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Committed Relationships and Enhanced Threat Levels: Perceptions of Coach Behavior, the Coach-Athlete Relationship, Primary Appraisals, and Coping among Athletes

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Abstract

How a coach is perceived to behave by the athlete may have far reaching implications in terms of performance and well-being. The purpose of this study was to assess a *priori* model that included perceptions of coach behavior, coach-athlete relationship, primary appraisals of threat and challenge, and coping. Two-hundred and seventy-four athletes completed relevant measures that assessed each construct. Our results revealed that perceptions of coach behavior were associated with aspects of the coach-athlete relationship and threat appraisals. In particular, closeness was positively associated with challenge appraisals and negatively with threat appraisals. However, commitment was positively associated with threat, indicating that there might be some negative implications of having a highly committed coach-athlete relationship. Further, commitment was also positively associated with disengagement-oriented coping, which has previously been linked to poor performance and negative goal-attainment. Applied practitioners could monitor athlete's perceptions of the coach-athlete relationship, particularly commitment levels, and provide training in appraising stress and coping to those who also score highly on threat and disengagement-oriented coping, but low on task-oriented coping.

Key words: Challenge; Coaching; Stress Management; Threat

Introduction

Participating in competitive sport has been associated with athletes reporting a variety of stressors such as errors, performance, and concerns about the outcome of a competition [1]. A recent meta-synthesis of the stress and sport literature [2] included a taxonomic classification of stressors encountered by athletes, which revealed that coach's behavior and interactions along with a coach's personality were salient stressors for athletes. Indeed, scholars have also found that a coach's behavior influences how an athlete perceives his or her relationship with that coach, and that this relationship is associated with an athlete's happiness [3]. Given that an athlete's perception of his or her relationship is associated with happiness and that coaches are a source of stress [2], it is plausible to assume that perceptions of the coach-athlete relationship would also be related to how an athlete evaluates stress and coping, given that appraisal determines the emotional responses such as happiness and coping [4]. However, little is known about how the coach-athlete relationship may influence appraisals of stress, and whether the coach-athlete relationship is related to coping. This is surprising given that research has documented a relationship between coach behavior and coping [5-6]. In this study we tested a *priori* model that included coach behavior, the coach-athlete relationship, primary appraisals of threat and challenge, and coping among a sample of athletes.

Coach Behavior

How a coach behaves can influence whether a player is likely to commit aggressive behaviors [7], a player's thoughts [8], and the level of anxiety an athlete experiences [9]. It is therefore important that coaches behave in a way that athletes perceive as being positive or supportive. Høigaard [10] identified positive coach behaviors among a sample of elite Norwegian footballers and found that providing positive feedback (e.g., behaviors that recognize and reward good performances), training and instruction (e.g., coach behaviors that

enable an athlete to improve), and democratic behaviors (e.g., allowing team members to make decisions) were deemed supportive behaviors.

Other research has identified supportive and unsupportive coaching behaviors. Using Côté et al.'s Coaching Behavior Scale for Sport (CBS) [11], Nicolas [5] deemed supportive coaching behaviors as having emotional/relational and structural/instrumental components. Conversely, unsupportive coaching was deemed to occur when coaches shouted, manipulated, threatened, or upset athletes, which is likely to be perceived as the coach exerting unwanted pressure [11]. Coach behavior has been found to influence how athletes evaluate their relationship with the coach [3]. Indeed, Lafrenière [3] found a positive relationship between autonomy supportive coach behaviors and the athlete's relationship quality with the coach. These scholars also found a negative relationship between controlling coach behaviors and the athlete's relationship with the coach. Although Lafrenière [3] made an important contribution to the literature regarding how coach behaviors may influence the athlete's perception of the quality of their relationship with the coach, it could be argued that the way in which coach behavior was assessed could be more thorough. For example, only two forms of coach behavior were assessed (i.e., autonomy supportive behaviors and controlling behaviors), which were measured by only three and six items respectively. The CBS [11] provides a more detailed assessment of coaching behavior.

The Coach-Athlete Relationship

Jowett and Cockerill [12] suggested that the coach-athlete relationship refers to all situations in which a coach's and athlete's thoughts, feelings, and behaviors are inter-related. The affiliation between the coach and the athlete is dynamic [12], meaning that both the coach and the athlete can influence the coach-athlete relationship. There are several conceptualizations of the coach-athlete relationship [13-15], with Jowett's model [13] being the most widely used and the guiding framework for this current study. Jowett [13]

conceptualized the coach-athlete relationship as the 3+1 Cs, which comprises of closeness (e.g., the extent to which value, support, and care for each other), commitment (e.g., the coach and athlete's intent to maintain the relationship), complementarity (e.g., how the behaviors of the coach and athlete correspond to each other), and co-orientation (e.g., the coach and athlete establishing common views regarding the athlete's progression).

