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## **Toxic Coaching of Collegiate Student-Athletes: Burnout Mediates the Relation between School/Sport Conflict and Commitment**

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*Collegiate student-athletes manage multiple, and at times competing, roles as both students and athletes. Whereas some coaches recognize student-athletes' dual roles and actively help them navigate school and sport conflicts, others may engage in toxic forms of leadership. Thus, we hypothesized toxic coaching may adversely relate to the degree of role conflict, burnout, commitment, and school/sport performance reported among collegiate student-athletes. We also hypothesized role conflict would be adversely related to student-athletes' burnout, commitment, and performance in school and sport contexts. To test our hypotheses, we surveyed 176 current or recent collegiate student-athletes via a snowball sampling method. Participants completed measures of their coach's toxic leadership, personal role conflict, burnout, commitment to school/sport, and school/sport performance. A series of partial correlation and hierarchical regression analyses largely confirmed our hypotheses. As expected, toxic coaching positively predicted role conflict. Furthermore, toxic coaching and role conflict adversely predicted burnout, school/sport commitment, and academic performance. Neither toxic coaching nor role conflict were related to sport performance. Exploratory analyses revealed burnout mediated the relation between role conflict and commitment to one's team and college or university. Implications for coaching and student-athletes are discussed.*

*Keywords: student-athlete, toxic coaching, school/sport conflict, academic commitment, toxic leadership*

“**A** common mistake among those who work in sport is spending a disproportional amount of time on “x’s and o’s” as compared to time spent learning about people.”  
 -Mike Krzyzewski, Men’s Basketball Coach at Duke University

As Coach K alludes, the success of a college coach requires both an intimate knowledge of sport – such as how to execute well-timed and well-designed plays – as well as a deep understanding of psychology. That is, coaches must know their players and how to relate to them (Knight, 2011; Souza & Oslin, 2008). For college coaches, their players are student-athletes and thus face the unique challenge of trying to excel in both school and sport. Whereas some coaches recognize the, at times, competing nature of student-athletes’ dual roles and actively help them navigate school and sport conflicts, others may engage in toxic forms of leadership.

In the current study, we draw from the toxic leadership literature within organizational psychology to better understand the impact of college coaches on students-athletes. We explore the relation between toxic leadership, role conflict, and their potentially adverse effects on student-athletes’ feelings of burnout, commitment, and performance. Previous studies have explored players’ perceptions of poor coaching and leadership (Saville & Bray, 2015) and the effect of coaches on players and organizations (Boardley et al., 2008; Souza & Oslin, 2008). Other studies have assessed student-athletes’ feelings of role conflict (Lance, 2004; Settles et al., 2002), commitment (Rezania & Gurney, 2014; Tucker & Pack, 2007), and their effect on performance (Zakrajsek, 2007). Our study builds upon and extends this literature by assessing whether collegiate student-athletes’ perceptions of their coach’s toxic leadership predicts feelings of role conflict, burnout, commitment, and performance. Unlike previous studies, we adapt a validated measure of toxic leadership to study student-athletes’ perceptions of their coaches. Furthermore, we also explore whether burnout mediates the relation between student athletes’ experience of role conflict and their commitment and performance within school and sport contexts. To our knowledge, the mechanism by which role conflict might affect commitment and performance among collegiate student-athletes has not yet been explored.

Below we review the literature on role conflict among student athletes. We then define and review studies on toxic leadership, particularly those in regard to toxic coaching and the impact of toxic coaches on player outcomes. We conclude with an overview of the current research aims and how it contributes to a growing body of literature on the effect of toxic coaching on student-athletes.

### *Role Conflict Among Student-Athletes*

Collegiate student-athletes manage multiple, and at times competing, roles as both students and athletes (see Adler & Adler, 1991). They must successfully balance the demands of their sport (e.g., highly controlled practice regimens) with the demands of higher education (e.g., studying, reading, tutoring sessions) to maintain their position and potential scholarship (Coackley, 2017; Gayles, 2009). Time dedicated to excelling in one role may come at the cost of excelling in a competing role (Brummelhuis & Bakker, 2012). In fact, student-athletes are at particular risk of not completing their degree if they cannot successfully balance school and sport (Adler & Adler, 1991). Miller and Kerr (2002; 2003) found collegiate student-athletes often report conflict and stress trying to balance school and sport demands. Student-athletes may enter

college with poorly defined career goals and thus invest heavily in their sport (Lally & Kerr, 2005). In fact, Canadian student-athletes were particularly likely to prioritize athletics over academics in their early years of college, only to shift their attention towards academics in their final years (Miller & Kerr, 2003).

Given student-athletes' motivation to be successful in both roles (Macan, Shahani, Dipboye & Phillips, 1990; Simons, Van Rhee, & Covington, 1999) and the resulting conflict (Adler & Adler, 1991; Lance, 2004; Settles et al., 2002), some student-athletes experience burnout (O'Neil et al., 2021) and lower commitment (Rezania & Gurney, 2014; Tucker & Pack, 2007). For many collegiate student-athletes the dual role of student-athlete can elicit role conflict (Rizzo et al., 1970; O'Neil et al., 2021).

Within organizational psychology, role conflict often references work/family role conflicts. Managing competing roles has been shown to lead to poor downstream consequences for both individuals and organizations (Liu et al., 2015; Brummelhuis & Bakker, 2012). Indeed, role theory (Kahn et al., 1964) suggests that when the expectations or behaviors required of one role are inconsistent with the expectations or behaviors required of another, people experience stress, dissatisfaction, and poor organizational performance (see Clark et al., 2019; King & King, 1990; Rizzo et al., 1970). A meta-analysis of work/family conflict showed, regardless of whether work roles conflicted with family, family roles conflicted with work, or whether the conflict was reciprocal, role conflict was consistently linked to poorer job and life satisfaction (Kossek & Ozeki, 1998). Time-lagged research designs reveal work/family conflict later contributes negatively to work attitudes and behaviors (Carlson, 2019). Furthermore, among working students, school/work conflict has been linked to self-reported stress and burnout (Inbar, 2016). Among student-athletes, specifically, perceived role conflict can create confusion, or ambiguity, in their roles, which is associated with lower self-efficacy beliefs (Beauchamp & Bray, 2001).

