promote their well-being. Yet, S&C coaches feel uncomfortable in their ability to apply such skills, highlighting a need for the development of science-based, practical tools. The purpose of this study was to examine the verbal language used by S&C coaches in publicly available YouTube videos through the Psychological Capital Model (PCM) lens. Coaches' statements (N = 178) were transcribed verbatim and coded into one of the eight dimensions of the PCM. Significant differences were found in S&C coaches' use of the eight developmental dimensions of the PCM, $\chi^2(7, N = 173) = 139.52, p < .0001, C = .67$. Three PCM developmental dimensions were overused (i.e., standard residuals ranging from +2.76 to +7.10; i.e., experiencing success/modeling others [n = 54, 31.2%], building efficacy/confidence [n = 48, 27.8%], and implementing obstacle planning [n = 34, 19.7%]), while five were underused (i.e., standard residuals ranging from -2.23 to -4.18; i.e., building assets/avoiding risk [n = 11, 6.4%], persuasion and arousal [n = 10, 5.8%], affecting the influence process [n = 9, 5.2%]), goals and pathway design [n = 5, 2.9%]), and developing positive expectancy [n = 2, 1.2%]). To facilitate the use of a more diverse set of psychological strategies, this study offers a collection of 40 practice- and science-based motivational statements – five for each of the eight PCM dimensions – that S&C coaches may use and build upon to improve their own coaching language and practices.

Keywords: *Coaching Behavior, Exercise Leadership, Motivational Climate, Psychological Capital*

Introduction

Strength and conditioning (S&C) coaches play a unique and important role in the physical and personal development of student-athletes (Haff & Triplett, 2016). Due to the nature of the profession, S&C coaches spend a significant amount of time with their student-athletes during the academic year (Massey, Schwind, Andrews, & Maneval, 2009). Besides helping student-athletes improve their athletic performance in their respective sports and decrease the likelihood of injuries occurring through appropriate

physical training and conditioning strategies, S&C coaches have the unique opportunity to foster student-athletes motivation and performance through the use of psychological skills (Radcliffe, Comfort, & Fawcett, 2013). Research among S&C coaches shows that motivation is one of the highest ranked critical factors influencing athletes' success, and a lack of motivation is the number one cause of poor performance (Radcliffe et al., 2013). Additionally, student-athletes perceive effective S&C coaches display effective communication, good listening, and motivational skills, as well

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as behaviors that promote trust, relatedness, and respect (Szedlak, Smith, Day, & Greenlees, 2015). Hence, what S&C coaches ultimately say or do can profoundly impact the relationship, effort, and performance potential of athletes (Cardinal & Melville, 1987).

Even though psychological knowledge and skills are viewed as foundational to success within S&C (National Strength and Conditioning Association, 2016; 2019), the extent to which S&C coaches develop such knowledge and skills and how those skills are used in practice is unclear. Within the S&C domain, most research has examined physical training strategies (Kraemer et al., 2017), with psychology-oriented research receiving comparatively little research attention (Radcliffe, Comfort, & Fawcett, 2013, 2018a, 2018b; Quartiroli, Moore, & Zakrajsek, 2020).

The aforementioned research to practice gap has been acknowledged by S&C professionals themselves. Specifically, they have expressed an interest in psychological skills and their development, yet they feel ill-prepared in their ability to employ such skills due to a lack of knowledge of different psychological strategies and a lack of confidence in using those strategies in practice (Radcliffe et al., 2018a). This is especially regrettable since Szedlak et al. (2015) identified S&C coaches' inspirational and motivational skills to be an essential component of their success in working with athletes.

As for the precise types of psychological skills S&C coaches are interested in, communication skills were ranked second highest in priority only behind hypnosis (Quartiroli et al., 2020). Coupled with the findings of Szedlak et al. (2015), whereby athletes strongly preferred their coaches use positive and encouraging language as a form of reward, there is a clear need for theoretically and empirically supported practical strategies that S&C coaches can implement into their practices (Moore & Gearity, 2019).