The importance of the coach-athlete relationship should not be underestimated, given that successful coach-athlete relationships can result in superior coaching [16], coach and athlete well-being [17], and better self-concept [18]. Understanding more about the antecedents of the coach-athlete relationship and constructs that the coach-athlete might influence is important for the development of coaching practices. One psychological construct associated with coach-athlete relationship is happiness [3]. Happiness is an emotion that reflects a person's positive state of their overall psychological well-being [4]. Indeed, Lazarus [4] stated emotions are generated by appraisals. As such, although Lafrenière and colleagues [3] did not measure appraisal, their findings indicate that appraisals are related to the coach-athlete relationship, give that emotions occur as a consequence of appraisals.

Appraisal

In order for an athlete to make a judgment about the situation he or she is in with regards to his or her personal goals, a process known as primary appraisal takes place [4]. If the athlete evaluates that the situation has endangered personal goals or has the potential of doing so, it is deemed as stressful. Stressful situations are referred to as harmful (e.g., damage that has already occurred such as sustaining an injury), threatening (e.g., damage occurring in the future), challenging (e.g., the possibility of a future gain such as the chance to master a stressful situation), or beneficial (e.g., when a positive gain has occurred in a stressful situation).

Of relevance to the current study, is the recent literature on challenge and threat states,

which are similar to how Lazarus [4] conceptualized these primary appraisals. Indeed, a study by Moore and colleagues [19] found that those who experienced challenge states exhibited superior performance, felt less anxious, and engaged in less conscious processing, in addition to having a longer quiet eye duration. These results were echoed by Turner and colleagues [20] who found that the cricketers who exhibited challenge states performed better than those who reported threat states. In addition to appraisals of challenge or threat states influencing performance and anxiety, they have also been theoretically [4] and empirically associated with coping [21].

Coping

According to Lazarus and Folkman [22], coping refers to all conscious cognitive and behavioral efforts to manage external or internal demands that a person appraises as taxing his or her resources. Although coping can be classified into many different dimensions, the taxonomy proposed by Gaudreau and Blondin [23] is widely used in the sport literature. Gaudreau and Blondin [23] classified within three higher-order dimensions: task-oriented, distraction-oriented, and disengagement-oriented coping. The purpose of task-oriented strategies is to change or master a stressful situation, whereas distraction-oriented coping direct the athlete's attention onto an unrelated aspect of the sporting task. Finally, disengagement-oriented coping strategies involve athletes stopping achieving their goals.

Summary and Hypotheses

Our hypotheses are presented in Figure 1, with a unbroken line representing a positive relationship and a broken line inferring a negative relationship. We predicted that there would be positive paths between supportive coaching behavior and closeness, commitment, and complementarity, but negative paths between unsupportive coaching behaviors and these three coach-athlete relationship constructs. This is because Lafrenière [3] reported a positive relationship between autonomy coaching behaviors and athlete perceptions of the coach-

athlete relationship, but a negative path between controlling coach behaviors and the coach-athlete relationship constructs. We also predicted positive paths between supportive coach behavior and challenge, and unsupportive coaching behaviors and threat, but negative paths between supportive coaching behaviors and threat and unsupportive coaching behaviors and challenge. This is hypothesis is based on Lafrenière et al.'s [3] finding that controlling behaviors were negatively associated with happiness, but autonomous coaching behaviors were positively associated, although these findings were insignificant. However, given that challenge appraisals are associated with pleasant emotions and threat appraisals with unpleasant emotions [24], the athletes who experienced happiness in the Lafrenière [3] study are more likely to have experienced a challenge rather than a threat appraisal.

Similarly, we predicted positive paths between closeness, commitment, and complementarity with challenge appraisals, but negative paths between these three constructs and threat appraisals based on the notion that these constructs were positively related to the pleasant emotion happiness. This could infer that the situation is more likely to have been appraised as a challenge rather than a threat [24]. We also predicted that there would be positive paths from closeness, commitment, and complementarity to task-oriented coping, but negative paths from these three constructs to distraction- and disengagement-oriented coping. This is because both high scores in closeness, commitment, and complementarity are thought to be associated with athletic excellence [25], as is task-oriented coping [26]. Finally, it was hypothesized that there would be a positive path from challenge appraisals to task-oriented coping and from threat appraisals to distraction- and disengagement-oriented coping. We also predicted negative paths from threat to task-oriented coping and from challenge to both distraction- and disengagement-oriented coping, based on the findings of Nicholls [21].

