

# Individual Moral Philosophies and Ethical Decision Making of Undergraduate Athletic Training a Students and Educators

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**Context:** Ethics research in athletic training is lacking. Teaching students technical skills is important, but teaching them how to reason and to behave in a manner that befits responsible health care professionals is equally important.

**Objective:** To expand ethics research in athletic training by (1) describing undergraduate athletic training students' and educators' individual moral philosophies and ethical decision-making abilities and (2) investigating the effects of sex and level of education on mean composite individual moral philosophies and ethical decision-making scores.

**Design:** Stratified, multistage, cluster-sample correlational study.

**Setting:** Mailed survey instruments were distributed in classroom settings at 30 institutions having Commission on Accreditation of Allied Health Education Programs (CAAHEP)-accredited athletic training programs.

**Patients or Other Participants:** Undergraduate students and educators ( $n = 598$ : 373 women, 225 men; mean age =  $23.5 \pm 6.3$  years) from 25 CAAHEP-accredited athletic training programs.

**Main Outcome Measure(s):** We used the Ethics Position Questionnaire and the Dilemmas in Athletic Training Questionnaire to compute participants' mean composite individual moral philosophies (idealism and relativism) and ethical decision-making scores, respectively. Three separate 2 (sex: male, female)

$\times 3$  (education level: underclass, upper class, educator) between-subjects factorial analyses of variance using idealism, relativism, and ethical decision-making scores as dependent measures were performed.

**Results:** Respondents reported higher idealism scores ( $37.57 \pm 4.91$ ) than relativism scores ( $31.70 \pm 4.80$ ) (response rate = 83%). The mean ethical decision-making score for all respondents was  $80.76 \pm 7.88$ . No significant interactions were revealed. The main effect for sex illustrated that men reported significantly higher relativism scores ( $P = .0014$ ,  $\eta^2 = .015$ ) than did women. The main effect for education level revealed significant differences between students' and educators' idealism ( $P = .0190$ ,  $\eta^2 = .013$ ), relativism ( $P < .001$ ,  $\eta^2 = .050$ ), and ethical decision-making scores ( $P < .001$ ,  $\eta^2 = .027$ ). Tukey honestly significant difference post hoc analysis indicated that educators possessed lower idealism scores ( $36.90 \pm 5.70$ ) and relativism scores ( $29.92 \pm 4.86$ ) and higher ethical decision-making scores ( $82.98 \pm 7.62$ ) than did students.

**Conclusions:** Our findings do not support changes in athletic training ethics education practices to address sex-specific needs. However, when opportunities occur for students to reason using different ethical perspectives, educators should be aware of their students' and their own moral philosophies in order to optimally facilitate professional growth.

**Key Words:** ethical ideology, moral psychology, ethical judgment

## Key Points

- Underclass students had the highest idealism scores; educators had the lowest idealism and relativism scores.
- Sex did not have a sizable effect on students' or educators' individual moral philosophies or ethical decision-making scores.
- Educators had slightly higher ethical decision-making scores than students had.
- Education level did not affect students' ethical decision-making scores.

Certified athletic trainers (ATs), like other allied health care professionals, have been prepared to practice in the clinical and scientific realms. Nonetheless, ATs routinely confront ethical challenges demanding professional decisions that require abilities beyond the explicit clinical knowledge taught in the formal curricula. One need not look far in the rapidly changing profession of athletic training for situations requiring such knowledge. An example is having first-hand knowledge that a respected colleague is knowingly practicing without a state license. Are you obligated to report this individual? A judgment like this taps an AT's moral philosophy and requires the intrinsic resolution of many competing interests. For instance, one must weigh the degree to which he

or she takes into account unconditional obedience to the law (absolutism) versus his or her consideration of circumstance (relativism). In addition, one also must determine the degree to which he or she believes that risking harm to others is sometimes necessary to produce a desired outcome (pragmatism) versus his or her responsibility to prevent harm to the public and the profession regardless of the outcome (idealism). Table 1 provides more detailed definitions of terminology used in this investigation.