Though some attempts have occurred aimed at narrowing this gap, such as the "Psychology Special Issue" of the *Strength & Conditioning Journal* (Moore & Gearity, 2019), the results of these efforts have not always been immediately practical (e.g., introducing and overviewing theoretical models, concepts, and constructs; Schary, 2019). Rather, much of the available work tends to be conceptual or theoretical in nature versus based-in or derived-from practice (Statler & DuBois, 2016). That is, the S&C practitioner is often not only left to locate and decipher the work, but to also figure out how to put that work into practice. This can be a tall order even in more tangible areas of practice (Zenko & Ekkekakis, 2015). In part this is because S&C coaches work 64–75 hours per week (Massey et al., 2009). Thus, S&C coaches rely on other self-directed continuing education opportunities, such as online resources (Pope et al., 2015), which may help fill-in knowledge gaps.

Recognizing S&C coaches' desire, interest, and need for practical knowledge in the areas of communication, psychology, and motivation, and in an attempt to contribute to calls for more translational research that is grounded in theory and research within the discipline of kinesiology (Schary & Cardinal, 2016), the present study was undertaken. Specifically, S&C coaches' verbal language was reviewed within the context of the psychological capital model ([PCM], Harms & Luthans, 2012; Luthans, Avey, Avolio, Norman, & Combs, 2006). The PCM employs a human development perspective (e.g. motivation, psychology) by focusing on "who you are" and "who you are becoming" (Luthans et al., 2006). While the model does have empirical support, primarily through its application in industrial/organizational psychology, it has yet to be studied in the realm of S&C coaching. However, it has received some empirical attention within the realm of exercise leadership (Cardinal et al., 2015). In that study, exercise leaders in commercial exercise videos used language that was suspect in terms of building viewers' psychological capital.

Within the PCM there are eight developmental dimensions

(i.e., goals and pathways design, implementing obstacle planning, experiencing success or modeling others, persuasion and arousal, building assets or avoiding risks, affecting the influence process, building efficacy or confidence, and developing positive expectancy). These developmental dimensions are hypothesized to be fostered or inhibited by the language used by S&C coaches (Luthans et al., 2006). Specifically, S&C coaches' language can be used to build: (1) hope through goals and pathway design and implementing obstacle planning, (2) efficacy through experiencing success/modeling others as well as persuasion and arousal, (3) resiliency through building assets/avoiding risks and affecting the influence process, and (4) optimism through building efficacy and confidence and developing positive expectancies.

In as much, the eight developmental dimensions are the conduits through which a S&C coach can inspire four hypothesized proximal outcomes. That is, hope, efficacy, resiliency, and optimism (HERO). Athletes who feel more hopeful, efficacious, resilient, and optimistic are more likely to take a positive approach to challenging tasks, as well as experience greater overall well-being (Luthans & Youssef-Morgan, 2017).

Unquestionably, a S&C coaches' communication style and motivational capabilities are related to athletes' psychological response, exercise behavior, and continuation of said behavior (Partridge, Knapp, & Massengale, 2014), thereby making the PCM a useful organizational framework for deconstructing and interpreting the motivational content being verbally conveyed by S&C coaches. Hence, the purpose of this study was twofold. First it was our aim to find publicly available S&C coaches YouTube videos at the college level and deconstruct and interpret the motivational content being verbally conveyed by S&C coaches. Second, we used the findings to create a catalog of phrases that encompass the full spectrum of developmental dimensions within the PCM.

Method

Experimental Approach to the Problem

This was an exploratory, cross-sectional, quantitative, content analysis study of the language derived from pre-recorded, public domain videos. The data obtained were extracted from these public artifacts and the researchers were not involved in the creation or posting of any of the videos. Due to the fact that these videos were public information shared in an online platform, research suggests that obtaining informed consent is not needed (Burlles & Bally, 2018). As such, and because this work is unobtrusive, and no intervention or interaction with the individuals involved occurred, Institutional Review Board review was not required.