Method

Participants

Two-hundred and seventy-four athletes (male n = 200, female n = 73, unspecified n = 1), aged between 16 and 45 years of age (M_{age} = 21.59, SD = 4.45) participated in the study. Participants were from team (n = 250) and individual sports (n = 24), including both contact sports (n = 216) and non-contact sports (n = 58). Our sample consisted of 188 Caucasian, 31 African-Caribbean, 30 Asian, and 25 athletes from other ethnic origins. The athletes in our sample competed at international (n = 81), national (n = 54), county (n = 38), club (n = 36), and beginner (n = 60) levels. Five athletes did not specify their skill level.

Measures

Coach Behavior. The 47-item CBS [11] was deployed to assess the athletes' perceptions of seven of their coach's behaviors. Thirty-nine of the questions were classified as supportive coaching behaviors, compared to eight of the questions that were classified as unsupportive behaviors [5]. Participants responded to the stem "How frequently do you experience the following coach behaviors?" A question classified as from the supportive coaching behaviors was "The coach(es) most responsible for my physical training and conditioning provides me with structured training sessions" and "the coach(es) most responsible for my mental preparation provides advice on how to perform under pressure." Examples of unsupportive coaching behaviors were "my head coach yells at me when angry" and "my head coach shows favoritism to others." Questions were answered on a 7-point Likert-type scale, which ranged from 1 = *never* to 7 = *always.*

Coach-Athlete Relationship. The 11-item Coach Athlete Relationship Questionnaire (CART-Q) [27] was used to assess the athletes' perceptions of closeness, commitment, and complementarity with their coach. Participants responded to the stem "This questionnaire aims to measure the quality and content of the coach-athlete relationship. Please read carefully the statements below and circle the answer that indicates whether you agree or disagree." An example of question assessing closeness was "I trust my coach," whereas "I am

committed to coach" was from the commitment scale, and "When I am coached by my coach, I adopt a friendly stance" represents a question from the complimentary scale. Participants responded to these questions on a 7-point Likert-type scale, which ranged from 1 = *strongly disagree* to 7 = *strongly agree*.

Primary Appraisals. Items from The Stress Appraisal Measure (SAM) [28] that measured challenge and threat were used in this study. As such, participants completed four items for both challenge and threat appraisals. Participants were instructed to "please respond according to how you view this situation right now." An example of a question relating to challenge appraisals was "Is this going to have a positive impact on me?" Conversely, an example of a question measuring threat was "Will the outcome of this situation be negative?" The responses on the SAM range from 1 = *not at all* to 5 = *extremely*. It measures two primary appraisals (threat and challenge) and centrality (motivational relevance in the present study) and three secondary appraisals (perceptions of controllable by-self, controllable by-others, uncontrollable). It should be noted that in the present study, only the two primary appraisals and motivational relevance were included in the analyses, with the secondary appraisals being omitted due to an insufficient sample size. Peacock and Wong [28] reported internal consistencies ranging from .65 to .90. It should be noted that the Cronbach alpha score of .65 was for threat, which was reported in one of three studies. In the other two studies within that paper, the Cronbach alphas for threat were.75 and .73.

Coping. We used the Coping Inventory for Competitive Sport (CICS) [29] to assess how the athletes were coping before their competition. The CICS has been successfully used to examine pre-competitive coping and assesses 10 coping subscales categorized within task-, distraction-, and disengagement-oriented coping [30]. Participants reported how their coping "corresponds to what you are doing now," with questions answered on a 5-point scale, which ranged from 1 = *not at all* to 5 = *very strongly*. Although Gaudreau and Blondin [29] did not

report the Cronbach alpha coefficients for the higher-order dimensions, the individual coping strategies ranged from .67 to .87.

Procedure

Letters were distributed to coaches and participants, which explained the purpose of the study and the requirements for those interested in participating, after ethical approval was obtained from a University Ethics Committee. Participants were asked to complete an assent form if they wished to participate in the study. Each participant received a questionnaire pack and the questionnaires were completed in the clubhouse of sports clubs in the presence of a trained research assistant, and within three hours of a competition starting. As such, each participant completed the questionnaires in the following order: CBS [11], CART-Q [27], challenge and threat items of the SAM [28], and the CICS [29].

Data Analysis

Preliminary data analysis screened for outliers, normality, and omega. Omega was preferred as an assessment of internal consistency because it has fewer assumptions than alpha, problems associated with inflation of internal consistency are less likely, points estimates and confidence intervals can be calculated [31]. Bivariate correlations were used to examine relationships between all variables, using the effect size (*r*) to make a judgment on their meaning as recommended by 32]. Zhu [32] suggested using a criteria of 0-0.19 = no correlation, 0.2-0.39 = low correlation, 0.4-0.59 = moderate correlation, 0.6-0.79 = moderately high correlation, and ≥ 0.8 = high correlation.