Organizational systems can impact how successfully people, including student-athletes, manage multiple roles and potential role conflicts. Classic organizational theory suggests employers are responsible for clearly delineating tasks and responsibilities as well as holding subordinates accountable for their performance. When organizational systems are dysfunctional, perhaps because of poor leadership, subordinates may be uncertain of how to proceed, remain accountable, and ultimately successful in their work (see Rizzo et al., 1970). Thus, it is not surprising that many studies, across a wide range of fields, focus on the characteristics of leaders and their impact on subordinates' wellbeing and performance (Montana et al., 2017). This includes a growing literature regarding the impact of coaches on collegiate student-athletes' wellbeing and performance (Horn, 2008; Yukhymenko-Lescroart et al., 2015; Weiss et al., 2008).

Given the negative outcomes associated with role conflict, we predict role conflict may be adversely related to student-athletes' feelings of burnout, commitment, and performance in school and sport contexts.

### *Toxic Leadership*

Toxic leaders are often described in many unflattering ways. They are people who tend to lead using fear and intimidation strategies (Whicker, 1996). They are often ineffectual or unethical in their behavior (Kellerman, 2004). They may be unconcerned with their subordinates and, at times, act in ways which are incompatible with their organizational climate (Reed, 2004). Toxic leaders also tend to possess self-promoting, narcissistic, and authoritarian attributes which

ultimately harm their subordinates and organizations (Lipmann-Blumen, 2005). Indeed, factor analyses of leaders' traits and behaviors have identified several hallmarks of toxic leadership, namely self-promotion, abusive supervision, unpredictability, narcissism, and authoritarianism (Schmidt, 2008). Whereas self-promotion, abusive supervision, and unpredictability tend to be most predictive of poor workplace outcomes, each characteristic of toxic leadership explains additional, unique variance in outcomes (Schmidt, 2014)

To assess the degree to which leaders are perceived to exhibit toxic leadership, Pelletier (2010) and Schmidt (2008) validated unidimensional measures of toxic leadership. In each measure, subordinates are asked to rate their perceptions of a toxic leader, including specific behaviors exhibited by the leader such as lowering others' self-esteem, lacking integrity, acting abusively, excluded or dividing others, promoting inequity, threatening others' security, or failing to respond to concerns or criticism. Pelletier's (2010) and Schmidt's (2008) measures of toxic leadership have spurred a surge in empirical research on the topic.

Moreover, individual difference measures of toxic leadership have been used in a variety of different organizational settings (e.g., Gallus et al., 2013; Ozer et al., 2017). Toxic leadership has been consistently linked to a variety of negative outcomes for individuals and organizations, such as absenteeism, transfer to other organizations, poor performance, groupthink, workplace incivility, as well as low levels of employee satisfaction and production (e.g., Burns, 2017; Yavas, 2016). Further, people under the supervision of toxic leaders often report higher levels of stress, alcohol abuse, lower self-esteem (Ashforth, 1994), higher rates of workplace deviance, and reduced citizenship behaviors (Aryee et al., 2007; Tepper, 2000; Zellars et al., 2002)

*Toxic Coaches.* Some coaches engage in toxic leadership behavior (see Statum, 2020; Stewart, 2013; Swigonski et al., 2014), hereafter referred to as toxic coaches. Toxic coaches may be self-promoting, inflexible, and push student-athletes to prioritize athletic performance and winning over academic goals (Cosh & Tully, 2015). Such disproportional focus on student-athletes' role as an athlete could result in more wins or championships - which may be self-serving for a toxic coach - but it may also generate role conflict among student-athletes (see Mallett & Lara-Berzel, 2016). Therefore, we predict toxic coaching may adversely relate to the degree of role conflict and other negative outcomes, such as burnout, poor commitment, and school/sport performance reported among collegiate student-athletes.

Moreover, toxic coaches may fail to cultivate environments conducive to student-athletes managing both roles successfully. Instead, toxic coaches may manipulate players, act threateningly or divisively, and fail to respond to their players' concerns about their role conflicts. Furthermore, toxic coaches may expect a poor balance between sport and athletic goals (Parsloe & Wray, 2000) and thus fail to mirror the NCAA's emphasis on both academic and sport excellence (Meyer, 2005). Indeed, acting in ways incompatible with an organizational climate is reflective of toxic leadership (Reed, 2004).

Furthermore, toxic leadership amongst coaches is linked to a wide range of poor individual outcomes among athletes, including stress and burnout (Lu et al., 2016), anxiety (Ramis et al., 2017), and alcohol abuse (Lewis, 2008). Indeed, the quality of relationship between college coaches and their student-athletes is related to greater alcohol abuse (Mastroleo et al., 2012). Moreover, the extent to which student athletes perceive that a coach approves of alcohol and drug use, a potential violation of NCAA's banned substances (2021), predicts student-athletes' alcohol and drug use (Seitz et al., 2014). The current study extends the relation between toxic coaching and resulting experiences and outcomes of athletes, particularly

collegiate student athletes. Indeed, we suspect the inflexibility exhibited by toxic coaches and resulting role conflict may adversely affect student-athletes' sport and academic performance. For instance, it may be difficult for student-athletes to perform well when they experience high levels of pressure from a toxic coach (Cosh & Tully, 2015) or do not have adequate time to devote to their academic goals (Burden et al., 2004). Although some teams led by a toxic coach may be successful (as operationalized by team winning percentage, Penman, 1974), we suspect that, on average, toxic leadership may have an adverse effect on student-athletes' self-reported performance in sport and academic domains.

Toxic coaches may also adversely affect their players' feelings of burnout and commitment to the team and college or university. Given toxic leaders tend to be narcissistic and authoritarian, they likely demand obedience from their players and suppress criticism or concern. Therefore, without adequate support from a toxic coach, student-athletes – under a great deal of stress to excel in both sport and school domains - may experience burnout and low levels of commitment. Indeed, previous studies suggest toxic leadership within organizational settings elicits greater absenteeism and likelihood of transfer among employees (see Burns, 2017). Moreover, toxic coaches may also model hostility and incivility, which likely creates an unwelcome and negative environment for student-athletes (Gallus et al., 2013; Porath & Pearson, 2010). Thus, among collegiate student-athletes, we suspect toxic leadership may be related greater feelings of burnout and low levels of player commitment to their team and college or university.