Sample

A purposive sample of ten "mic'd up" videos were acquired vis-à-vis YouTube. These existing videos show insights into S&C coaches' daily work and interactions with athletes, as the coaches are wired with a microphone during various practice sessions. In an effort to obtain a range of interactions, we purposely sought variety in the sports teams being coached, as well as situations where male S&C coaches were working with male athletes (M-M) and male S&C coaches were working with female athletes (M-F). Videos displaying female S&C coaches working with athletes were almost nonexistent, and thus not included in the sample.

Individual members of the research team were assigned to locate different videos for possible inclusion in the study. A combination of words, such as "mic'd up", "college" "strength and conditioning", "male sports", and "female sports", were entered in the search area on YouTube to find potential videos. After the search, a total number of 20 videos were identified for possible use in this study. Videos that were exclusively/primarily interviews, philosophical, or promotional in nature were eliminated, as were

videos depicting exclusively/primarily special occasion days or situations (e.g., maximal efforts). While such activities certainly fall within the scope of practice of S&C coaches, they likely encompass a very narrow range of instructional and motivational strategies. Essentially, we sought to identify videos that depicted the language and motivational strategies used in more routine, day-to-day activities, duties, and responsibilities that S&C coaches engage in. Against this backdrop, the research team reviewed all of the videos and collectively determined which ones to keep in and which ones to leave out based on the criteria mentioned above. For this analysis, five in the M-F category and five in the M-M category were retained, giving us a diverse and realistic set of observations from which to perform our analysis.

Measures and Procedures

The selected videos (N=10) were transcribed verbatim by the research team. In order to achieve consensus, a three-step process was employed during the video transcription. Each video was initially transcribed by one member of the research team. A second member then reviewed the initial transcript for accuracy and either verified or filled in potential gaps that were missed by the first transcriber. Lastly, a third member then independently reviewed and verified the transcript in order to confirm that all spoken words in the videos were accounted for and accurately recorded in the transcript. This three-step transcription, verification, and confirmation process resulted in full consensus among members of the research team.

The statements of each verified transcript were then reviewed regarding their motivational content by the entire

five-person research team. Using the PCM, each statement was carefully interpreted and categorized into one of eight developmental dimensions, namely (1) goals and pathways design, (2) implementing obstacle planning, (3) experiencing success or modeling others, (4) persuasion and arousal, (5) building assets or avoiding risks, (6) affecting the influence process, (7) building efficacy or confidence, and (8) developing positive expectancy. The frequency of statements used was observed and calculated for each category. Each statement was only allowed to be classified into one of the eight dimensions.

Analysis

Descriptive statistics (e.g., M, SD, percentages, frequency counts) were computed for all variables. Given the nature and distribution of the data, as well as the overall sample size, primary analyses were carried out using non-parametric statistical tests (i.e., chi-square [χ^2], Mann-Whitney U [reported as z-scores]). Mean values were accompanied by Cohen's d computations, which were interpreted using the following guidelines: <0.20 = small, >0.20 to <0.80 = medium, and >0.80 = large (Cohen, 1988). As an adjunct to the χ^2 -tests, contingency coefficients (C) were computed as a measure of magnitude. Contingency coefficient values >0.30 were considered substantial (Fleiss, 1981).