To test how well the hypothesized model (Figure 1) fit our data, were performed a path analysis in Mplus 7 [33]. A range of indicators of model fit were used to supplement χ^2. Hu and Bentler's recommendations of CFI close to .95, TLI close to .95, SRMR close to .08, and RMSEA close to .05 were used as guidelines for good model fit, while acknowledging the recommendations by Marsh and colleagues [34], who encouraged researchers to avoid

interpreting these as golden rules. To assess mediation, we used 5,000 bootstrapped samples, which does not hold assumptions regarding sampling distribution [35] and provides standard errors and confidence intervals.

Results

Data was initially screened for missing data (< 1%) outliers and univariate normality, which presented no issues with skewness (< 2) or kurtosis (< 7) across all variables. Table 1 presents the means, standard deviations, minimum and maximum scores, and omega point estimates and confidence intervals. Omega estimates and confidence intervals were calculated using the MBESS package [36] in R [37] with 1,000 bootstrap samples. Omega point estimates and intervals supported the internal consistency of all subscales with the exception of the stressfulness subscale of the stress appraisal measure. Consequently, results pertaining to this scale were treated with caution.

Pearson bivariate correlations were performed to test relationships among coach behavior, coach-athlete relationship, stress appraisal, and coping strategies. Pearson correlations were used in favor of the latent factor correlations from structural equation modeling because the amount of latent variables examined at this stage would have required a sample size far larger than was available. Bivariate correlations are presented in Table 2. All aspects of coach behavior correlated positively with the 3Cs of the coach-athlete relationship with the exception of negative personal rapport, which correlated negatively with all aspects of the coach-athlete relationship. The positive correlations were largely moderate in size (*rs* = .29 to .69, $p < .01$), while negative correlations were typically low (*rs* = -.19 to -.29, $p < .01$). All positive coach behaviors exhibited a low positive correlation with task-oriented coping (*rs* = .17 to .25, $p < .01$), negative personal rapport was positively related to distraction-oriented coping ($r = .23$, $p < .01$) and disengagement-oriented coping ($r = .28$, $p < .01$). The most significant relationships between coach behavior and stress appraisal were the positive

correlations of all positive coach behaviors with the exception of goal setting and a challenge appraisal (*rs* = .16 to .32, $p < .01$). There were also positive correlations between all positive coach behaviors and control-others appraisal (*rs* = .18 to .40, $p < .01$). Negative personal rapport correlated positively with threat ($r = .33$, $p < .01$), uncontrollable ($r = .24$, $p < .01$), and stressfulness ($r = .20$, $p < .01$), and negatively with control-self ($r = -.29$, $p < .01$) and control-others ($r = -.23$, $p < .01$).

The coach-athlete relationship was significantly associated with stress appraisal. Specifically, closeness and complementarity were correlated moderately positively with challenge ($r = .42$ and .55, $p < .01$), control-self ($r = .45$ and .53, $p < .01$), and control-others ($r = .44$ and .54, $p < .01$). Closeness and complementarity were negatively associated with threat ($r = -.24$ and -.35, $p < .01$) and uncontrollable ($r = -.26$ and -.44, $p < .01$). Complementarity presented the strongest relationship of the coach-athlete relationship variables with coping. Specifically, it was related to task-oriented coping ($r = .38$, $p < .01$). Relationships between stress appraisal and coping were low to moderate. The strongest correlations were between task-oriented coping with challenge ($r = .47$, $p < .01$), control-self ($r = .44$, $p < .01$), and control-others ($r = .38$, $p < .01$), distraction-oriented coping with threat ($r = .41$, $p < .01$) and stressfulness ($r = .38$, $p < .01$), and disengagement-oriented coping with threat ($r = .41$, $p < .01$) and stressfulness ($r = .38$, $p < .01$).

To guard against departure from multivariate normality, the robust maximum likelihood estimator (MLR) was used in all model testing. The path model found in Figure 1 represented a reasonable fit to the data but with a significant χ^2, low TLI, and high error (RMSEA): $\chi^2(8) = 23.79$, $p = .003$, CFI = .967, TLI = .816, SRMR = .039, RMSEA = .095 [90% CI = .053-.141]. Examination of the path estimates identified several non-significant paths ($p > .05$). Consequently, these paths were removed from the model. The resultant

model presented improved model fit: $\chi^2(17) = 29.14$, $p = .033$, CFI = .974, TLI = .933, SRMR = .052, RMSEA = .057 [90% CI = .016-.092]. This model is presented in Figure 2.