### *Current Study*

In the current study, we apply theory from organizational psychology to better understand the effect of coaches on collegiate student-athletes. We explore constructs – such as toxic leadership, role conflict, burnout, commitment, and performance– which are likely of interest to both organizational and sport psychologists, as well as collegiate coaches, student-athletes, and administrators. Our study is novel, such that we assess student-athlete's perceptions of their coach's leadership style using a validated measure of toxic leadership and explore its link with student-athletes' role conflict, burnout, commitment, and performance.

Our primary hypotheses are threefold. Hypothesis 1 focuses on the relation between toxic leaderships and eight outcomes (H<sub>1a-h</sub>). Hypotheses 2 focuses on the relation between role conflict and six outcomes (H<sub>2a-f</sub>). Hypotheses 3 explores burnout as a potential mechanism underlying the relation between role conflict and commitment.

Hypothesis 1 (H<sub>1</sub>): First, we predict that the degree to which collegiate student-athletes perceive their coach as engaging in toxic leadership will predict greater role conflict (H<sub>1a</sub>), greater burnout (H<sub>1b</sub>), lower affective commitment to school (H<sub>1c</sub>) and sport (H<sub>1d</sub>), greater intention to quit school (H<sub>1e</sub>) and sport (H<sub>1f</sub>), and poorer performance in school (H<sub>1g</sub>) and sport (H<sub>1h</sub>), as reported among collegiate student-athletes..

Hypothesis 2 (H<sub>2</sub>): Second, we predict the degree of role conflict experienced by collegiate student-athletes will be positively correlated with burnout in school (H<sub>2a</sub>) and sport domains (H<sub>2b</sub>), negatively

correlated with commitment to school ( $H_{2c}$ ) and sport ( $H_{2d}$ ), and negatively correlated with performance within both school ( $H_{2e}$ ) and sport domains ( $H_{2f}$ ).

Hypothesis 3 ( $H_3$ ): Third, in an exploratory fashion, we explore whether burnout mediates the relation between student-athletes' role conflict and commitment outcomes.

To test our hypotheses, we surveyed current, as well as recent, collegiate student-athletes via an online, snowball sampling method (Baltar, 2012). Specifically, we asked student-athletes to complete measures of perceived toxic leadership exhibited by their coach, their experience of role conflict, burnout, as well as commitment and performance within both school and sport domains. Given more than 460,000 collegiate student-athletes currently manage competing roles as both students and athletes (NCAA, 2020), our study is timely. Our study is also worthwhile because of its application of toxic leadership to coaching of collegiate student-athletes. Indeed, research in organizational psychology has specifically called for applications of toxic leadership to different types of organizations, particularly research which assesses the effect of toxic leadership on individuals and organizational outcomes (see Burns, 2017).

## Method

### *Participants*

One hundred sixty-seven collegiate student-athletes completed an online survey regarding their student-athlete experience in college. Participants were recruited via an online snowball sampling method. Specifically, collegiate student-athletes at a private Midwestern university were asked to distribute a URL link of the survey to other collegiate student-athletes they knew. Recruiting participants via a snowball sampling method is an efficient way of accessing small or niche populations, such as collegiate student-athletes (Baltar, 2012).

Of the 169 participants, 129 (77%) were currently attending a college or university and playing a school-sanctioned sport. Thirty-eight participants (23%) formerly attended a college or university and played a school-sanctioned sport within the past year. Thus, all participants indicated they were currently, or within the past year had been, a collegiate student-athlete and were therefore eligible to participate.

One hundred twelve participants (70%) identified as women, 45 participants (28%) identified as men, and two participants (1%) declined to report their gender. Participants' did not vary widely in ethnicity, such that 142 participants identified as White (89%), 8 participants identified as Black (5%), 3 participants identified as biracial (2%), 3 participants preferred not to answer (2%) and 2 participants identified as Hispanic (1%). Participants were not asked their age; although they were asked their year in school. The plurality of participants identified as seniors (40%), followed by juniors (22%), sophomores (19%), graduate students (14%), and freshmen (5%).

Participants represented 14 different sports, including volleyball (32%), football (10%), softball (9%), track and field (8%), basketball (7%), soccer (7%), baseball (6%), cycling (6%), and rowing (6%). Bowling, cheer, golf, lacrosse, and tennis were represented by less than 5% of participants. Participants also varied by athletic division or level of competition, such that most

competed at the NAIA division 1 or 2 (53%), followed by NCAA division 1 (29%), NCAA division 3 (8%), other (e.g., Olympic cycling; 6%), and NCAA division 2 (5%). Participants were also asked to indicate their level of playing time received, using a scale from 1 (*Almost none*) to 5 (*A great deal*). Playing time ratings ranged from 1 to 5,  $M_{\text{playing time}} = 3.87$ ,  $SD_{\text{playing time}} = 1.35$ , with most participants reporting a score of 5 (received a great deal of playing time; 47%).

Participants' major area of study varied from business ( $n = 55$ ; 37%), health ( $n = 26$ ; 17%), social science ( $n = 13$ ; 9%), physical science ( $n = 13$ ; 9%), communication ( $n = 12$ ; 8%), and education ( $n = 11$ ; 7%). Eighteen participants (11%) did not select a major area of study. Furthermore, 79 (50%) received both an academic and athletic scholarship; whereas 54 participants (34%) received only an athletic scholarship and 20 (13%) received only an academic scholarship. Nine participants declined to answer regarding their scholarship or funding situation and three participants selected another funding source. Only two participants (1%) did not receive either an athletic or academic scholarship.

### *Procedure*

The first and second author distributed a URL link to an online survey regarding "Collegiate Student-athletes' Experiences" to student-athletes within their university. A snowball sampling method was used to recruit additional participants. Thus, participants who received the study invitation were asked to forward the invitation to other collegiate student-athletes. Only current former, collegiate student-athletes, or those one year removed, were asked to participate.

After completing an informed consent form, participants were first asked several demographic questions regarding themselves (e.g., gender, ethnicity, scholarship funding), their sport (e.g., sport type, self-rated performance), and their academics (e.g., major, year in school, GPA). Next, participants completed the school/sport role conflict, toxic leadership, burnout, and commitment measures (i.e., affective commitment, likelihood of quitting) in randomized order. Finally, participants were debriefed and encouraged to share the survey with other collegiate student-athletes via email or social media.