Results

The selected videos ranged in length from 1 minute to 6 minutes and 20 seconds (M = 2:04, SD = 1:35). They were published between 2012 and 2018 (M = 2015.70, SD = 1.94). The M-M vid-

TABLE 1. Psychological Capital Developmental Dimensions Employed by Strength and Conditioning Coaches.^a

Variable	All Videos (N = 10)	Male-Male (M-M) Only Videos (n = 5)	Male-Female (M-F) Only Videos (n = 5)	Statistical Relationship (M-M vs. M-F)	Effect Size (Statistical Power)
Goals and Pathway Designs	M = 1.00 SD = 1.25 Range = 0-4	M = 1.40 SD = 1.52 Range = 0-4	M = 0.60 SD = 0.89 Range = 0-2	z-score = 0.836, p = 0.401	Cohen's d = 0.64 (.142)
Implementing Obstacle Planning	M = 0.50 SD = 0.97 Range = 0-3	M = 0.20 SD = 0.45 Range = 0-1	M = 0.80 SD = 1.30 Range = 0-3	z-score = -0.522, p = 0.603	Cohen's d = 0.62 (.136)
Experience Success/Modeling Others	M = 5.40 SD = 5.10 Range = 0-15	M = 6.20 SD = 4.66 Range = 0-13	M = 4.60 SD = 5.94 Range = 1-15	z-score = 0.627, p = 0.529	Cohen's d = 0.30 (.061)
Persuasion and Arousal	M = 4.80 SD = 3.65 Range = 1-12	M = 4.80 SD = 4.44 Range = 1-12	M = 4.80 SD = 3.19 Range = 1-9	z-score = -0.209, p = 0.529	Cohen's d = 0.00 (N/A)
Building Assets/Avoid Risk	M = 3.40 SD = 1.78 Range = 2-7	M = 2.80 SD = 1.30 Range = 2-5	M = 4.00 SD = 2.12 Range = 2-7	z-score = -0.731, p = 0.465	Cohen's d = 0.68 (.155)
Affecting the Influence Process	M = 0.20 SD = 0.42 Range = 0-1	M = 0.20 SD = 0.45 Range = 0-1	M = 0.20 SD = 0.45 Range = 0-1	z-score = 0.104, p = 0.920	Cohen's d = 0.00 (N/A)
Building Efficacy/Confidence	M = 1.10 SD = 1.85 Range = 0-6	M = 0.40 SD = 0.55 Range = 0-1	M = 1.80 SD = 2.49 Range = 0-6	z-score = 0.836, p = 0.401	Cohen's d = 0.78 (.191)
Developing Positive Expectancy	M = 0.90 SD = 1.85 Range = 0-6	M = 0.40 SD = 0.55 Range = 0-1	M = 1.40 SD = 2.61 Range = 0-6	z-score = 0.104, p = 0.920	Cohen's d = 0.53 (.111)
Total Number of Observations	N = 178 (100%)	n = 82 (47.40%)	n = 91 (52.60%)	z-score = -0.465, p = .638	Odds ratio = 1.11 (N/A)

^a Unless otherwise specified, values shown are average number of occurrences per video.

eos (n = 5) included one from basketball, three from American football, and one from ice hockey. The M-F videos (n = 5) included three from basketball, one from softball, and one from volleyball. A total of 178 statements were recorded. On average, M-M videos had twice as many views (M = 4,926.80, SD = 8,433.10) as M-F videos (M = 2,395.60, SD = 2,919.89), yielding a medium effect size (i.e., d = 0.40).

As illustrated in Table 1, no significant differences were observed regarding the use of psychological capital developmental dimensions between S&C coaches working with female or male athletes. Though not statistically significant, the observed effect sizes suggest some emergent differences in terms of the average usage of the developmental dimensions of the PCM. Coaches working with female athletes used more building efficacy and confidence statements (M = 1.80, SD = 2.49) than coaches working with male athletes (M = 0.40, SD = 0.55), U = 0.836, p = 0.401, d = 0.78. The same trend was observed for motivational statements focusing on overcoming obstacles, building assets/avoiding risk, and developing positive expectancy. In contrast, coaches working with male athletes used

more goal setting statements (M = 1.40, SD = 1.52) compared to coaches working with female athletes (M = 0.60, SD = 0.89), U = 0.836, p = 0.401, d = 0.64.

