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Exploring Predictors of Moral Disengagement in Collegiate Athletic Trainers

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Context: Considering recent high-profile reports of malpractice and negligence by National Collegiate Athletic Association (NCAA) athletic trainers (ATs), it is prudent to investigate the psychological mechanisms that may influence ATs' ability to justify unethical behaviors. When treating injured student-athletes, ATs may undergo a cognitive process known as *moral disengagement*, which involves convincing oneself that ethical standards do not apply in a particular context.

Objective: To explore the psychological factors and traits among ATs that may predict moral disengagement pertaining to allowing athletes to play through injuries.

Design: Cross-sectional study.

Setting: Online survey.

Patients or Other Participants: A total of 187 Division I, II, and III ATs from 100 NCAA universities.

Main Outcome Measure(s): In addition to the primary outcome variable of moral disengagement, the survey captured the AT's demographic background, sport and athletic training histories, and measures of sport ethic, contesting orientations, commitment, and social identity.

Results: Cluster analysis was used to identify homogeneous subgroups of participants based on these variables. A 2-cluster solution emerged, with cluster 1 ($n = 94$) scoring higher in the sport-ethic and sport-contesting orientations but lower in commitment and social identity compared with cluster 2 ($n = 93$). An independent-samples t test revealed that moral disengagement was highest ($t_{185} = 19.59$, $P < .001$, $d = 0.69$) among ATs in cluster 1.

Conclusions: These findings advance our understanding of the psychological processes that may predict moral disengagement of ATs in allowing student-athletes to play through injury. Although additional research is needed to test whether moral disengagement influences return-to-play decisions, we provide initial evidence that ATs who conform to sport norms (eg, "no pain, no gain") and who tend to view sport competition with a "war-like" orientation are more likely to morally disengage.

Key Words: sport morality, collegiate sports, athletic medical care

Key Points

- Moral disengagement is a cognitive process that may influence athletic trainers' attitudes toward allowing injured athletes to play, but it has not yet been studied in this context.
- Athletic trainers who reported lower levels of social identity and commitment and who had stronger beliefs in the sport ethic and sport-contesting orientations may be more likely to engage in moral disengagement when considering whether to allow an injured athlete to participate.
- To ensure optimal care of injured student-athletes, athletic trainers' personal characteristics and ethical decision making should be explored further.

Sport-related injuries not only remove collegiate student-athletes from play but can ultimately lead to depression, academic struggles, and an increased risk of reinjury.[1] With drastic increases in commercialization, investment, and skill development in the National Collegiate Athletic Association (NCAA), organizations have placed a greater emphasis on winning.[2] In 39 states, NCAA collegiate football or basketball coaches were the highest-paid public employees, making the financial investment in collegiate sport greater than ever.[2] This increased focus on winning and financial investment can place pressure on student-athletes to play through pain to achieve success.[3] Athletic trainers (ATs) are the primary medical providers to many student-athletes and make decisions integral to removing injured athletes from competition and clearing athletes to return to play post-injury. Although researchers[4] have investigated leadership pressures (eg, coaches, school administrators) to allow injured athletes to play, the psychological factors that may influence the attitudes of sports medicine providers toward athletes playing through injury have not yet been explored.

The National Athletic Trainers' Association (NATA) Code of Ethics (COE) highlights the need for ATs to treat individuals with compassion, to comply with federal regulations, to promote high standards of service, and to avoid engaging in conduct that could negatively reflect on the athletic training profession, such as prioritizing external factors (eg, financial investments or personal relationships) over a patient's wellbeing.[5] Among these professional ethics required of ATs is a description of the moral expectations that are universal for medical providers in sport, with adequate patient care at the core.[6] Peer and

Table 1. Components of Moral Disengagement[17,37]

Component	Brief Description	Sample Cognition
Moral justification	Portraying inhumane behavior as though it has a moral purpose in order to make it socially acceptable	"Everyone knows that athletes are *supposed to* battle through injuries; all elite athletes do it."
Euphemistic labeling	Using innocuous language to describe reprehensible conduct to make actions sound more acceptable	"She just got a bit *shook up* on that play."
Advantageous comparison	Contrasting negative conduct against more immoral behavior to make behavior seem more acceptable	"It was just a dislocation, not a broken bone."
Displacement of responsibility	Shifting the blame for a particular behavior away from oneself and onto someone or something else	"The coaching staff expects athletes to play through this kind of injury, and the athlete wants to stay in."
Distortion of consequences	Ignoring or downplaying the seriousness of the effects of one's actions	"Playing through this type of injury will not have any long-term effects."
Diffusion of responsibility	Using group membership to claim less responsibility for an immoral action	"Other ATs let athletes play through this type of injury, and none of the other ATs pulled her out of the game."
Dehumanization	Depriving an individual of human qualities or feelings	"These athletes are absolute *warriors*; they can handle it."