### *Materials*

***School/Sport Role Conflict.*** We adapted the five-item work/family conflict scale (Netemeyer et al., 1996) to assess the degree to which collegiate student-athletes experience stress or conflict between their roles as student and athlete. Others studies have successfully modified the work/family conflict scale to pertain to specific roles besides work and family (e.g., Pitney et al., 2011). The scale, even when modified, has shown good reliability and validity (see Mazerolle et al., 2008). In our modified school/sport conflict scale, participants were asked to rate the degree to which they agree or disagree with statements regarding school and sport conflict. Example items include, "The demands of my sport interfere with my academic life" and "The amount of time my sport takes makes it difficult to fulfill academic responsibilities." Within our sample, the school/sport conflict scale showed good internal consistency ( $\alpha = .92$ ).

***Perceived Toxic Leadership.*** We assessed student-athletes' perceptions of their coach's toxic leadership by modifying the short form of the toxic leadership scale (Schmidt, 2008). Specifically, we asked participants to complete nine items regarding the degree to which

they perceive their coach as engaging in toxic leadership behavior related to abusive supervision, unpredictability, and authoritarianism. Using a five-point scale, ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*), participants rated the degree to which they agree or disagree that their current coach exhibits toxic leadership. Example items include, “publicly belittles subordinates,” “allows his/her current mood to define the climate of the workplace,” and “does not permit subordinates to approach goals in new ways.” Much like previous studies using short forms of the toxic leadership scale (Schmidt, 2008), the scale possessed good reliability in our study ( $\alpha = .88$ ). Each of the three subscales of abusive supervision ( $\alpha = .83$ ), unpredictability ( $\alpha = .75$ ), and authoritarianism ( $\alpha = .67$ ) also showed acceptable reliability.

To better understand which coach participants were rating in regard to their perceived toxic leadership, we asked participants whether they were responding in regard to the head coach who recruited them or another coach. One hundred and eleven participants (71%) responded regarding the head coach who recruited them, 32 (20%) responded in regard to another coach who did not recruit them directly. 14 participants (9%) selected “Other” and then explained that they responded in regard to an assistant coach or other coach.

**Burnout.** To assess the degree to which student-athletes experienced burnout or psychological exhaustion from their sport involvement, we used a shortened 6-item athlete burnout measure (Raedeke & Smith, 2001). Participants are asked to rate how frequently they experience thoughts and feelings of burnout, using a five-point scale ranging from 1 (Almost never) to 5 (Almost always). Example items include, “I feel so tired from my training that I have trouble finding energy to do other things,” “I don’t care as much about [sport] as I used to,” and “I feel ‘wiped out’ from [sport].” The specific sport reported by student-athletes earlier in the survey replaced the generic “sport” wording, thus creating a personalized measure of burnout. For example, if a student-athlete previously mentioned playing basketball, the burnout measure populated items such as “I don’t care as much about basketball as I used to.” Our athlete burnout measure showed good reliability ( $\alpha = .88$ ).

#### *Commitment Measures.*

**Affective commitment to school and sport.** To assess the degree to which student-athletes feel committed to their college/university and sports team, we had them complete two, shortened versions of the affective subscale from Allen & Meyer’s (1990) organizational commitment measure. Specifically, participants were asked to think about their feelings towards their college/university or sports team. Then, they rated the degree to which they agreed or disagreed with commitment statements, using a 1 (Strongly disagree) to 7 (Strongly agree) scale. Example items include, “I would be very happy to spend the rest of my career with this organization” and “I do not feel ‘emotionally attached’ to this organization (reverse scored).” Participants completed the commitment measures referencing their school and sport in random order. Both affective commitment scales possessed acceptable reliability ( $\alpha_{\text{team}} = .84$ ;  $\alpha_{\text{school}} = .69$ ).

**Likelihood of quitting school and sport.** To assess the degree to which student-athletes think about quitting college/university and quitting their sports team, respectively, they answered two items from the Michigan Organizational Assessment Questionnaire (Cammann et al., 1979) and one item from Mobley et al., 1978. Participants completed the items in regard to likelihood of quitting school and items in regard to likelihood of quitting their sport in random order. These sets of items have been used in combination to successfully predict leaving



intentions (e.g., Graf et al., 2016). Student-athletes were asked to rate the degree to which they agree or disagree with the following statements, using a scale range of 1 (*Strongly disagree*) to 5 (*Strongly agree*). Items included, “I often think about quitting [school/sport],” “I will probably look for a new [school/sport] in the next year,” and “I would want to quit this [school/sport] if it were possible.” Both likelihood of quitting scales possessed good reliability ( $\alpha_{\text{team}} = .89$ ;  $\alpha_{\text{school}} = .87$ ).

#### *Self-Reported Performance.*

*Sport performance.* Student-athletes rated their sport performance via a single item, ranging from 1 (*Extremely bad*) to 7 (*Extremely good*). Self-reported performance ranged from 2 to 7,  $M_{\text{performance}} = 5.82$ ,  $SD_{\text{performance}} = 0.87$ , with most participants reporting a score of 6 - moderately good performance (57%).

*Academic performance.* Student-athletes reported their grade point average (GPA) as a measure of academic performance. Specifically, participants were asked to select the range which captured their current GPA. Options ranged from 4.0 – 3.50, 3.49 – 3.0, 2.99 – 2.50, 2.49 – 2.00, or below 2.0. Seventy-nine participants (54%) reported a 3.50 GPA or greater, 56 participants (35%) reported a GPA between 3.49 and 3.0, 21 participants (13%) reported a GPA between 2.99 and 2.50, and only two participants (1%) reported a GPA lower than 2.49.

## Results

### *H<sub>1</sub>: Toxic Leadership’s Relation with Role Conflict, Burnout, Commitment, and Performance*

To test our first primary hypothesis, regarding the adverse relation between toxic leadership and greater role conflict ( $H_{1a}$ ), greater burnout ( $H_{1b}$ ), lower affective commitment to school ( $H_{1c}$ ) and sport ( $H_{1d}$ ), greater intention to quit school ( $H_{1e}$ ) and sport ( $H_{1f}$ ), and poorer performance in school ( $H_{1g}$ ) and sport ( $H_{1h}$ ), as reported among collegiate student-athletes, we conducted partial correlation analyses. We controlled for the following relevant, demographic variables which may potentially explain variance in outcome apart from toxic leadership: gender, ethnicity, major, scholarship funding, sport, type of coach, athletic division, and amount of playing time. The partial correlations, after controlling for demographic variables, are shown in Table 1. The zero-order correlation matrix, excluding our control variables, showed the same pattern of results and is publicly available as supplemental material.