When looking at S&C coaches' use of the eight developmental dimensions of the PCM, significant differences between the dimensions were found $\chi^2 (7, N = 173) = 139.52, p < .0001, C = .67$ (see Table 2). Three out of the eight dimensions, including experiencing success/modeling others (n = 54, 31.2%), building efficacy/confidence (n = 48, 27.8%), and implementing obstacle planning (n = 34, 19.7%), accounted for 136 (76.4%) of the total statements. The analysis revealed that these statements were overrepresented (i.e., standard residuals ranging from +2.76 to +7.10). Respectively, these statements are hypothesized to develop efficacy, optimism, and hope. The other five dimensions, including building assets/avoiding risk (n = 11, 6.4%), persuasion and arousal (n = 10, 5.8%), affecting the influence process (n = 9, 5.2%), goal and pathways design (n = 5, 2.9%), and developing positive expectancy (n = 2, 1.2%), were underrepresented (i.e. standard residuals ranging from -2.23 to -4.18).

TABLE 2. Observed Versus Expected Use of Psychological Capital Developmental Dimensions by Strength and Conditioning Coaches (N = 10).

Rank	Developmental Dimension (Hypothesized Proximal Outcome)	Observed Frequency	Expected Frequency ^a	Expected Proportion ^a	Actual Proportion	Percentage Deviation	Standardized Residuals
1	Experiencing Success/Modeling Others (Efficacy)	54	21.625	.125	.312	+153.88%	+7.10
2	Building Efficacy/Confidence (Optimism)	48	21.625	.125	.278	+125.67%	+5.80
3	Implementing Obstacle Planning (Hope)	34	21.625	.125	.197	+59.85%	+2.76
4	Building Assets/ Avoiding Risk (Resiliency)	11	21.625	.125	.064	-48.28%	-2.23
5	Persuasion and Arousal (Efficacy)	10	21.625	.125	.058	-52.99%	-2.44
6	Affecting the Influence Process (Resiliency)	9	21.625	.125	.052	-57.69%	-2.66
7	Goals and Pathway Design (Hope)	5	21.625	.125	.029	-76.49%	-3.53
8	Developing Positive Expectancy (Optimism)	2	21.625	.125	.012	-90.60%	-4.18

^a Hypothetical, assumes equal development of all psychological capital dimensions, $\chi^2 (7, N = 173) = 139.52, p < .0001, C = .67$

Discussion

In this study, S&C coaches verbal motivational language was coded on the basis of the PCM. The interactions of 10 male S&C coaches working with athletes in men's basketball, American football, and ice hockey, and women's basketball, softball, and volleyball were observed. Interactions were classified on the basis of S&C coaches use of the eight developmental dimensions of the PCM. These eight developmental dimensions are the pathways through which an athlete's sense of hope, efficacy, resiliency, and optimism are fostered. On the basis of observed effect sizes, coaches working with female athletes seemed to use more building efficacy and confidence statements, as well as statements that focused on overcoming obstacles, building assets/avoiding risk, and developing positive expectancy than did coaches working with male athletes. Contrary, coaches working with male athletes seem to use more goal setting statements than did coaches working with female athletes. These observations should be interpreted with caution since statistical significance was not established. However, statistically sig-

nificant differences were found regarding the overall usage of the eight developmental dimensions of the PCM. Three out of the eight dimensions, namely experiencing success/modeling others, building efficacy/confidence, and implementing obstacle planning, were overused, while the remaining five were relatively underused. Two of the five least used statements by S&C coaches are hypothesized to develop resiliency (i.e., building assets/avoiding risk and affecting the influence process), which is certainly a critical element of athletic and life success.

The developmental dimensions of the PCM are the conduits through which S&C coaches are hypothesized to build four proximal outcomes in athletes, namely hope, efficacy, resiliency, and optimism. Each proximal outcome will next be discussed in the context of the study's findings.

Hope

In the present study, S&C coaches only partially used language that fosters a sense of hope among their athletes. This is disappointing because hope is a cognitive process that gives

one a sense of determination to accomplish a goal (Snyder, 2000). Even when controlling for other factors, such as self-esteem, athletes with high hope display greater academic and athletic performances (Curry & Snyder, 2000).