Professionalism calls for ATs' clinical decisions and practices to be evidenced by science and harmonious with ethical principles befitting a health care professional. According to Bandman and Bandman,<sup>6</sup> "Moral problems arise whenever

**Table 1 Definitions of Terms**

	Definition of Terms
Values	The term <i>values</i> can be divided into personal and professional values. <i>Personal values</i> refers to the extent or degree to which one acknowledges or gives consideration to something in his or her decision making. <i>Professional values</i> refers to practitioners' and professional groups' stated and unstated relative commitments to various standards of practice that guide behaviors. <sup>1</sup>
Foundational Behaviors of Professional Practice	Basic behaviors that permeate all aspects of professional practice as an athletic trainer. Published in the fourth edition of the <i>Athletic Training Educational Competencies</i> , these foundational behaviors represent the common values of the athletic training profession and consist of 7 distinct areas: Primacy of the Patient, Teamed Approach to Practice, Legal Practice, Ethical Practice, Advancing Knowledge, Cultural Competence, and Professionalism. <sup>2</sup>
Individual Moral Philosophy (IMP)	An integrated conceptual system of personal ethics. Also referred to as one's <i>ethical ideology</i> . A person's IMP provides guidelines for moral judgments and prescribes actions in ethical dilemmas. Idealism and relativism are two primary constructs that comprise one's IMP. <sup>3,4</sup>
Idealism	One's innate interest in the well-being of others and the extent to which he or she believes that the fundamental rightness of an action should determine one's behavior. More simply stated, idealists believe harming others is universally wrong and attempt to avoid causing injury to others at all costs. On the contrary, nonidealists are pragmatists who recognize that moral actions do not always lead to desirable outcomes. In turn, these individuals accept that causing harm is sometimes necessary to produce good. <sup>3,4</sup>
Relativism	Refers to the extent to which individuals reject universal moral rules (eg, "never lie or cheat," "abide by the golden rule") when making decisions. Relativists disregard the universal application of moral rules when distinguishing between right and wrong. Rather, relativists believe decisions and actions should be based on the situation and the individuals involved. Accordingly, relativists contemplate specific circumstances and personal values more than relevant ethical principles when making a decision. <sup>3,4</sup>
Ethical Decision Making	In this study, <i>ethical decision making</i> refers to one's ability to make an appropriate decision about a morally toned dilemma in athletic training and was measured by a participant's score on the Dilemmas in Athletic Training Questionnaire (DAT-Q).
Morals and Ethics	<i>Morals</i> refer to generally accepted societal norms about right and wrong human conduct. <i>Ethics</i> refer to the study of these concepts and their application in practical reasoning. Although distinctions between morals and ethics have been proposed, no single distinction is generally accepted and, therefore, the terms often are used interchangeably. <sup>5</sup>

and wherever there is a possibility of doing good or harm to someone." Therefore, nearly every clinical decision made by an AT possesses a moral component. Hannam<sup>7</sup> recognized this, suggesting that professionalism in allied health care is one of "the most necessary yet least focused upon skills that can be learned as one develops." Although many reasons exist for one's decision to engage in ethical or unethical behavior, individual moral philosophy (IMP) has been acknowledged as having substantial influence on such decisions (D.R. Forsyth, personal communication, July 2005).<sup>8</sup> A person's moral beliefs, attitudes, and values comprise his or her IMP and serve as guidelines for making decisions and prescriptions for actions when confronted with an ethical dilemma.<sup>3,4</sup> As such, an AT's moral philosophy (idealism and relativism) is an essential element of decision making necessary for effective professional practice across clinical settings.<sup>9</sup> Students develop their IMPs and decision-making skills, along with other "Foundational Behaviors of Professional Practice,"<sup>2</sup> largely during the clinical field experience when emulating the instructor's attitudes and behaviors. Thus, an AT's moral philosophy and ethical decision-making abilities comprise the "hidden" curriculum of the clinical field experience and influence his or her ability to facilitate students' development.<sup>5</sup> Hence, all ATs who interact with students are educators and, therefore, are obligated to teach and model proper moral philosophies, judgment, and behaviors to students, regardless of whether the instructional mode is didactic or clinical.