Abbreviation: AT, athletic trainer.

Schlabach[7] also noted that these ethical standards are effective only if they are *enculturated*, meaning that individuals learn from others who are morally sound and conform to the standards.

Recent high-profile cases have shed light on pernicious circumstances, as multiple ATs have been cited as behaving unethically (ie, not in accordance with the NATA COE) by neglecting ailments reported by student-athletes to keep them playing, resulting in more severe or lifelong injuries.[8–14] Understanding the psychological processes that underpin ATs' attitudes about playing through injury is a critical first step toward preventing avoidable, long-term injury and facilitating high-quality care for student-athletes. Although many mechanisms exist to explain behaviors in groups (eg, groupthink bias,[15] the "ostrich effect"[16]), they do not have a theoretical foundation in sport contexts. Therefore, when considering ATs' ethical attitudes, one particularly relevant cognitive behavioral pathway that warrants investigation is the extent to which ATs disengage from the moral aspects of playing through an injury. This psychological process, called moral disengagement, has yet to be investigated in ATs.

Moral Disengagement

Moral disengagement is a latent process whereby individuals convince themselves that ethical standards do not apply in a given context (Table 1).[17] Whereas one's moral agency is the cognitive awareness of what is right or wrong, moral disengagement reflects subconscious justification of unethical behavior to protect individuals from self-condemnation.[17] Therefore, this process involves the reframing of harmful behaviors as morally acceptable.[18] Regarding the ethical nature of behaviors, moral disengagement assumes that one's context has a set standard, or "correct" behavior that one is expected to follow.[17] Athletic trainers' moral behaviors are set by the NATA COE and the professional standards of the institution in which they are employed. Despite emerging interest in studying moral disengagement among athletes for behaviors such as injuring opponents or engaging in illegal doping,[19,20] researchers have not considered moral disengagement as related to the ethical behaviors of ATs.

Athletic trainers who engage in behaviors that fail to meet their duty of ensuring the well-being of student-athletes may subconsciously justify these unethical actions through moral disengagement. For example, if an AT fails to remove an athlete who reports concussive symptoms after a collision, the AT may use innocuous phrases to downplay the severity of the injury by stating that the athlete "just got his bell rung" as a subconscious means of convincing himself or herself that the injury is not serious—thereby justifying the unethical decision. Given that moral disengagement may negatively affect ATs' attitudes toward playing through an injury, this psychological process may have harmful downstream effects on decision making during critical injury evaluations. Identifying the psychological factors and other traits that may predict moral disengagement is a necessary step toward understanding ethical decision making among ATs. This topic is particularly timely considering the growing injury rates in the NCAA[21] and numerous highly publicized incidents of ATs behaving unethically.[8–14] As such, the purpose of our study was to explore theoretically relevant factors that may explain variability in moral disengagement of ATs regarding student-athletes playing through injury.

Identifying Predictors of Moral Disengagement

When we consider factors that may facilitate moral disengagement, ATs' broad attitudes and orientations toward sport are particularly relevant. Although this subject has not yet been studied among ATs, we can turn to prior research[19,20,22] on moral disengagement among athletes and coaches. As highlighted by sport sociologists, one way of capturing sport attitudes that may be closely related to moral disengagement is the extent to which an individual subscribes to, or supports, a concept known as *the sport ethic*. The sport ethic is described as overconformity to the norms of sport (eg, athletes should play through pain to help the team) to achieve success and consists of 4 components: (a) willingness to sacrifice for the sport, (b) striving for distinction, (c) accepting risks and playing through pain, and (d) refusing to accept limitations.[23] Upholding this set of attitudes can lead to unsafe sport practices such as playing through injury or treating others poorly in pursuit of greatness.[24] This belief system is

typically emphasized in competitive sport environments in which athletes are often viewed and treated as warriors striving for success with little regard for their safety.[23]