As seen in Table 1,  $H_1$  hypotheses were largely supported. Toxic leadership was positively correlated with role conflict ( $H_{1a}$ ) and burnout ( $H_{1b}$ ), such that the greater toxic leadership student-athletes perceived their coaches to exhibit, the greater role conflict and sport burnout they reported. Again, as suspected, toxic leadership was significantly, negatively correlated with affective commitment to school ( $H_{1c}$ ) and affective commitment to sport ( $H_{1d}$ ); toxic leadership was significantly, positively correlated with intentions of quitting school ( $H_{1e}$ ) and intentions of quitting sport ( $H_{1f}$ ). However, our hypothesis regarding the relation between toxic leadership and performance was only partially supported. Indeed, toxic leadership was significantly, positively correlated with self-reported academic performance ( $H_{1g}$ ); but it was not significantly correlated with self-reported athletic performance ( $H_{1h}$ ). It is surprising that greater perceptions of toxic leadership were linked to better academic performance and unrelated to sport performance.

Table 1

*Partial correlations between toxic leadership, role conflict, burnout, commitment, and performance*

Measure	M (SD)	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Toxic Leadership	3.09 (1.08)	-	.33***	.49***	.47***	.37***	-.33***	-.25**	.22*	.02
2. Role conflict	4.53 (1.50)		-	.61***	.37***	.29***	-.31***	-.21*	.19*	-.06
3. Burnout	4.16 (1.56)			-	.64***	.38***	-.49***	0.29***	.17*	.08
4. Likelihood quit team	3.02 (1.78)				-	.71***	-.69***	-.53***	.14	.03
5. Likelihood quit school	2.76 (1.56)					-	-.54***	-.70***	.21*	-.01
6. Team commitment	5.23 (1.58)						-	.57***	-.09	-.05
7. School commitment	5.37 (1.19)							-	-.20*	-.02
8. Academic performance	2.61 (0.81)								-	.04
9. Sport performance	2.18 (0.87)									-

*Note.* Partial correlations control for gender, ethnicity, major, scholarship funding, sport, type of coach, athletic division, and amount of playing time. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Next, we conducted a series of hierarchical linear regressions to further assess whether toxic leadership predicted role conflict and burnout. In each regression, we first simultaneously entered gender, ethnicity, scholarship funding, sport, coach, athletic division, and amount of playing time as simultaneous predictors to account for in Model 1. In Model 2, we then entered toxic leadership to determine if it independently predicted outcomes above and beyond the variables included in the previous model. As seen in Table 2, Model 1 was significant, such that the set of relevant demographic variables predicted role conflict. More importantly, and as predicted, adding toxic leadership as a unique predictor in Model 2 significantly improved the amount of variance explained.

Table 2  
*Summary of Hierarchical Regression Analyses for Toxic Leadership Predicting Role Conflict*

Variable	Model 1			Model 2		
	<i>B</i>	SE <i>B</i>	Beta	<i>B</i>	SE <i>B</i>	Beta
Gender	0.69	0.42	0.21	0.68	0.41	0.21
Ethnicity	0.48	0.41	0.10	0.44	0.40	0.09
Scholarship	.91	.44	.22*	0.95	0.43	.23*
Sport						
Baseball	0.52	0.68	0.08	0.51	0.66	0.08
Basketball	-0.9	0.56	-.02	-0.27	0.55	-0.05
Cycling	-1.17	0.59	-.18	-0.90	0.58	-0.14
Football	0.89	0.58	0.18	0.86	0.56	0.18
Rowing	1.05	0.64	0.17	1.14	0.63	0.18
Soccer	-0.26	0.57	-0.04	-.46	0.55	-0.08
Softball	-1.91	0.53	-0.37**	-1.74	0.52	-0.34**
Track/Field	-0.19	0.52	0.00	-0.04	0.51	-0.01
Volleyball	-0.01	0.43	0.00	-0.17	0.42	-0.05
Coach Type	0.09	0.29	0.03	-0.07	0.28	-0.02
NCAA Division						
D1	-0.68	0.30	-0.21*	-0.22	0.33	-0.07
D2	0.57	0.57	0.08	0.47	0.56	0.07
D3	0.48	0.56	0.09	0.51	0.54	0.10
Playing Time	0.01	0.09	0.01	-.01	0.09	-.01
Toxic Leader				0.39	0.13	0.28**
<i>R</i> <sup>2</sup>		.23			.28	
<i>F</i> for change in <i>R</i> <sup>2</sup>		2.44**			9.38**	

*Note.* Categorical variables of gender (0 = male, 1 = female), ethnicity (0 = White, 1 = Other), scholarship (0 = no funding, 1 = funding), sport (0 = no, 1 = yes), coach type (0 = head coach, 1 = other), and division level (0 = no, 1 = yes), were dummy coded; the continuous variable of toxic leadership was mean centered. Major was not included in Model 1 because dummy coding a large number of college majors risked over-specifying the model and reducing power without justification. Indeed, toxic leadership nor any of the outcomes varied by major - with the exception of academic performance (i.e., GPA). Sports reported by more than 5% of the sample were entered as predictors. \* $p < .05$ , \*\* $p < .01$ .

Furthermore, we found a similar pattern of results when predicting burnout. As seen in Table 3, Model 1, the set of demographic variables predicted the amount of burnout experienced by student-athletes. Nevertheless, as predicted, adding toxic leadership to the model significantly improved the amount of variance explained, as evidenced in Model 2.

In a similar fashion, we also conducted a series of hierarchical linear regressions to assess whether toxic leadership uniquely predicted other outcome variables of interest (i.e., likelihood of quitting the team and school, commitment to team and school, performance in team and school contexts). Like in the previous analyses, we simultaneously entered demographic variables (i.e., gender, ethnicity, scholarship funding, sport, coach, athletic division, and amount of playing time) in Model 1. We then entered toxic leadership as a predictor in Model 2. As seen

in Table 5, after controlling for demographic variables, toxic leadership significantly predicted likelihood of quitting the team and school, commitment to team and school, and athletic performance – but not sport performance. We present a summary table of hierarchical regression results in Table 4, omitting the specific beta weights for each variable for the sake of brevity. Nonetheless, full analyses and summary tables, including beta weights, are available as supplemental material via the Center for Open Science ([https://osf.io/tk9zb/?view\\_only=faf6d20d8bc447e1a72936d85716ee37](https://osf.io/tk9zb/?view_only=faf6d20d8bc447e1a72936d85716ee37)). The findings from each hierarchical regression mirror the partial correlations reported in Table 1.