In recent years, ethics research has been published widely

in the allied health literature. For example, Swisher<sup>10</sup> reported that 49 peer-reviewed journal articles examining ethics in physical therapy were published between 1990 and 2004. In addition, researchers in occupational therapy,<sup>11</sup> medicine,<sup>12,13</sup> pharmacy,<sup>14</sup> and nursing<sup>15,16</sup> have investigated ethics. Some researchers have reported IMP<sup>17,18</sup> and moral judgment<sup>19,20</sup> to be predictors of behavior and clinical performance, respectively. Articles in the athletic training clinical-education literature have discussed the relationship between student and clinical instructor,<sup>21,22</sup> student-professional socialization,<sup>23</sup> clinical-instructor behavior,<sup>24</sup> and clinical-instructor effectiveness.<sup>25,26</sup> However, no published research, to date, has addressed ethics within athletic training. Using the Defining Issues Test Two (DIT-2), Litt,<sup>27</sup> in his unpublished dissertation, was the first to investigate athletic training students' moral judgment. *Moral judgment* refers to a psychological construct that provides conceptual guidance for peoples' decisions regarding which course of action is morally right and which course of action is morally wrong when confronted with a dilemma.<sup>28</sup> Litt found that athletic training students' moral judgment abilities declined from their first year to the final year in an athletic training program and that female students possessed a significantly higher level of moral judgment capacity than male students did. Although Litt established the effect of sex and education on moral judgment using the DIT-2, his research possessed 3 chief limitations: (1) use of a nonrandom sample limited to the state of Ohio, (2) use of a measurement instrument that presented ethical-dilemma vi-

gnettes not relevant to the profession of athletic training, and (3) the level of moral judgment of athletic training educators was not examined.

Published research to substantiate Litt's initial findings or to extend them to include other variables and measurement tools is lacking. Consequently, our twofold purpose was (1) to extend the investigation of ethics by describing athletic training students' and educators' IMPs and ethical decision-making capacities using the Ethics Position Questionnaire (EPQ) and Dilemmas in Athletic Training Questionnaire (DAT-Q), and (2) to support Litt's findings regarding sex and education level using the aforementioned instruments with a national random sample.

## METHODS

### Sampling

The sampling frame used in this study consisted of a list of all Commission on Accreditation of Allied Health Education Programs (CAAHEP)-accredited entry-level athletic training education programs (ATEPs) having a National Collegiate Athletic Association (NCAA)-sanctioned athletics program. A list published quarterly by CAAHEP indicated that, at the time of this study, 155 institutions of higher education met this criterion.<sup>29</sup> However, no adequate list of undergraduate athletic training students or educators was available when we planned the sampling design of this study. Therefore, we chose multistage cluster sampling for this study because it provided an economical and feasible equal-probability selection method that enabled the use of available lists.<sup>30,31</sup> Cluster sampling is hierarchic and begins with the selection of large clusters (CAAHEP-accredited, entry-level ATEPs) and progresses to the selection of smaller clusters (ie, athletic training students and educators).

In stage I, institutions listed in the sampling frame were stratified based on the size of their athletic programs into 2 primary clusters. Primary cluster 1 ( $n = 78$ ) consisted of institutions with NCAA Division I status and represented 50.32% of ATEPs. Primary cluster 2 ( $n = 77$ ) combined institutions with NCAA Division II ( $n = 38$ ) or III ( $n = 39$ ) status and represented 49.68% of ATEPs.<sup>32</sup> To complete stage II, each ATEP was assigned a numeric code and an investigator-controlled, computer-generated, simple random sample of 50 ATEPs from institutions with NCAA Division I and 50 ATEPs from institutions with NCAA Division II and III athletic programs was taken. Finally, we concluded with stage III by obtaining an investigator-controlled, computer-generated, simple random sample of undergraduate athletic training students and educators (ie, elementary cluster units).

### Participants

Participants in this study consisted of athletic training educators and undergraduate athletic training students. To be included in this study, an educator was defined as an AT who had been certified for a minimum of 1 year and currently was serving in an instructional or supervisory role for athletic training students, either clinically or didactically. The Board of Certification requires that the duration of a student's clinical field experience be no less than 2 and no more than 5 years in length.<sup>33</sup> Accordingly, the length of a student's time enrolled in an ATEP can vary from 2 to 5 years. Therefore, we

defined an upper-class student as being in the third, fourth, or fifth year and an underclass student as being in the first or second year of an ATEP.