Alongside attitudes toward the sport ethic, ATs' views of antisocial and hostile behaviors toward opponents are anticipated to emerge as key predictors of moral disengagement. Indeed, researchers[22,25] have found that, in athletes, moral disengagement is closely linked to antisocial behaviors such as hostility or aggression toward opponents. Contesting theory provides a relevant framework for capturing ATs' broad orientations toward these behaviors in sport competition.[26] This theory holds that individuals view sport competition along 2 dimensions: "warfare" and "partnership."[26] A *warfare orientation* entails a belief that sport is war-like, such that athletes are warriors who should do anything it takes to win. Alternatively, a *partnership orientation* reflects beliefs that sport competition is a partnership among competitors that can bring out the best in both parties.[27] Investigators[26] have shown that athletes who are high in warfare orientation typically involve themselves in more risk-taking behaviors and morally disengage more often than those who are high in partnership orientation. Importantly, individuals can hold both types of beliefs toward opponents, though high warfare orientations typically override partnership attitudes.[26,27] Contesting theory has not yet been applied to ATs but is nevertheless an ideal framework for examining whether ATs' sport orientations relate to moral disengagement. In line with the literature on contesting theory in athletes, ATs who view sport with a warfare orientation would be expected to display more moral disengagement regarding student-athletes playing through an injury.

In addition to ATs' general attitudes and orientations toward sport, it is also important to consider ATs' relationships with and connections to the teams with whom they work. One salient indicator of ATs' connection to the team is their level of commitment. Whereas a strong commitment to the team may be expected to result in highly ethical attitudes toward athlete care,[28] contrasting evidence suggests that a strong commitment can have deleterious effects if an AT is committed to a goal other than providing medical care. Athletic trainers often view themselves as staff members (eg, coaches or assistants or even as fans, which can shift their focus away from the duty to provide ethical care and toward team-oriented goals (eg, winning).[29] A strong commitment to the team may also increase pressure to help the team win in ways that may facilitate moral disengagement regarding injury.

Notably, roughly 65% of collegiate ATs reported feeling pressured by both coaches and other medical care providers to rush student-athletes back to play.[4] Nevertheless, these expectations should be considered alongside evidence that medical care providers (eg, nurses, doctors) who are more committed to their patients indeed provide higher-quality care.[30] However, many ATs are in charge of at least 3 athletic teams, creating an environment in which ATs are stretched thin and often unable to commit themselves to a single team, perhaps resulting in minor injuries being overlooked due to extreme workloads.[31] In addition, ATs have indicated that this difficult work environment, as well as a lack of respect or pressures from the team to keep athletes in competition, makes committing professionally difficult.[32] Thus, considering the commitment to one's duties is imperative,[28] but how ATs view themselves in relation to their team(s) may emerge as a key predictor of moral disengagement in the context of athletes playing through injuries.

A second key indicator of ATs' connections to the teams they care for is the extent to which they consider their role on the team an important aspect of their own self-concept. *Social identity* is defined as one's sense of belonging to a group, which is reflected in the development of close interpersonal ties with group members and positive attitudes toward being a member of the group.[33] Theoretically grounded in the social identity approach, the strength with which an individual identifies with a group plays a key role in his or her attitudes and behaviors toward the members of the group.[34] Given the link between social identification and attitudes and behaviors, interest in social identity is growing among sport researchers.[35] For example, youth athletes who identified strongly with their team typically engaged in more positive moral behaviors toward *ingroup* team members (those with whom they identified), whereas *outgroup* members (those with whom they did not identify) were more likely to morally disengage.[36] Although the topic is yet to be explored among ATs, tenets of social identity theory suggest that the strength with which an AT identifies with the team may have important implications for his or her attitudes and behaviors toward those team members. Developing close ties with team members may humanize athletes in the eyes of ATs, such that they view an athlete as a whole person rather than just an athlete. These attitudes may then influence ATs' attitudes toward athletes playing through injuries.

METHODS

Participants

The participants were 187 ATs currently employed by NCAA athletics departments (Division I = 160 [85.7%], Division II = 23 [12.1%], Division III = 4 [2.2%]). They were recruited from 100 universities and ranged in age from 22 to 65 years (age = 31.79 ± 9.23 years; n = 101 [54%] female; white = 157 [84.1%], Hispanic = 11 [5.8%], Asian = 9 [4.8%], African American = 7 [3.7%], and other = 3 [1.6%]). On average, participants had been ATs for 8.7 ± 8.55 years. The sample consisted of ATs recruited from 17 NCAA men's and women's sports, and many of the ATs provided care for multiple teams (n = 138 [73.8%]).