Table 3  
*Summary of Hierarchical Regression Analyses for Toxic Leadership Predicting Burnout*

Variable	Model 1			Model 2		
	<i>B</i>	SE <i>B</i>	Beta	<i>B</i>	SE <i>B</i>	Beta
Gender	0.10	0.45	.03	0.09	0.40	0.03
Ethnicity	0.36	0.45	0.07	0.28	0.38	0.06
Scholarship	0.62	0.47	0.15	0.69	0.41	0.16
Sport						
Baseball	-1.19	0.72	-0.18	-1.21	0.64	-.18
Basketball	-0.27	0.59	-0.04	-0.63	0.53	-0.10
Cycling	-1.39	0.63	-0.21*	-0.86	0.57	-0.13
Football	0.11	0.61	0.02	0.06	0.54	0.01
Rowing	0.46	0.68	0.07	0.63	0.61	0.10
Soccer	-0.46	0.60	-0.07	-0.86	0.54	-0.15
Softball	-1.68	0.56	-0.31**	-1.34	0.50	-0.25**
Track/Field	0.77	0.55	0.14	0.74	0.49	0.13
Volleyball	-0.40	0.45	-0.12	-0.71	0.40	-0.21
Coach Type	0.47	0.30	0.14	0.15	0.27	0.05
NCAA Division						
D1	-0.34	0.32	-0.10	0.55	0.32	0.16
D2	0.74	0.61	0.10	0.33	0.54	0.07
D3	0.28	0.59	.05	0.17	0.53	0.06
Playing Time	0.20	0.09	0.18*	0.17	0.08	0.14
Toxic Leader				0.78	0.13	0.52***
<i>R</i> <sup>2</sup>		0.21			0.38	
<i>F</i> for change in <i>R</i> <sup>2</sup>		2.16**			37.47**	

*Note.* Categorical variables of gender (0 = male, 1 = female), ethnicity (0 = White, 1 = Other), scholarship (0 = no funding, 1 = funding), sport (0 = no, 1 = yes), coach type (0 = head coach, 1 = other), and division level (0 = no, 1 = yes), were dummy coded; the continuous variable of toxic leadership was mean centered. Major was not included in Model 1 because dummy coding a large number of college majors risked over-specifying the model and reducing power without justification. Indeed, toxic leadership nor any of the outcomes varied by major - with the exception of academic performance (i.e., GPA). Sports reported by more than 5% of the sample were entered as predictors. \* $p < .05$ , \*\* $p < .01$ .

Table 4

*Summary of Hierarchical Regression Analyses for Toxic Leadership Predicting Likelihood of Quitting, Commitment, and Performance Outcomes*

Outcome	Model 1 (Demographic Variables)		Model 2 (Toxic Leadership)	
	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta F$	$\Delta R^2$
Likelihood to Quit Team	3.41***	.30	35.88***	.15
Likelihood to Quit School	3.22***	.29	20.69***	.09
Commitment to Team	2.86***	.26	10.29***	.05
Commitment to School	2.39**	.23	4.87*	.03
Sport Performance	3.49***	.30	0.97	.01
Academic Performance	3.05***	.28	4.22*	.02

*Note.* Model 1 includes the following demographic variables: gender, ethnicity, scholarship funding, sport, coach, athletic division, and amount of playing time. Model 2 includes toxic leadership. Specific beta weights and significance of individual predictors are available as supplemental material. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

## *H<sub>2</sub>: Role Conflict's Relation with Burnout, Commitment, and Performance*

Next, we tested our second hypothesis regarding the relation between the degree of role conflict experienced by collegiate student-athletes with burnout in school (H<sub>2a</sub>) and sport domains (H<sub>2b</sub>), commitment to school (H<sub>2c</sub>) and sport (H<sub>2d</sub>), and performance within both school (H<sub>2e</sub>) and sport domains (H<sub>2f</sub>). As seen in Table 1, our hypotheses were largely confirmed. As we predicted, role conflict was significantly, positively correlated with burnout in school (H<sub>2a</sub>) and sport (H<sub>2b</sub>). Role conflict was significantly negatively correlated with affective commitment to school (H<sub>2c</sub>) and affective commitment to sport (H<sub>2d</sub>); role conflict was significantly, positively correlated with intentions of quitting both school (H<sub>2e</sub>) and sport (H<sub>2f</sub>). However, our prediction regarding the relation between role conflict and performance was only partially confirmed. Role conflict was significantly, positively related to academic performance (H<sub>2e</sub>) but unrelated to athletic performance (H<sub>2f</sub>).

To further assess whether role conflict predicts burnout, commitment within school and sport contexts, and performance within school and sport contexts, we conducted a series of linear regressions. As seen in Table 5, role conflict was a significant predictor of burnout, likelihood of quitting team and school, commitment to team and school, and academic performance. Role conflict did not predict sport performance, however. These regression results mirror the partial correlations presented in Table 1.

Table 5

*Summary of Simple Linear Regression Analyses for Role Conflict Predicting Burnout, Likelihood of Quitting, Commitment, and Performance within School and Sport Contexts*

Outcome variable	B	SE	Beta	95% CI		<i>t</i>	<i>R</i> <sup>2</sup>
				LL	UL		
Burnout	0.64	0.07	0.61	0.51	0.77	9.69**	0.37
Likelihood quit team	0.38	0.09	0.32	0.20	0.56	4.19**	0.10
Likelihood quit school	0.27	0.08	0.26	0.11	0.43	3.37**	0.07
Commitment to team	-0.29	0.08	-0.28	-0.46	-0.13	-3.57**	0.08
Commitment to school	-0.17	-0.06	-0.22	-0.29	-0.05	-2.77**	0.05
Sport performance	-0.02	0.05	0.04	-0.12	-0.07	-0.49	0.00
Academic performance	0.09	0.04	0.16	0.00	0.17	2.02*	0.03

*Note.* The findings shown above represent seven regression analyses, where each of the outcome variables listed above were regressed on role conflict. \* $p < .05$ , \*\* $p < .01$ .