### Ethics Position Questionnaire

Although there are several different approaches to describing ethical thought, Schlenker and Forsyth<sup>34</sup> identified idealism and relativism as the 2 dimensions that most straightforwardly explain variations in ethical thought. Therefore, we measured IMP using Forsyth's<sup>3</sup> EPQ instrument, a self-reported, 20-item inventory containing 2 subscales: one to measure idealism and another to measure relativism. The EPQ has been used to examine idealism and relativism as related to moral judgments,<sup>35</sup> behavior,<sup>18,36</sup> business,<sup>8,37</sup> moral choice,<sup>17</sup> sexual attitudes,<sup>38,39</sup> and ethical decision making in medicine.<sup>12</sup> Respondents are asked to indicate their level of agreement with each item on a 5-point, Likert-type scale anchored by 1 (*strongly disagree*) and 5 (*strongly agree*). The idealism subscale consists of items 1 to 10 and measures the degree to which individuals "assume that desirable consequences can, with the 'right action' always be obtained."<sup>3</sup> The idealism scale contains items such as *People should make certain that their actions never intentionally harm another even to a small degree.*<sup>3</sup> The idealism score, a dependent variable, was obtained by calculating the sum of subjects' responses to items 1 to 10. The relativism subscale consisted of items 11 to 20 and measured "the extent to which an individual rejects universal moral rules" when making ethical decisions.<sup>3</sup> The relativism scale contains items such as *What is ethical varies from one situation and society to another.*<sup>3</sup> The relativism score, also a dependent variable, was obtained by calculating the sum of participants' responses to items 11 to 20. Possible scores on the idealism and relativism subscales range from 10 to 50.

**Reported Psychometric Characteristics.** Forsyth et al<sup>40</sup> examined the validity of the EPQ using principal components factor analysis. The researchers demonstrated that the EPQ had a stable structure that loaded on 2 orthogonal primary factors, accounting for 42.4% of the total variance. Separately, the idealism and relativism factors contributed 22.4% and 20.0% of the variance, respectively. Dinger<sup>41</sup> corroborated the EPQ's 2-factor solution, noting that both combined accounted for approximately 30.89% of the variance (idealism and relativism contributed to 12.85% and 18.04%, respectively). A more recent study by Davis et al<sup>42</sup> using confirmatory factor analysis on a sample ( $n = 285$ ) of undergraduate and graduate business students supported these findings, noting high fit indices for the model.

The reliability of the EPQ is also well established. Forsyth<sup>3</sup> reported reasonable levels of internal consistency reliability for the EPQ with a sample ( $n = 462$ ) of undergraduate psychology students, noting Cronbach  $\alpha$  values of .80 and .73 for the idealism and relativism scales, respectively. Means of item-to-total correlations for the idealism and relativism scales were .67 and .66, respectively. Additionally, reasonable test-retest correlations were found for idealism and relativism, .67 and .66, respectively.

**$\beta$  Testing.** To assist in instrument selection, we performed 2 independent-samples  $\beta$  tests ( $\beta$  test 1:  $n = 34$ ;  $\beta$  test 2:  $n = 287$ ) were performed. Principal components factor analysis with varimax rotation of data from  $\beta$  test 2 revealed the 20 items of the EPQ to load on 5 factors with 2 primary factors

(eigenvalues of 4.29 and 2.65) that accounted for approximately 34.72% of the variance. Items from the idealism subscale loaded most heavily on component 1 (21.47%). Items from the relativism subscale loaded most heavily on component 2 (13.25%). Cronbach  $\alpha$  values for the EPQ's idealism and relativism subscales were .83 and .68, respectively, supporting Forsyth's original findings and those of several more recent studies of the EPQ demonstrating similar  $\alpha$  coefficients.<sup>8,41-44</sup>