Procedures

After obtaining approval from the institutional review board, we e-mailed ATs to invite them to participate in the study. Of the approximately 2000 individual ATs from randomly selected universities (equal numbers from Division I, II, and III institutions) invited to participate, 9.4% responded. The initial message consisted of a description of the study and a link to the consent form and online questionnaire. Participants were informed that the goal of the research was to determine how NCAA medical staff personnel could affect the physical health of student-athletes. The questionnaire took an average of 10 minutes to complete and contained demographic items (eg, athletic and AT history), as well as a battery of scaled measures, some of which were adapted for the current

Table 2. Bivariate Correlations Among All Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. The sport ethic	–									
2. Contesting orientation – war	0.30[a]	–								
3. Contesting orientation – partnership	0.16[b]	0.30[a]	–							
4. Commitment	0.11[b]	0.13	0.20[a]	–						
5. Social identity	0.17[b]	0.07	0.15[b]	0.19[b]	–					
6. Moral disengagement	0.59[a]	0.20[a]	0.02	−0.17[b]	0.20[a]	–				
Demographic items[c]										
7. Age	−0.04	−0.08	−0.01	0.10	0.01	0.01	–			
8. Gender	−0.21[a]	−0.03	0.01	−0.08	0.02	−0.21[a]	−0.24[a]	–		
9. Athletic trainer's experience	0.08	0.07	0.03	0.05	0.10	0.02	0.98[a]	0.09	–	
10. Education	0.06	0.02	0.07	0.05	0.04	0.09	0.38[a]	−0.04	0.14[b]	–
11. NCAA Division (1 = DI; 2 = DII/III)	0.01	0.02	0.02	0.04	0.07	0.05	0.10	0.03	0.01	0.09

Abbreviation: NCAA, National Collegiate Athletic Association.

[a] Significant at the .01 level (2 tailed).

[b] Significant at the .05 level (2 tailed).

[c] Demographic scoring: Gender was initially coded as 1 = male and 2 = female. Athletic trainer's experience was recorded in years. Education was coded as 1 = bachelor's degree, 2 = master's degree, and 3 = doctoral degree. The NCAA divisions were dichotomized to explore if the level of play related to the variables of interest. Divisions II and III were combined due to the limited number in this subsample (n = 25).

sample of ATs. Participants were compensated with a $10 digital gift certificate on survey submission.

Measures

Moral Disengagement. A modified version of the Moral Disengagement in Doping Scale (MDDS) was used to assess moral disengagement pertaining to the ATs' attitudes about athletes playing through injuries.[37] The MDDS is a 6-item scale that was originally designed to assess how athletes perceive the use of performance-enhancing drugs in sport, but we modified questions to represent how ATs accept the notion of student-athletes participating through injury. Each component of the scale reflects 1 component of moral disengagement: moral justification, euphemistic labeling, advantageous comparison, displacement of responsibility, distortion of consequences, and diffusion of responsibility (see Table 1 for examples).[17] The items were (a) playing through injury is all right because it helps your team; (b) an athlete playing through injury is "maximizing hir or her potential" by not missing playing time; (c) compared with illegal activities people do in everyday life, allowing an athlete to play through an injury is not very serious; (d) ATs cannot be blamed for allowing an athlete to play through injury if the team pressures them to do so; (e) an AT should not be blamed for allowing an athlete to play through injury if other teams allow athletes to do it; and (f) playing through injury does not really hurt anyone. Participants rated their agreement with each statement on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*, and a composite score was calculated based on these responses (see Table 2).[37] The internal consistency for the sample was adequate ($\alpha = .87$).

The Sport Ethic. Athletic trainers responded to a 4-item scale adapted from seminal work that investigated individuals' acceptance of sport culture and norms.[23] These items measured the extent to which participants believed that physical and mental sacrifice was an expected aspect of sport and necessary to achieve success. The question stem asked participants how much they agreed with the following statements on a 5-point Likert scale ranging from *not at all* to *extremely*: (a) Athletes should be willing to sacrifice for their sport by playing through injuries; (b) If it is the difference between winning and losing, an athlete should be encouraged to play through injury for his or her team; (c) An injury should not stop an athlete from pursuing goals and obtaining greatness; and (d) being an athlete involves accepting risks and playing through pain (eg, broken fingers, minor sprains, or sickness). Internal consistency for the present sample was adequate ($\alpha = .82$).