The majority of hope-building statements used by S&C coaches in this study focused on implementing obstacle planning, including statements such as, "I don't care what everyone else is saying, you just talk to yourself and go." By contrast, they infrequently used statements aimed at fostering hope that focused on goal and pathways design-type statements, such as, "We are going to do one rep for the following reason..." Statements such as this have been described as essential characteristics of expert S&C coaches (LaPlaca & Schempp, 2020).

Efficacy

Experiencing success/modeling others was the most frequently used dimension, which instills efficacy or a sense of confidence in one's own abilities. High self-efficacy is associated with showing greater effort, perseverance, and seeking out challenging tasks (Bandura, 1986). The importance of self-efficacy in sports performance is well established (Moritz, Feltz, Fahrbach, & Mack, 2000), including its value in developing positive muscular fitness promoting behaviors (Cardinal & Kosma, 2004). As such, coaches are encouraged to foster athlete's self-efficacy to help them increase their sports training and performance. A source of building self-efficacy is verbal persuasion (Bandura, 1986), which can be accomplished through positive encouragement and verbal reinforcement. S&C coaches in our sample frequently used statements, such as "good job", "there you go" or "solid work". Contrary, persuasion and arousal statements, such as "Let's get it done, come on now", "Ready?" and "Explode up!" were used infrequently, even though these statements would have similar effects on building athlete's efficacy. This indicates that coaches often use praise-type language surrounding verbal reinforcement, which are easy to use in order to nurture athletes' efficacy. Yet, overused praise and verbal reinforcements can become meaningless to athletes very quickly, if these comments are vague, deconstructive, and/or insincere (Huber, 2013). Acquiring knowledge and strategies on how to use specific and efficient language in order to increase athlete's efficacy is an important skill to develop and master for S&C coaches.

Resiliency

The ability to withstand pressure and bounce back from adversity is known as resiliency (Sarkar & Fletcher, 2014). Challenging situations are commonplace during training, competition, and in life, therefore it is crucial for athletes to develop resilient behaviors and skills. S&C coaches are uniquely positioned to help develop such behaviors and skills among their athletes, especially as it pertains to preventing and overcoming sports injuries (Talpey & Siesmaa, 2017). However, in the present study, S&C coaches underused language aimed at fostering resiliency relative to the other outcomes (i.e., efficacy, optimism, and hope). Example statements for building resiliency include, "Attack the rep now, attack the rep, let's go" or "I know you had a rough night last night; I know it was tough yesterday. I know it was tough the day before that. But that's how it is. It's a grind." Such statements were scarcely used, which creates an opportunity for improvement in terms of coaching behaviors.

Optimism

Building efficacy and confidence can cultivate one's optimism, which is a person's expectation for positive future outcomes. Optimism is associated with greater sports perfor-

mance (Ortin-Montero, Martínez-Rodríguez, Reche-García, de los Fayos, & González-Hernández, 2018), which underscores the importance of S&C coaches exercising strategies that increase optimism among the athletes in their charge. In our sample, coaches frequently used language such as "You are stronger than you think" or "Who knew you could squat that low, huh?" Such statements can foster optimism because they help build efficacy and confidence. In contrast, building optimism through the development of positive expectancy was the least used of the eight developmental dimensions. Nevertheless, statements, such as "If you can learn to work through it now, it will be easier in the game. I promise you" are helpful in instilling positive expectations in one's abilities. S&C coaches are encouraged to work on developing this strategy, as it will help build an optimistic outlook among their athletes.