## Dilemmas in Athletic Training Questionnaire

Our extensive review of the literature failed to yield an instrument that would examine ethical decision making using vignettes specific to the profession of athletic training. Therefore, we undertook a development process to create the DAT-Q, a measurement tool designed to examine ethical decision making specific to athletic training. The process consisted of (1) reviewing the relevant literature, (2) reviewing previously published measurement instruments, (3) consulting a panel of athletic training professionals regarding the face validity of the DAT-Q, (4) conducting initial  $\beta$  testing, (5) performing an item analysis from  $\beta$  test data, and (6) revising and repiloting the DAT-Q. Hypothetical vignettes depicting ethically toned scenarios were chosen for use in this study, because they have been shown to reduce respondent social desirability bias, to decrease subjects' distrust of researchers, and to reduce the potential harm to participants.<sup>45</sup>

**Instrument Development.** The DAT-Q presented subjects with 5 vignettes depicting hypothetical ethical dilemmas specific to the athletic training profession. Participants then were asked to rate their levels of agreement with 4 declarative statements accompanying each vignette. The 4 items accompanying each vignette were inspired by Rest et al's<sup>28,46</sup> 4-component and Forsyth's<sup>4</sup> "person  $\times$  situation" models of morality (D.R. Forsyth, personal communication, July 2005).<sup>4,28,46</sup> Item 1 required subjects to judge whether or not a vignette character should perform a specific action. Item 2 required subjects to respond as to whether or not they agreed the vignette character had an ethical responsibility in the situation presented. Item 3 required a subject to respond whether he or she would perform the same action as the vignette character. Finally, item 4 required subjects to rate whether or not they felt that the ethical dilemma presented was important. Variations of these 4 items were repeated after each vignette. Combined, they formed a cohesive 20-item scale in which total possible scores ranged from 20 to 100. The sum of responses to items 1 to 20 of the DAT-Q were calculated and served as a subject's ethical decision-making score.

Consequently, 14 vignettes inspired by ethical dilemmas presented in Ray and Loubert's text,<sup>47</sup> in the Hahm-Beller Values Choice Inventory,<sup>48</sup> and in current events as reported in the media were developed initially for the DAT-Q. An item pool consisting of 10 questions per vignette also was developed. The vignettes and response items were reviewed for face validity by a panel of 9 athletic training professionals; the panel consisted of 5 ATs (mean = 6.4 years of athletic training experience) working as practicing clinicians in collegiate or clinical orthopaedic settings, 2 athletic training educators (mean = 14.0 years of athletic training experience), and 2 athletic training doctoral students (mean = 6.0 years of athletic training experience). One AT on the panel was also a member of the National Athletic Trainers' Association (NATA) Ethics

Committee at the time of this study. In addition, vignettes and response items also were presented to a focus group for a "think aloud" comprising 10 ATs working as practicing clinicians in collegiate, secondary, or clinical orthopaedic settings and 48 athletic training students (18 graduate and 30 undergraduate). Based on the feedback provided, the vignettes and items were rewritten to remove ambiguity and interfering elements.

**$\beta$  Testing and Psychometrics.** The final stages of instrument development included performing 2 independent-samples  $\beta$  tests. Initial  $\beta$  testing was conducted in a classroom setting with a convenience sample of physical therapy graduate students ( $n = 34$ ). After  $\beta$  test 1, item analysis, feedback from open-ended questions, and additional input from the athletic training experts assisted in reducing the number of vignettes to 6. All panel members attested to the content validity of the vignette scenarios, agreeing that the ethical dilemmas and the characters' actions were a fair representation of reality. A second  $\beta$  test, also in a classroom setting, was conducted with a convenience sample of graduate and undergraduate health, physical education, recreation, exercise science, and athletic training students ( $n = 287$ ). After  $\beta$  test 2, item and factor analysis assisted in reducing the DAT-Q to 5 separate vignettes, each accompanied by 4 response items.  $\beta$  test 2 yielded a Cronbach  $\alpha$  for the DAT-Q of .81, suggesting reasonable internal consistency.