Contesting Orientations. To learn how participants viewed opponents in sporting contexts, we administered the Contesting Orientations Scale (COS).[27] The COS consists of two 6-item subscales that gauge the extent to which an individual views sport competition as warfare or as a partnership. Participants reported their responses on a 5-point Likert scale, ranging from *strongly disagree* to *strongly agree*. An example of a warfare subscale item is "In sports, like war, opponents stand between you and success," and an example of a partnership item is "The purpose of competition is to bring out the best in everyone." The Cronbach α ranged from 0.86 (warfare) to 0.78 (partnership).

Commitment. Commitment was assessed using the Klein et al 4-item instrument.[38] Items were in question form and were modified slightly to refer to the sport teams with whom ATs work. Participants responded to the following items on a 5-point Likert scale ranging from *not at all* to *completely*: (a) How committed are you to the athletes you work with? (b) How dedicated are you to the athletes you work with? (c) To what extent have you chosen to be committed to the athletes you work with? and (d) To what extent do you care about the athletes you work with? Internal reliability in this sample was consistent with prior work ($\alpha = .84$).[38]

Social Identity. A modified version of the Social Identity Questionnaire for Sport (SIQS) was used to assess ATs' strength of social identification with the teams and athletes with whom they work.[39] Specifically, the original scale refers to athletes in relation to the team, but we replaced "athletes" with "athletic trainers." Although the SIQS consists of 3 subscales that can also be used to reflect a

Table 3. Cluster Groupings and Findings After Independent-Samples *t* Test

Variable	Mean ± SD			*P* Value	Effect Size d
	Total Sample (n = 187; 46% Male)	Cluster 1 (n = 94; 51% Male)	Cluster 2 (n = 93; 41% Male)		
Moral disengagement	2.70 (1.02)	3.30 (0.99)	2.10 (0.89)	<.01	0.69
The sport ethic	3.10 (0.72)	3.61 (0.48)	2.59 (0.49)	<.01	1.71
Contesting orientation (warfare)	3.45 (0.91)	4.01 (0.72)	2.89 (0.71)	<.01	1.39
Contesting orientation (partnership)	3.90 (0.63)	3.95 (0.58)	3.84 (0.59)	.03	0.29
Commitment	4.60 (0.50)	4.49 (0.96)	4.93 (0.84)	.01	0.48
Social identity	3.24 (0.32)	3.18 (0.67)	3.51 (0.54)	.02	0.47

global construct, we used only the ingroup ties (ie, feeling connected to members of the group) and ingroup affect (ie, how one feels about the group) subscales. Because the third subscale, cognitive centrality, has consistently shown poor reliability, we did not use the items from this subscale, consistent with previous sport researchers.[40] Participants responded to these items on a 7-point Likert scale, from *strongly disagree* to *strongly agree*. The items were composed to create a global social identification construct: (a) In general, I'm glad to be an athletic trainer for this team, (b) I often regret being an athletic trainer for this team (reverse worded), (c) Generally, I feel good about myself when I think about helping this team, (d) I don't feel good about being an athletic trainer for this team (reverse worded), (e) I have a lot in common with the athletes on this team, (f) I feel strong ties to the athletes on this team, (g) I find it difficult to form a bond with athletes on this team (reverse worded), and (h) I don't feel a strong sense of being connected with this team (reverse worded). For the present sample, the Cronbach α was 0.80.

Data Analysis

Initial data analyses included reviewing the data and identifying outliers or cases in which survey responses were incomplete. Additional preliminary analyses included calculating descriptive statistics and computing bivariate correlations to examine zero-order associations between variables (Tables 2 and 3). Gender differences were examined using *t* tests. Finally, to accomplish the primary study aims of identifying the profiles of ATs who may be more likely to morally disengage when considering whether athletes should play though an injury, we performed a *k*-means cluster analysis.

Cluster analysis is a person-centered method that is used to identify subgroups of people based on similarities across a set of variables. Unlike a variable-centered approach, which examines relations among variables, a person-centered approach enables researchers to examine participants holistically to identify patterns across several theoretically relevant constructs.[41] Given the complexity of factors that may influence moral disengagement in ATs, we conducted a cluster analysis to identify meaningful configurations of these factors. Specifically, clusters were identified based on measures of social identity, the sport ethic, contesting orientations, and commitment. Before conducting the cluster analyses, we standardized all questionnaires, so that each variable received equal weight in the cluster analyses.[42] A set of *k*-means cluster analyses were performed, which maximized similarities within groups and differences between groups. We considered a range of cluster solutions and identified the optimal cluster solution on the basis of statistical fit (ie, silhouette coefficient), parsimony, and theoretical interpretability. A higher silhouette coefficient represents the similarity of individuals within clusters.[41] After the clusters were identified, the next step was to determine whether group differences existed in moral disengagement between the resultant clusters. This was done using an independent-samples *t* test, and α was set at the .05 level.