### *H<sub>3</sub>: Exploratory Mediation Analyses*

Finally, in an exploratory fashion, we conducted two mediation analyses to explore whether burnout mediated the relation between student-athletes' role conflict and affective commitment to sport and school. We assessed mediation using a four-step process, as reported by the PROCESS macro, version 3.0 (Hayes, 2018). To infer mediation, the following four steps must be met: (1) role conflict must predict commitment, (2) role conflict must predict burnout, (3) burnout must predict commitment when controlling for role conflict, and (4) role conflict no longer predicts commitment when controlling for burnout.

*Burnout Mediates Effect of Role Conflict on Commitment to Sports Team.* Using the PROCESS macro, version 3.0 (Hayes, 2018), we entered role conflict as the predictor variable (X), burnout as the mediating variable (M), and affective commitment to sports team as the outcome variable (Y). We controlled for gender, ethnicity, grade point average, sport, division, playtime, and self-reported performance by including them as covariates within the model. We selected 5,000 bootstrapped samples for estimated confidence intervals.

In Step 1 of the mediation model, the effect of role conflict on affective commitment to sports team, regardless of burnout, was significant,  $\beta = -0.26$  [-0.43, -.10] (SE = .08),  $t(145) = -3.15$ ,  $p < .01$ . Step 2 revealed that role conflict significantly predicted the mediator of burnout,  $\beta = 0.62$  [.49, .76] (SE = .07),  $t(146) = 8.97$ ,  $p < .001$ . Step 3 revealed that the mediator of burnout, when controlling for role conflict, significantly predicted commitment to one's sports team,  $\beta = -0.45$  [-0.63, -.27] (SE = .09),  $t(144) = -4.85$ ,  $p < .001$ . Step 4 revealed that, when controlling for burnout, role conflict was no longer a significant predictor of commitment to one's sports team,  $\beta = 0.02$  [-0.17, .21] (SE = .10),  $t(144) = 0.28$ ,  $p = .85$ . Indeed, the indirect effect of role conflict on commitment to one's sports team was significant, effect = -.28 [-0.42, -.15], (SE = .07), which suggests that burnout indeed mediated the effect of role conflict on commitment to one's sports team. Thus, student-athletes' experience of role conflict leads to burnout, which in turn predicts feeling less committed to sports.

*Burnout Mediates Effect of Role Conflict on Commitment to School.* Again, using the PROCESS macro, version 3.0 (Hayes, 2018), we entered role conflict as the predictor variable (X), burnout as the mediating variable (M), and affective commitment to school as the outcome variable (Y). In the mediation model we again controlled for gender, ethnicity, grade point average, sport, division, playtime, and self-reported performance by including them as covariates within the model. We selected 5,000 bootstrapped samples for estimated confidence intervals.

In Step 1 of the mediation model, the effect of role conflict on affective commitment to school, regardless of burnout, was significant,  $\beta = -0.15 [-.27, -.02]$  (SE = .06),  $t(145) = -2.32$ ,  $p < .05$ . Step 2 revealed that role conflict significantly predicted the mediator of burnout,  $\beta = 0.62 [.49, .76]$  (SE = .07),  $t(146) = 8.97$ ,  $p < .001$ . Step 3 revealed that the mediator of burnout, when controlling for role conflict, significantly predicted commitment to school,  $\beta = -0.22 [-.37, -.08]$  (SE = .07),  $t(144) = -3.02$ ,  $p < .01$ . Step 4 revealed that, when controlling for burnout, role conflict was no longer a significant predictor of commitment to school,  $\beta = 0.01 [-.16, .14]$  (SE = .08),  $t(144) = 0.11$ ,  $p = .91$ . Indeed, the indirect effect of role conflict on commitment to school was significant, effect =  $-.14 [-.23, -.05]$ , (SE = .05), which suggests that burnout indeed mediated the effect of role conflict on school commitment. Therefore, student-athletes' experience of role conflict leads to burnout, which in turn predicts feeling less committed to school.

## Discussion

Each year, more than 460,000 collegiate student-athletes manage multiple, and at times competing, roles as both students and athletes (Cosh & Tully, 2015; NCAA, 2020). Whereas some coaches cultivate environments which are conducive to student-athletes managing both roles successfully (Parsloe & Wray, 200), others unfortunately engage in toxic forms of leadership and thus adversely affect individual and organizational outcomes (Rizzo et al., 1970; Schmidt, 2014). Our study builds upon, and extends, previous research on toxic leadership literature and its relation to role conflict by assessing collegiate student-athletes' experiences using a validated measure of toxic leadership. Further, to our knowledge, no study had explored burnout as a mechanism potentially underlying the effects of role conflict on commitment and performance. Therefore, the aim of our study was to assess whether toxic coaching and its relation to role conflict, burnout, commitment, and the school/sport performance reported among collegiate student-athletes.

Our primary hypotheses were threefold. First, we predicted that the degree to which collegiate student-athletes perceived their coach as engaging in toxic leadership would be adversely related to the degree of role conflict, burnout, commitment, and poor school/sport performance reported by collegiate student-athletes. Second, we predicted the degree of role conflict experienced by collegiate student-athletes would be positively correlated with burnout and negatively related to commitment and performance within both school and sport domains. Third, in an exploratory fashion, we explored whether burnout mediated the relation between student-athletes' role conflict and commitment. Our hypotheses were largely confirmed.

In regard to our first hypothesis, perceived toxic leadership exhibited by a coach was strongly associated with greater perceived role conflict among student-athletes. This suggests toxic leadership exhibited by a coach may influence how successfully their student-athletes manage roles as students and athletes. Admittedly, our correlational study design cannot

establish a causal link so we are careful to avoid language which may imply causation. Given such caution, our findings may suggest a link between individual differences in toxic leadership exhibited by a collegiate coach and higher levels of role conflict reported by student-athletes. Furthermore, as expected, toxic leadership was adversely related to player burnout, likelihood of quitting the team, likelihood of quitting school, and feeling less committed to the team and school, respectively. These findings highlight how the toxic leadership exhibited by some collegiate coaches may negatively affect individual players and their decisions to persist in school and sport.