## Procedures

Of the 100 invited ATEP program directors, 30 agreed to participate in the study, and 30 packages containing 737 surveys were shipped via priority mail approximately 1 week after the initial contact. Each package contained a letter to the program director, the appropriate number of survey instruments for students and educators at that institution, and a prepaid, self-addressed return envelope. We followed up with program directors via phone and e-mail 2 weeks after the mailing of survey packages. As an added incentive, program directors who agreed to participate were offered a report profiling how athletic training students and educators at their institutions compared with a national average. Participants completed a 4-part survey instrument consisting of a brief demographic questionnaire, the EPQ, the DAT-Q, and a space allowing participants an opportunity to share their thoughts regarding this study and the topic of ethics in athletic training. Demographic questions inquired about participants' sex, education level, grade point average, years of athletic training experience, and whether or not they had completed a prior course in ethics. Informed consent was inherent in each subject's voluntarily completion of the survey instrument. All procedures and instrumentation used in this investigation were approved by an institutional human subjects review board.

## Data Analysis

Completed survey packages for this correlational research study were entered into the Statistical Package for Social Sciences (version 11.5; SPSS Inc, Chicago, IL). Descriptive statistics were analyzed to describe the characteristics of the sample as related to IMP (idealism and relativism) and ethical decision-making scores. The research design was 3 separate 2 (sex: male or female)  $\times$  3 (education level: underclass, upper class, or educator) factorial analyses of variance (ANOVAs)

performed to investigate the interactions and main effects for each of the 3 dependent variables (idealism score, relativism score, and ethical decision-making score). Effect sizes were reported as partial  $\eta^2$ . The Tukey honestly significant difference (HSD) post hoc procedure was performed for each factorial ANOVA to assess pairwise differences among the 3 levels for the education level main effect. Significance levels for all analyses were set a priori at .05.

## RESULTS

### Data Entry and Screening

Survey packages, containing 610 surveys (83% of 737 mailed surveys), were returned from 25 of the 30 athletic training programs surveyed. Before analyzing the data, we assessed sex, education level, and the dependent variables for accuracy of data entry, missing values, and fit between their distributions and the assumptions of statistical tests used in this investigation. Twelve incomplete surveys were eliminated from the final analysis (598 surveys used) because they were missing more than 15% of the data necessary for analysis.<sup>49</sup>

### Observed Psychometric Properties

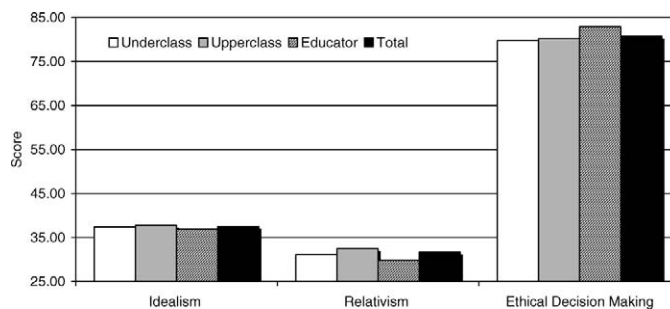
A principal components factor analysis with varimax rotation on our sample data revealed the 20 items of the EPQ to load on 5 factors with 2 primary factors (eigenvalues of 3.72 and 2.85) that accounted for approximately 26.35% of the variance. Items from the idealism subscale loaded most heavily on component 1 (16.36%). Items from the relativism subscale loaded most heavily on component 2 (9.99%). Cronbach  $\alpha$  measurements for the EPQ's idealism and relativism subscales were .79 and .72, respectively. These sample data values support Forsyth's<sup>3</sup> original data on the reliability of the EPQ, thereby indicating that each scale had reasonable internal consistency. For the DAT-Q, a principal components factor analysis with varimax rotation revealed a 6-factor solution (eigenvalues of 4.69, 2.18, 2.09, 1.80, 1.57, and 1.25) that accounted for 67.98% of the variance. Cronbach  $\alpha$  for the DAT-Q was .82.

### Demographics

Athletic training programs in all 10 NATA regional districts were represented in the sample, with Districts 2 (25.0%) and 4 (32.0%) accounting for the highest percentage of programs responding. Eleven (44.0%) of the returned packages were from institutions having NCAA Division I athletics programs. Fourteen (56.0%) of the returned packages were from institutions having NCAA Division II or III athletics programs.