RESULTS

Of the original sample of 213 participants, 187 were retained after 26 outliers (ie, those with responses that were 3 standard deviations [SDs] above sample means, n = 9) and 17 recruits who completed less than half of the survey were removed. Of the 187 retained participants, 87.2% (n = 163) worked at Division I institutions, while 12.8% (n = 239) worked at Division II or III institutions. Although information about nonresponders was not collected to ensure anonymity, based on the sample, we noted that Division I ATs responded at a higher rate, as an equal number of recruitment e-mails was sent to ATs in each NCAA division. Means and standard deviations for all variables, in addition to bivariate correlations, are displayed in Table 2. Notably, moral disengagement was significantly related to sport-ethic beliefs ($r = 0.59$, $P < .01$), warfare contesting orientation ($r = 0.20$, $P < .01$), and social identity ($r = 0.20$, $P < .01$) and was negatively correlated with commitment ($r = –0.17$, $P < .05$). Gender differences in moral disengagement were investigated using a *t* test (male mean = 2.87 ± 1.03, female mean = 2.45 ± 0.91). Men reported higher moral disengagement than women ($t_{185} = 1.89$, $P = .041$, d = 0.27).

We examined a range of 2 to 5 cluster solutions and deemed a 2-cluster solution optimal based on its silhouette coefficient (m = 0.19) and theoretical interpretability. Solutions of 3 to 5 clusters yielded less optimal silhouette coefficients (m = 0.15, m = 0.17, and m = 0.18, respectively). The 2-cluster solution yielded 2 similarly sized clusters (n = 94, n = 93). In contrast to cluster 2, cluster 1 was characterized by individuals who scored higher on the sport ethic and both contesting orientations but lower in commitment and social identification (Table 3). Independent *t*-test analyses, used to compare the 2 clusters, revealed no differences for the following demographic characteristics: age, race, gender, ethnicity, education, sport experience, AT experience, and current sports team(s). Moreover, to ensure that neither gender nor any other demographic characteristic was different between the clusters, we conducted the Levene test for equality of variances. Although the bivariate correlations indicated gender differences for moral disengagement, no gender

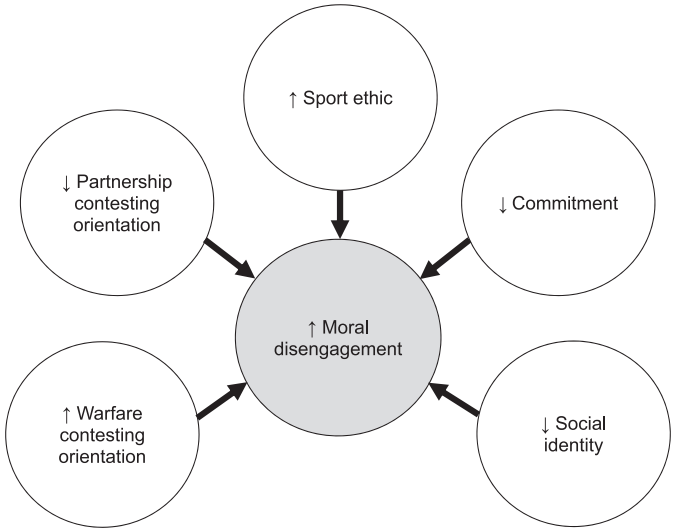

Figure. Conceptual model outlining relationships between study variables.

differences were found in the 2 clusters ($t_{185} = -1.84$, $P = .267$).

Pertaining to the primary variable of interest, moral disengagement, an independent-samples t test revealed that ATs in cluster 1 scored higher than those in cluster 2 ($t_{185} = 19.59$, $P < .01$, d = 0.69). That is, ATs with profiles characterized by high sport-ethic beliefs, high contesting orientations, low commitment, and low group identity with the team scored higher on moral disengagement related to allowing athletes to play through injury (cluster 1 mean = 3.3 ± 0.99, cluster 2 mean = 2.1 ± 0.89; Figure).