To examine mediation, 5,000 bootstrap replications were conducted and indirect and direct effects analyzed. This method presents 95% confidence intervals for each estimate. The absence of a zero in the confidence intervals indicates a significant effect. The results of the mediation analysis between the coach-athlete relationship variables and coping are presented in Table 3. Stress appraisal did not mediate the relationship between any coach-athlete relationship variable and coping strategies. Further analysis of indirect effects was conducted to determine if the coach-athlete relationship mediated the relationship between coach behavior and coping. The relationship between positive coach behaviors and task-oriented coping was positively mediated by closeness ($\gamma = .12$ [95% CI = .00, .35]). The effect from negative coach behavior on disengagement-oriented coping was mediated by complementarity ($\gamma = .26$ [95% CI = .15, .38]). We then examined the indirect effects between coach behavior and coping, mediated by stress appraisal. The indirect effect on disengagement-oriented coping mediated by threat appraisal from positive coaching behavior ($\gamma = .08$ [95% CI = .01, .15]) and negative coaching behavior ($\gamma = .19$ [95% CI = .09, .30]) were significant. Finally, the mediating effects of the coach-athlete relationship on the relationship between coach behavior and stress appraisal were assessed. Results indicated no significant indirect effects.

Discussion

The aim of this paper was to assess the relationships between perceived coach behavior, athlete's perceptions of closeness, commitment, and complementarity, along with primary appraisals and coping. Overall, some of the hypothesized paths were supported, indicating that some of these constructs are related, but there were also some significant findings that were not expected. These included the relationship between commitment and

threat appraisals, along with commitment and coping (e.g., task- and disengagement-oriented coping).

There were positive paths from supportive coaching behaviors to closeness, commitment, and complementarity. This compliments the work of Lafrenière and colleagues [3]. Only one of the negative paths that we predicted from unsupportive coaching behaviors to the three coach-athlete relationship scales was significant, which was the path to complementarity. This finding is only in partial agreement with Lafrenière [3] who found a negative relationship between controlling forms of coach behaviors and athlete perceptions of the coach-athlete relationship. The insignificant paths between unsupportive perceptions of coach behavior with both closeness and commitment would infer that athletes still feel a bond with their coach and plan to continue working with the coach despite feeling the coach is unsupportive. In certain circumstances, especially team sports, athletes have little or no say on who their coach is and could only end the coach-athlete relationship by swapping teams. As such, the athletes might have felt committed to their coach, because they had little choice regarding working with a new coach. It should be noted that the vast majority of the athletes in the present sample were from team sports, so it could be interesting to compare the effects of unsupportive coach behaviors among team versus individual sport athletes.

Although the paths from neither supportive nor unsupportive coach behaviors to challenge appraisals were significant, the paths were significant to threat appraisals, and in the expected direction. This finding illustrates the impact that unsupportive coaching behavior can have on athlete's perception of a situation. Coaches should consider the impact of their behavior and the detrimental consequences of such unsupportive behavior. Threat is associated with undesirable consequences such as increased anxiety [19] and decreased performance [20]. The finding that there was a significant path between unsupportive coaching behaviors and threat could imply that coaches can generate perceptions of threat

among their athletes, although given that this is a cross-sectional study, research is required to verify this. We also found a negative path between supportive coaching behaviors and perceptions of threat, implying that there is a negative association between these constructs. Although it appears that coach behavior might not generate challenge appraisals among athletes, it could be that it reduces that occurrence of threat appraisals.

Other than closeness, the hypothesized paths between the coach-athlete relationship and appraisals were not supported. These findings, however, illustrate the importance of the athlete's perception of closeness to coach, because it was positively associated with challenge, but negatively with threat. However, commitment and complementarity were not associated with challenge, and commitment was negatively associated with threat. That is, when the athlete was committed to working with his or her coach, threat levels were higher. This finding illustrates that there might be negative consequences of being in a highly committed coach-athlete relationship, which has previously not been considered before. When athletes are in a highly committed relationship with their coach, they might be more concerned about letting their coach down and therefore experience higher levels of threat. Although not focusing on the coach-athlete relationship, Nicholls [38] reported that young golfers experienced threat in regards to letting their parents down by not performing well. Furthermore, there was also a positive path from commitment to disengagement-oriented coping and a negative path to task-oriented coping which were unexpected. Task-oriented coping has been positively associated with goal attainment [39], superior performance [26, 40], and higher coping effectiveness [41], whereas disengagement-oriented coping is negatively associated with such constructs. These findings also illustrate the possible negative associations of a highly committed coach-athlete relationship. Additional research is warranted to explore the possible negative implications of having a highly committed coach-athlete relationship on threat appraisals and coping, so that causality can be established.