Completed survey instruments from 598 respondents—373 women (62.4%) and 225 men (37.6%)—were used in the final analysis. The mean age of all respondents was  $23.5 \pm 6.3$  years (range = 18 to 63 years). Students accounted for 461 (77.1%) of the 598 survey instruments used in the final analysis; 155 (33.6%) were men and 306 (66.4%) were women. Students' ages ranged from 18 to 36 years, with a mean of  $21.1 \pm 2.1$  years. The mean grade point average for students participating in the study was  $3.32 \pm 0.4$ . The majority of students (76.1%) reported that they had not taken a formal course in ethics.

Educators accounted for 137 (22.9%) of the 598 survey in-



**Figure.** Respondents' reported idealism, relativism, and ethical decision-making scores as a function of education level. Note: Possible scores ranged from 10 to 50 for idealism and relativism and from 20 to 100 for ethical decision making. "Total" category includes all respondents.

struments used in the final analysis; 70 (51.1%) were men and 67 (48.9%) were women. Educators' ages ranged from 22 to 63 years, with a mean of  $31.8 \pm 8.6$  years. On average, educators reported they had been working in their current positions for  $4.9 \pm 6.4$  years and had been ATs for  $8.6 \pm 7.6$  years. The majority of educators (59.1%), like students, reported that they had not taken a formal course in ethics.

### Baseline Data

Overall, respondents ( $n = 598$ ) reported higher idealism scores ( $37.56 \pm 4.91$ ) than relativism scores ( $31.70 \pm 4.80$ ). The mean ethical decision-making score for all respondents was  $80.76 \pm 7.88$ . Educators reported the lowest idealism and relativism scores and the highest ethical decision-making scores of all respondents. The number of respondents scoring above and below the means of the idealism and relativism scales was distributed approximately equally. However, respondents exhibited a highly relativistic IMP, with 323 (54.0%) respondents scoring above the mean of the relativism scale. Respondents' reported idealism, relativism, and ethical decision-making scores as a function of education level are shown in the Figure.

### Sex and Education Level Interactions

Before examining individual main effects, we evaluated all potential interactions of sex and education level to identify combined differences for the 3 dependent variables. No interactions were significant between sex and education level for idealism ( $F_{2,592} = .737, P = .479, \eta^2 = .002$ ), relativism ( $F_{2,592} = .507, P = .603, \eta^2 = .002$ ), or ethical decision-making scores ( $F_{2,592} = .312, P = .732, \eta^2 = .001$ ).

### Sex Differences

No differences in idealism or ethical decision-making scores were attributable to the main effect of sex:  $F_{1,592} = 1.55, P = .214, \eta^2 = .003$  and  $F_{1,592} = .635, P = .426, \eta^2 = .001$ , respectively. A third 2 (sex)  $\times$  3 (education level) factorial ANOVA was conducted on the dependent variable of relativism score. The main effect of sex for relativism illustrated that men reported higher relativism scores ( $F_{1,592} = 9.183, P = .0014, \eta^2 = .015$ ) than did women, regardless of education level. This effect indicated a small association between sex and relativism score (Table 2).

**Table 2. Men's and Women's Idealism, Relativism, and Ethical Decision-Making Scores by Education Status (Mean ± SD)**

Scores	Underclass		Upper Class		Educator		Total	
	Men (n = 80)	Women (n = 176)	Men (n = 75)	Women (n = 130)	Men (n = 70)	Women (n = 67)	Men (n = 225)	Women (n = 373)
Idealism	38.22 ± 5.18	38.23 ± 4.33	36.97 ± 5.14	37.27 ± 4.29	36.27 ± 6.33	37.55 ± 4.92	37.22 ± 5.59	37.77 ± 4.44
Relativism	33.19 ± 4.70	31.45 ± 4.52	33.04 ± 4.89	32.21 ± 4.53	30.47 ± 4.87	29.35 ± 4.82	32.31 ± 4.96	31.34 ± 4.67
Ethical decision making	80.29 ± 8.37	80.46 ± 7.13	78.92 ± 8.82	80.20 ± 7.85	82.89 ± 7.63	83.07 ± 7.67	80.64 ± 8.43	80.84 ± 7.54