DISCUSSION

Predicting Moral Disengagement

The purpose of our study was to explore individual characteristics and beliefs among NCAA ATs that may predict moral disengagement related to allowing athletes to play through injuries. A cluster analysis revealed 2 groups of ATs based on divergent beliefs in the areas of sport ethic, team commitment, contesting orientations, and social identity. The findings suggested that ATs who reported greater sport ethic and contesting orientations with lower commitment and social connection to student-athletes were more prone to moral disengagement (Figure). Cluster analysis is designed to maximize dissimilarities between profiles, which explains the relatively strong effect sizes (Table 3). However, further inspection of these effect sizes revealed that the most salient factor driving the difference between the AT profiles was attitudes toward the sport ethic, followed closely by warfare contesting orientation.

It is important to consider that, although moral disengagement regarding athletic injuries may have adverse effects on ATs' abilities to ethically evaluate an injury, the present findings are preliminary and only describe associations between variables that may predict moral disengagement. Nevertheless, these findings contribute to the literature as they begin to fill a critical knowledge gap regarding the psychological processes that may explain ATs' ethical (or unethical) attitudes toward athletes' injuries. Indeed, to our knowledge, we are the first to explore moral disengagement among ATs. Variability in moral disengagement may be explained by ATs' attitudes and orientations toward sport, as well by their connections to the teams they treat. Additional research is needed to better understand how moral disengagement may relate to an AT's ability to make ethical decisions regarding whether to allow an injured athlete to play.

Despite the lack of research on moral disengagement among ATs in sport, our findings are in line with those of researchers[18,19] who examined health-risk behaviors in athletes, such as doping and overly aggressive play. Using a person-centered approach via cluster analysis and subsequent t tests provides insight into the relationship between an individual's sport-ethic beliefs and moral disengagement. An investigation[26] of student-athletes and coaches showed that individuals were more likely to act unethically and justify these actions if they believed that the sport culture demanded such behavior. For example, if an injury is considered a weakness in a highly competitive environment, an athlete may not report it or may continue to play through pain. Similarly, clinicians were influenced by cultural and sport beliefs, often weighing their own subjective sport experiences and those of the culture surrounding them more heavily than ethical standards.[43,44] The manifestation of the sport ethic may subsequently cause morally unacceptable actions such as using euphemisms for injuries or providing harmful medical suggestions. For example, Saposnik et al[45] noted that ATs' behaviors were influenced by beliefs about what was expected of the athletes in a given context, such as believing that all players wanted to keep playing through injury because they were in a contact sport with an inherent "culture of risk."

Additionally, the literature on moral disengagement has described the relationship between an individual's contesting orientation relative to sport and morally disengaging behaviors. Warfare orientations have been associated with decreased self-control, increased violence, and risk-taking behaviors.[24] Shields et al[26] determined that moral behaviors were strongly predicted by warfare orientations, regardless of the level of partnership orientation. Similarly, this pattern was observed in our sample of ATs: the high moral disengagement cluster had high warfare orientation, which entails viewing the sport environment as a battlefield.[26] Although ATs may not be currently active in competitive sport, entrenched views of sport as war may negatively affect their ethical views of allowing an athlete to play through injury. Cognitive biases and previous beliefs relating to a particular context influenced the care provided to athletes.[44,46] Therefore, ATs who embrace a war-like team culture may be at risk of moral disengagement when considering the return of an athlete to play after an injury.

Athletic trainers in cluster 1 (comparatively lower in commitment to the team and lower in social identification with the team) scored higher on moral disengagement. One possible explanation is that ATs who struggle to adequately understand or relate to student-athletes may more readily engage in moral disengagement when making a return-to-play decision.[28] Similarly, those who do not view themselves as a part of the team (eg, feel disconnected from athletes, view themselves as a coach or staff member) may not prioritize their athletes' health and wellbeing to the same extent as ATs who more closely identify with the

athletes. Athletic trainers who feel more like a coaching figure with desires for victory may experience impaired judgment during medical treatment.[29] Other authors have explored the relationship between empathy based on social identity and moral disengagement. For example, Aquino et al[47] found that individuals who lacked social identity with a group might find it difficult to treat individuals humanely and have empathy for their pain; thus, they might be more likely to display moral disengagement. Moreover, low commitment levels predicting moral disengagement is in line with previous results in patient care settings, indicating that commitment levels were heavily influenced by one's social identity or feeling of belongingness to a group.[32] Thus, the current findings provide an early indication that ATs who demonstrated lower levels of commitment may be more likely to justify unethical behaviors in the sport context.