Only some of our hypothesized paths between appraisal and coping were supported. The path between challenge and task-oriented coping was positive and the path between challenge and disengagement-oriented coping was negative. Further, the path between threat and disengagement-oriented coping was positive, which are all in agreement with Nicholls [21], who also found only some of the hypothesized paths were significant. The notion that challenge is associated with adaptive forms of coping, such as task-oriented coping, but is less associated with athletes using more distraction- or disengagement-oriented coping, was partially supported. Similarly, although threat appraisals are associated with athletes using more disengagement-oriented coping, it is not associated with athletes using less task-oriented coping strategies. In the present study we did not assess secondary appraisals, which represent the evaluation of the coping options available to a person. These might have correlated more strongly with coping than primary appraisals did.

Limitations

This study explored perceptions of coach behavior and the association of such perceptions with the coach-athlete relationship and primary appraisals. However, it is possible that the athlete's perceptions of such coach behaviors may be biased, so future research could assess actual coach behaviors in relation to perceptions of the coach-athlete relationship and appraisals. Only two of the four primary appraisals were measured in this study, although at the present time, there is not a questionnaire available to specifically assess harm/loss and benefit appraisals.

Recommendations

The findings from this study illustrate that perceptions of coach behavior are associated with how an athlete perceives his or her relationship with the coach and the appraisal of situations. It is therefore paramount that coaches consider their behavior and maximize their level of supportive behavior, whilst minimizing unsupportive coaching

behaviors. This may appear an obvious recommendation, but our data suggests that coaches were being perceived to behave in an unsupportive manner, which suggests that this type of behavior is evident among coaches. Although it may seem appealing to want to maximize all aspects of the coach-athlete relationship, this is one of the first studies to suggest that there might be some undesirable consequences of such an approach, particularly in relation to commitment. Although it is important that both the coach and the athlete are committed to the relationship, coaches could speak to their athletes and provide re-assurances about factors that might cause threat (e.g., the outcome of competitions) in committed coach-athlete relationships.

Conclusions

We found support for a number of paths assessed in this study, indicating that coach behaviors are associated with the coach-athlete relationship and appraisals. Further, aspects of an athlete's perception of the coach-athlete relationship are related to appraisals and coping. Although supportive coaching behaviors were not positively associated with challenge appraisals, they were negatively associated with threat, and unsupportive coaching behaviors were positively associated with threat appraisals. As such, coaches might be able to reduce threat levels among their athletes by monitoring their behavior and eliminating unsupportive coaching behaviors. Finally, this is one of the first studies to suggest that a strong coach-athlete relationship might have some undesirable consequences, given that commitment was positively associated with threat.

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Table 1

Descriptive Statistics, Univariate Normality Estimates, Internal Consistency

Variable	M	SD	Min	Max	Skew	Kurt	Omega [95% CI]
Coach Behavior							
Physical Training	5.08	1.34	1.00	7.00	-.79	.15	.90 [.88, .92]
Technical Skills	5.39	1.19	1.50	7.00	-.67	-.04	.94 [.92, .95]
Mental Preparation	4.54	1.51	1.00	7.00	-.40	-.51	.95 [.93, .96]
Goal Setting	4.22	1.59	1.00	7.00	-.26	-.65	.96 [.95, .97]
Competition Strategies	5.31	1.19	1.43	7.00	-.77	.27	.92 [.90, .94]
Personal Rapport	5.01	1.36	1.33	7.00	-.54	-.32	.89 [.87, .92]
Negative Personal Rapport	2.42	1.28	1.00	7.00	1.58	2.42	.89 [.85, .92]
Coach-Athlete Relationship							
Closeness	5.74	1.23	1.00	7.00	-1.29	1.41	.92 [.90, .94]
Commitment	5.14	1.29	1.00	7.00	-.96	.66	.84 [.81, .88]
Complementarity	5.37	1.23	1.00	7.00	-.82	.57	.76 [.69, .81]
Stress Appraisal							
Threat	2.26	.81	1.00	4.25	.24	-1.01	.60 [.52, .65]
Challenge	3.48	.86	1.50	5.00	-.18	-.74	.78 [.72, .81]
Centrality	2.95	.83	1.00	5.00	-.18	.04	.68 [.57, .73]
Control – Self	3.86	.79	1.50	5.00	-.42	-.39	.78 [.73, .83]
Control – Others	3.41	.94	1.00	5.00	-.06	-.73	.79 [.72, .83]
Uncontrollable	2.18	1.04	1.00	4.75	.59	-.75	.84 [.80, .87]
Stressfulness	2.59	.63	1.00	4.25	.04	-.11	.23 [not pos]
Coping Strategies							
Task-Oriented Coping	*3.36*	*.55*	*1.87*	*5.00*	*-.24*	*-.23*	*.84 [.79, .87]*
Mental Imagery	3.57	.77	1.50	5.00	-.30	-.46	.65 [.57, .71]
Effort Expenditure	3.97	.86	1.00	5.00	-1.08	1.38	.70 [.61, .77]
Thought Control	3.45	.80	1.00	5.00	-.37	.17	.62 [.54, .70]
Seeking Support	2.89	.84	1.00	5.00	.22	-.46	.71 [.65, .76]
Relaxation	3.13	.87	1.00	5.00	.04	-.48	.77 [.71, .82]
Logical Analysis	3.33	1.00	1.00	5.00	-.86	.21	.80 [.74, .84]
Distraction-Oriented Coping	*2.33*	*.73*	*1.00*	*4.50*	*.51*	*.07*	*.82 [.77, .86]*
Distancing	2.59	.90	1.00	4.75	.49	-.23	.74 [.68, .80]
Mental Distraction	2.35	.93	1.00	5.00	.58	-.03	.80 [.75, .85]
Disengagement-Oriented Coping	*2.22*	*.70*	*1.00*	*4.00*	*.50*	*-.35*	*.73 [.61, .79]*
Venting Unpleasant Emotions	2.70	.89	1.00	5.00	.17	-.60	.76 [.70, .80]
Resignation/Disengagement	1.74	.87	1.00	4.00	1.10	.06	.82 [.78, .86]