Limitations

This study has several limitations. These include the following. First, the 10 "Mic'd up" videos were acquired purposively. Second, only the verbal motivational languages of S&C being featured in the videos were assessed. No attempt was made to assess their nonverbal behavior or the verbal or nonverbal of others who were present (e.g., spotters, training partners). It is unclear how much the videos were edited, rehearsed, or scripted prior to their distribution. Regardless, the videos were deemed to be authentic and representative by the two members of the research team who are active as S&C coaches, one former S&C coach, and all members of the research team who were former collegiate level athletes. Finally, only male S&C coaches were assessed in this study. Future work may assess female strength and conditioning coaches' verbal motivational language.

Practical Applications

Tangible Tool for Building Athletes' Psychological Capital

While the importance of language and cueing in coaching from a motor learning and skill acquisition perspective has been written about (Winkelman, 2021), other practice-oriented resources that focus on psychological and motivational tools continue to be scarce. This is part of a larger problem, which is the challenge professionals face in putting research and theory into practice (Knudson, 2005; Schary & Cardinal, 2015). This problem has been observed among S&C coaches in particular (Eisenmann, 2017).

As observed in the present study, several of the developmental dimensions of the PCM were underused by S&C coaches. In an attempt to narrow the research-into-practice gap, as well as address the full range of motivational strategies in the PCM, a tangible outcome of this study was the development of an inventory of 40 practical coaching statements that are theoretically in alignment with each of the eight developmental dimensions of the PCM (i.e., five statements per dimension; see Table 3). The collection of statements represents acquired quotes from the videos and quotes that stemmed from the videos but were modified to fulfill the developmental dimension. S&C coaches are encouraged to rehearse and try out the full repertoire of statements in their everyday coaching practices. These examples can be used to elicit new ideas on how to phrase motivational language during practice and/or competition and should be changed or adjusted according to the specific context and student-athlete. Specific strategies may intentionally be employed on specific days or occasions. Early career professionals, including those doing internships or practicums, may use this inventory to develop unique skills in the area of communication and psychology (Martin, 2020).

TABLE 3. Psychological Capital Development Model: Conceptual Overview of the Developmental Dimensions, Specific Examples, and Hypothesized Outcomes

Developmental Dimensions (i.e., how the strength and conditioning coach seeks to develop her/his athletes)	Examples of Each Developmental Dimension as Used in Practice. (Note: Quoted material acquired directly from the videos reviewed.)	Proximal Outcomes (i.e., hypothesized psychological capital being developed in the athletes as a result of the coach's actions)
Goals and Pathway Designs (e.g., challenge and/or goal setting)	<ol style="list-style-type: none"> 1. "We all must come across the line at 65 because that's what it's going to take to do what we are trying to do which is win the championship, plain and simple." 2. "We are going to do one rep for the following reason: ..." 3. "Last one – down and up!" 4. "This is about the time you want to slow down. Don't slow down!" 5. On the last set I want you at 275. 	Hope (i.e., fostering a belief that participants can accomplish their goals)
Implementing Obstacle Planning (e.g., getting over obstacles, such as offering modifications; fostering a belief that participants are in control of their lives)	<ol style="list-style-type: none"> 1. "You can't do it by yourself [insert name]. If you could, s/he wouldn't be over there helping you." 2. "Give everything you have to finish. Finishing, that's you." 3. "I don't care if you listen to what anyone else is saying, you just talk to yourself and you go." 4. "When you decide to, things happen. So just decide to." 5. Keep your form. Let your spotters' help you finish with good form. 	Hope (i.e., fostering a belief that participants can accomplish their goals)
Experience Success/Modeling Others (e.g., reinforcement and/or celebratory comments)	<ol style="list-style-type: none"> 1. "Really good job in the weight room – really good job out here." 2. "There you go!" 3. "Solid work!" 4. "That's how you finish!" 5. That's what we like to see. That's what we are looking for. 	Efficacy (i.e., fostering confidence in participants' abilities or assuring a sense of confidence in their abilities)
Persuasion and Arousal (e.g., check-ins, stimulation)	<ol style="list-style-type: none"> 1. "Let's get it done, come on now." 2. "Let's go, hustle up. On the move. Get there." 3. "Everybody got me?" "Any questions, anything?" 4. "Explode up!" 5. Did that feel better? "You feel the difference?" 	Efficacy (i.e., fostering confidence in participants' abilities or assuring a sense of confidence in their abilities)
Building Assets/Avoid Risk (e.g., enthusiasm, establishing an exciting, fun, environment)	<ol style="list-style-type: none"> 1. "Go somewhere. Buzz around it. Downhill! Sprint! Down and ready!" 2. "Now go get him. Downhill." 3. "Attack the rep now, attack the rep, let's go!" 4. "You've got to lock into it!" 5. Let's go! Be aggressive. Show me what it takes! 	Resiliency (i.e., fostering a belief that participants can bounce-back from setbacks that may occur.
Affecting the Influence Process (e.g., growth mindset; persist despite obstacles; recognize effort as the pathway to success; learn from criticism)	<ol style="list-style-type: none"> 1. "I know you had a rough night last night. I know it was tough yesterday. I know it was tough the day before that. But that's how it is. It's a grind." 2. "Always dropping our head when stuff get tough. Stand tall. Look your opponent in the eye." 3. Heads up. Tomorrow's another day. 4. We struggled in that speed session. We need to have a good lift in the weight room. 5. The effort is there. It will come. We are on the right path. 	Resiliency (i.e., fostering a belief that participants can bounce-back from setbacks that may occur.
Building Efficacy/Confidence (e.g., encouragement of any type; i.e., both effort and results)	<ol style="list-style-type: none"> 1. "You're stronger than you think!" 2. "Push it. Push it. See it through [insert name]. See it through [insert name]" 3. "Who knew you could squat that low, huh?" 4. You got one more. You can do this. Common [insert name]. 5. I wouldn't let you do anything I didn't think you could do. 	Optimism (i.e., fostering an expectation that good things will happen to the participants in the future)