Interestingly, toxic leadership was positively related to student-athletes' academic performance but unrelated to their sport performance. We are hesitant to over-interpret this pattern of results because it was not predicted. Nevertheless, this finding may reflect a struggle of student-athletes who are high achieving in the classroom; they perceive more toxic coaching as they dedicate time and effort necessary to excel academically. Whereas student-athletes who are high achievers in their sport do not face the same struggle. Instead, they may identify as more athlete than student, dedicate more time to athletics, and thus perform highly in their sport. Their goals are aligned with their coach and thus may be unlikely to experience their coach's toxic leadership. Future research may replicate and extend whether coaches display greater toxic leadership behaviors when student-athletes excel academically. Furthermore, the association between toxic leadership and academic performance, but not sport performance, could reflect that students who perform better academically may be more perceptive to signs of toxic leadership. Or, it may be self-reported measures of academic and sport performance are imperfect measures for assessing any relation with toxic leadership. Indeed, grade point average is a relatively objective, global measure of academic performance; whereas, self-rated performance is a subjective, specific rating of the degree to which student-athletes perceive themselves as succeeding in their sport. Future studies which replicate our findings and use other, more sensitive and valid measures of academic and sport performance may be worthwhile.

In regard to our second hypothesis, role conflict was adversely related to several individual and organizational outcomes. As predicted, role conflict was linked to greater burnout, greater likelihood of quitting the team and school, and lower feelings of commitment to the team and school. This pattern of results supports the application of role theory (Kahn et al., 1964) as a particularly useful framework for understanding the experiences of student-athletes. Indeed, the degree to which student-athletes experience incompatibility between their role as a student and athlete was associated with feelings of burnout and a lack of commitment. Therefore, coaches, faculty mentors, and advisors of student-athletes should be sensitive student-athletes' roles and feelings of burnout.

Moreover, role conflict was related to greater academic performance but unrelated to sport performance. Given the limitations of a single-item measure of academic and sport performance, we are hesitant to interpret the positive finding of role conflict and academic performance and the null finding between role conflict and sport performance.

Third, in an exploratory fashion, we also examined whether student-athletes' feelings of burnout explained the relation between role conflict and commitment. Given the pattern of correlations between high role conflict, high burnout, and low feelings of commitment to one's sports team and college or university, we suspected that burnout may mediate the relation between role conflict and commitment. Indeed, our exploratory mediation analyses revealed an indirect effect of role conflict on commitment through burnout.



This pattern of results may be promising for future, theoretically grounded, studies which examine burnout as a potential mechanism for how role conflict may lead to poor individual and organizational outcomes. Needless to say, given the correlational nature of our study design, lack of temporal precedence in data collection, and lack of theoretical framework to guide interpretation, we urge readers to interpret our mediational findings cautiously.

### *Strengths*

Our study had several strengths worth noting. For instance, our study was novel in its application of organizational psychology, particularly the potentially detrimental effect of toxic leadership and role conflict, to collegiate coaching and student-athletes. Therefore, our findings are likely of interest to collegiate coaches, student-athletes, administrators, faculty advisors, and organizational psychologists. Indeed, our application of toxic leadership to collegiate coaching may have implications for the selection of collegiate coaches, their leadership training, and evaluation. For student-athletes, our findings may validate their experiences with a toxic coach and highlights the importance of institutional resources and mentors to assist with role conflict.

Furthermore, our findings also highlight potential downstream consequences of toxic coaching on student-athlete feelings, retention, and performance. Longitudinal or cross-sectional studies, which establish greater temporal precedence among toxic coaching, role conflict, burnout, commitment, and performance, may be a fruitful avenue for future researchers interested in the long-term effects of coaching on student-athletes.

### *Limitations and Future Directions*

Our study also has several limitations worth noting. For instance, our sample was limited by its snowball sampling method. Although snowball samples are useful for accessing niche populations (Baltar, 2012), they introduce potentially non-independent responses from participants. For example, student-athletes may have shared the survey with their teammates who then reported their experience under the same coach. Moreover, it is possible that student-athletes with strong attitudes towards their coach may be inclined to share the survey with other teammates with similarly strong attitudes. Thus, it is possible that certain toxic coaches may be overrepresented in our survey. To ensure confidentiality, participants did not identify their particular institution nor coach's name; therefore, we unfortunately cannot control for potential non-independence among respondents. Future studies which replicate and extend our findings using other, more representative and independent sampling methods are necessary.

Furthermore, our findings are limited by the short forms and subscales used in our survey. Albeit, short forms and subscales can be well constructed and used to abate participant fatigue during lengthy survey studies such as ours (see Visser et al., 2013). Future studies which assess leadership toxicity and organizational commitment, and performance using full measures are needed to replicate and extend our findings.

Additionally, our self-report measures of performance were limited. First, self-reported academic performance, as assessed by grade point average, requires students' knowledge of their GPA and may be influenced by the motivation to misremember or report a higher number than truly earned. Grade point average is also updated at the end of semesters and finally calculated at the end of a student's college experience. Thus, it may not be a sensitive enough measure to covary along with other, more valid and reliable measures. Second, self-reported sport

performance may share similar limitations. Because our sample included athletes from many different sports, we asked them to self-report their performance using a Likert rating scale. However, participants may lack insight into, or fail to accurately perceive, their athletic performance (Wilson & Dunn, 2004). Nevertheless, we encourage future research focused on performance in a singular sport to rely on more objective data, such as points scored or physiological measures. Future research may also seek ratings of an athlete's performance from coaches, other players, or scouts to provide more accurate data. We suspect the limitations of our self-report measure of sport performance may have led to its low, nonsignificant correlations with other variables.

Finally, our findings suggest several promising areas for future research. For example, we applied toxic leadership to collegiate coaches and assessed its relation with student-athletes' experiences of role conflict, burnout, commitment, and performance. Future studies may explore links between toxic leadership and other worthwhile outcome variables, such as perceived social support and mental health. Future studies may also survey toxic coaches directly, as well as their student-athletes' perceptions, to assess coaches' self-awareness regarding their toxic leadership behavior. Finally, future studies may also explore situations when toxic leadership may ironically lead to surprisingly positive outcomes. For instance, coaches with an extreme desire to win at all costs and prioritize sports over academics may be highly motivational to players or attractive to potential recruits. However, over time, such toxic coaching may be associated with adverse outcomes, as we found in our current study. Future studies which continue to explore toxic leadership, role conflict, and experiences of student-athletes are likely fruitful avenues of research.

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