Note. Coach behavior and stress appraisal are measured on 7-point scales; stress appraisal and coping strategies are measured on 5-point scales. Omega confidence intervals could not be calculated for the stressfulness subscale, as the matrix was not-positive-definite.

Table 2

Bivariate Correlations for Coach Behavior, Coach-Athlete Relationship, Stress Appraisal, and Coping

	Coach-Athlete Relationship			*Coping*			*Stress Appraisal*						
	Close	Comm	Compl	Task	Distract	Diseng	Threat	Chall	Central	ContSelf	ContOth	Uncont	Stress
Coach Behavior													
Physical Training	.50**	.52**	.39**	.17**	.05	-.06	.03	.27**	.27**	.19**	.35**	.02	.13*
Technical Skills	.64**	.64**	.55**	.20**	-.12	-.20**	-.03	.29**	.10	.28**	.40**	-.09	.07
Mental Prep	.49**	.55**	.40**	.19**	-.04	-.07	.01	.16**	.09	.16**	.29**	.00	.03
Goal Setting	.45**	.56**	.29**	.17**	.11	.03	.12*	.06	.23**	.06	.18**	.20**	.17**
Comp Strategies	.59**	.62**	.49**	.20**	-.12	-.17**	-.05	.30**	.11	.27**	.38**	-.08	.04
Personal Rapport	.67**	.69**	.59**	.25**	-.12	-.17**	-.15*	.32**	.08	.36**	.38**	-.21**	.06
Negative Rapport	-.29**	-.19**	-.25**	-.00	.23**	.28**	.33**	-.19	.09	-.29**	-.23**	.24**	.20**

		Coach-Athlete Relationship		
Stress Appraisal	*Coping*	Close	Comm	Compl
Threat	Task	.28**	.19**	.38**
Challenge	Distraction	-.08	-.05	-.04
Centrality	Disengagement	-.20**	-.12	-.20**
Control – Self				
Control – Others				
Uncontrollable				
Stressfulness				

*Statistically significant at $p < .05$; **$p < .01$.

Table 3

Direct, Indirect, and Total Effects of Coach-Athlete Relationship Variables on Coping in the Original Path Model

	Direct	Via Challenge	Via Threat	Total Effect
Closeness → Task-oriented coping	.42 [.11, .72]	.05 [-.04, .13]	-.02 [-.11, .06]	.44 [.10, .79]
Commitment → Task-oriented coping	-.32 [-.53, -.10]	-.01 [-.07, .06]	.01 [-.04, .07]	-.31 [-.55, -.07]
Complementarity → Task-oriented coping	-.06 [-.37, .26]	.04 [-.07, .14]	-.01 [-.07, .04]	-.03 [-.35, .28]
Closeness → Distraction-oriented coping	.20 [-.23, .63]	.02 [-.05, .08]	-.05 [-.16, .07]	.17 [-23, .56]
Commitment → Distraction-oriented coping	-.22 [-.52, -.08]	-.00 [-.03, .03]	.03 [-.05, .11]	-.19 [-.48, .10]
Complementarity → Distraction-oriented coping	-.28 [-.56, -.01]	.01 [-.06, .08]	-.03 [-.10, .04]	-.29 [-.55, -.04]
Closeness → Disengagement-oriented coping	.14 [-.11, .38]	-.03 [-.08, .03]	-.11 [-.23, .02]	.01 [-.22, .23]
Commitment → Disengagement-oriented coping	.24 [.01, .47]	.00 [-.03, .04]	.07 [-.03, .17]	.31 [.10, .52]
Complementarity → Disengagement-oriented coping	-.50 [-.69, -.32]	-.02 [-.08, .04]	-.06 [-.18, .05]	-.59 [-.75, -.42]