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Developmental Dimensions (i.e., how the strength and conditioning coach seeks to develop her/his athletes)	Examples of Each Developmental Dimension as Used in Practice. (Note: Quoted material acquired directly from the videos reviewed.)	Proximal Outcomes (i.e., hypothesized psychological capital being developed in the athletes as a result of the coach's actions)
Developing Positive Expectancy (e.g., Expectancy, anticipation, anticipatory set)	<ol style="list-style-type: none"> 1. "The championship is on the line. They got you two times in regular season and now it's on the line. Winner take all; winner take all. Right here right now. Win the rep, win the game, win the title. Plain and simple." 2. "Now is when I am teaching you how to learn to work through fatigue. If you can learn to work through it now, it will be easier in the game. I promise you. It's easy in a game." 3. So if s/he pushes you in the back or s/he pushes in the shoulder, wherever s/he pushed you to assist you, you take it until you decide to do it on your own. It's called assistance. It's called teamwork. It's called buddying-up. It's called accountability. All the things necessary to win championships. [Modified] 4. "This is 85%. You should smoke this." 5. I've got to see more purpose and passion in what you are doing. 	Optimism (i.e., fostering an expectation that good things will happen to the participants in the future)

Note: Statements with quotation marks are direct quotes from the videos reviewed, whereas statements without quotations marks were developed by the research team.

Conclusion

Sport and exercise psychology research specific to S&C settings continues to receive attention; yet, rarely does it offer practice-oriented implementation strategies. The current study highlights the restricted range of psychological strategies used by S&C coaches. Three of the eight developmental dimensions of the PCM were used frequently, partially targeting efficacy, optimism, and hope outcomes. However, five of the dimensions were underused, mainly illustrating the insufficient use of language targeting resiliency relative to the other outcomes. Given the limited range of motivational language observed in the videos, this study provides a tangible list of 40 motivational statements in an effort to expand S&C coaches' motivational strategies repertoire. By providing these practice- and science-based motivational statements, this study also attempts to narrow the gap between theory, research, and practice.

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Conflict of Interest

The authors declare that there is no conflicts of interest.

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