Moral disengagement during medical treatment is influenced by a spectrum of factors that shape ethical behaviors. Previous investigators[48] cited gender differences in both athletes' and ATs' willingness to push ethical bounds and promote risky behavior (eg, play through injury or return to play prematurely). Moreover, Baugh et al[49] noted that female ATs were less willing to take risks in the sport context and that male ATs often framed injury as less of a concern than female ATs, thus encouraging continued participation despite injury.[49] Although a *t* test indicated that moral disengagement was higher among the men in our study, no gender differences were present between the clusters. Therefore, personal characteristics and views of sport may have influenced moral disengagement more than gender.

Understanding the psychological characteristics and mechanisms that predispose ATs to moral disengagement is an important step in ensuring ethical treatment of collegiate student-athletes. Regarding professional ethics, Peer and Schlabach[6] observed that the most important values of ATs who were more likely to follow the NATA COE were truth and honesty, integrity, and accountability. The researchers[7] stated that it was important for ATs to display these generalized characteristics but also imperative to understand the personal traits that foster adherence to the set code of ethics. Therefore, it may be wise to consider the breadth of scaled measures and personality characteristics to understand which traits predispose ATs to adhere to professional standards. Further study in this line of inquiry is needed to understand how moral disengagement relates to ATs' ability to follow the NATA COE.

Limitations and Future Directions

Alongside the strengths of our study, several limitations and future directions must also be considered. The 2 distinct profiles of ATs were based on several variables that are theoretically linked to moral disengagement, but they did not account for any possible effects of an AT's environment on his or her moral attitudes toward playing through sport injuries. For example, sport activity and the organization's competitive level (ie, NCAA Division I, II, or III) did not display enough variation to enable us to observe differences. Based on increased monetary spending for Division I sports such as football and basketball, an AT may perceive heightened pressures to keep star athletes playing.[3] Moreover, nearly three-fourths of our ATs provided care to multiple sports, making it difficult to examine differences between sport types. In addition, given the inherent limitation of a cross-sectional design, we were unable to draw causal inferences and were not able to investigate the possibility that moral disengagement evolves or changes throughout a season based on team success or coach pressures. Also, men and women did not participate in equal numbers, resulting in slightly skewed clusters. Previous authors[45,49] indicated that females tended to report lower levels of moral disengagement. However, this was not the case in our clusters, which could have been due to the low response rate and relatively small sample. Given the exploratory nature of our study, the findings were based on adapted scales that were used in previous moral disengagement research in sport settings. Although we could argue that the adapted scales had strong face validity, future work in this domain would benefit from the development of psychometrically valid scales to measure moral disengagement in ATs specifically and even to potentially assess ethical evaluations of injuries.

Considering the limitations of the current examination, future investigators should attempt to longitudinally measure how moral disengagement may fluctuate based on social factors such as the winning percentage, NCAA division level, employment setting (eg, does the program work within a medical model?), sport type, and motivational climate of the team. For example, collecting responses at multiple time points throughout a season would provide insight into how continual exposure to the sport context may shift moral behaviors based on the team's unique environment. Another avenue for exploration could be the educational institutions that ATs attended: assessing the programs that ATs were trained in, the terminology they learned (eg, *athlete* versus *patient*), sport fandom in their formative years, and overall professional preparation. Practitioners, educators, and researchers should attempt to further promote ethical training in the athletic training curriculum with increased awareness that moral disengagement may influence ethical decision making. To ensure proper ethical attitudes, educational programs should emphasize commitment and identifying with student-athletes on a personal level while dismissing their past sport experiences (eg, biases they may have developed as former athletes or as allegiances to a group [ie, favorite team fandom]). Future directions could include taking a qualitative approach and probing the most salient social factors that influence ethical standards by contacting ATs at various levels (eg, Division I, II, and III) and with different success rates (eg, winning versus losing programs). Lastly, researchers should test the extent to which these findings generalize to other levels of sport, including the high school and professional levels.

CONCLUSIONS

We identified 2 potential profiles of NCAA ATs that differed in moral disengagement. Those ATs who reported higher moral disengagement were characterized by higher sport-ethic beliefs and contesting orientations, whereas those who were higher in commitment to and identified more strongly with their teams reported lower levels of moral disengagement. These findings shed light on the

importance of personal characteristics in ethical attitudes toward injury and underscore the need to further understand the role of moral disengagement among ATs.

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