Figure 1

Hypothesized Path Model for Coach Behavior, Coach-Athlete Relationship, Stress Appraisal, and Coping

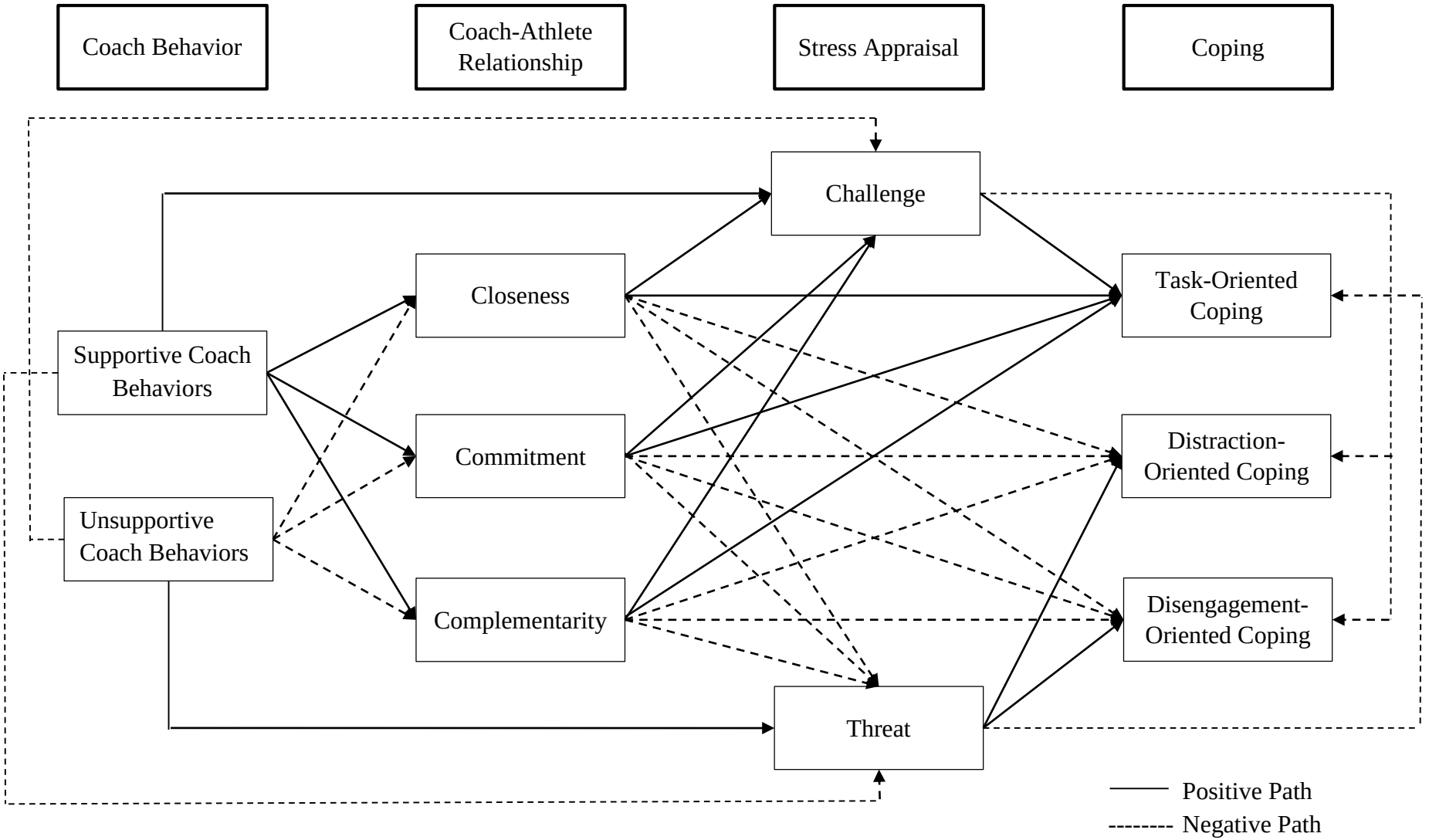

Figure 2

Revised Path Model Showing Only Significant ($p < .05$) Paths