### Education Status Differences

Results for each of the 3 factorial ANOVAs revealed a main effect for education level on the dependent variables of idealism scores ( $F_{2,592} = 3.99, P = .0190, \eta^2 = .013$ ), relativism scores ( $F_{2,592} = 15.53, P < .001, \eta^2 = .050$ ), and ethical decision-making scores ( $F_{2,592} = 8.06, P < .001, \eta^2 = .027$ ). Of these, education level demonstrated the largest association with relativism scores. The strength of association for the main effects of all dependent variables was small. Tukey HSD follow-up procedures ( $P = .05$ ) indicated that underclass students' idealism scores (mean = 38.23) were higher than educators' idealism scores (mean = 36.90). However, neither underclass students' nor educators' idealism scores differed from upper-class students' idealism scores (mean = 37.16).

The Tukey HSD results were similar for the dependent variables of relativism score and ethical decision-making scores. Underclass students' relativism scores (mean = 31.99) and upper-class students' relativism scores (mean = 32.51) were higher than educators' relativism scores (mean = 29.92). Similarly, both underclass students' ethical decision-making scores (mean = 80.40) and upper-class students' ethical decision-making scores (mean = 79.73) were lower than educators' ethical decision-making scores (mean = 82.98). However, underclass students' and upper-class students' relativism scores and ethical decision-making scores did not differ. Table 3 summarizes the cell means and SDs for idealism, relativism, and ethical decision-making scores as functions of the main effect for education level.

### DISCUSSION

Adopted in 1957, the NATA's Code of Ethics originally was intended to clarify and to distinguish ethical and approved practice from those practices that might prove harmful. Similar to other professional codes of ethics, the NATA Code of Ethics has been revised continually to keep pace with the evolution of athletic training practice. Also, like most ethical codes, the current NATA Code of Ethics is written for broad interpretation and cannot be applied in a rote manner. Rather, the code describes the basic principles that ATs should consider when making decisions. In addition to the NATA Code of Ethics, education reform in athletic training produced the *Athletic Training Educational Competencies* to assure students' mas-

tery in a prescribed set of approved clinical skills and professional dispositions necessary to serve the public. However, becoming a truly competent AT requires more than rote application of ethical codes or proficiency of clinical skills. An authentically proficient AT must be capable of recognizing, confronting, and determining the appropriate course of action when faced with an ethical dilemma. A review of the third edition of the *Athletic Training Educational Competencies*<sup>50</sup> revealed that fewer than 5% (23 of 542) of the educational competencies addressed ethics. Moreover, a review of the athletic training literature revealed that research focusing on ethics is lacking. These 2 factors, combined with Magnus and Ingersoll's<sup>51</sup> opinion that athletic training education must include training in ethics, prompted our investigation into IMP and ethical decision making.

### Baseline Idealism, Relativism, and Ethical Decision-Making Levels

Our study revealed that underclass students reported the highest idealism scores and that upper-class students reported the highest relativism scores. Collectively, these baseline demographic findings imply that students bring with them to the ATEP a clear moral philosophy—harming others should always be avoided—and that universal moral principles (ie, laws, rules, or ethical codes) are important as guidelines but open to interpretation. Added support for this was provided by the statements of underclass students who wrote, "It is always wrong to cause hurt to someone else" and "I believe a person does their best work and makes the best decisions when always considering others' interests." Our findings implied that students became less concerned about harming others as they progressed through the ATEP. These findings correspond with research in medicine<sup>52-55</sup> and nursing,<sup>56</sup> which demonstrated a decline in students' idealism with professional education and during the socialization process of clinical clerkships. Additionally, our findings also suggest that student judgments about what was ethical appeared to be influenced by the circumstances surrounding a situation. This was further evidenced by several upper-class students' written statements regarding a vignette about illegal drug use. For example, one upper-class student wrote, "If the drug use had happened while 'on duty,' it would have been a different story. Although

**Table 3. Idealism, Relativism, and Ethical Decision-Making Scores by Education Status (Mean ± SD)<sup>a</sup>**

Scores	Underclass (n = 256)	Upper Class (n = 205)	Educator (n = 137)
Idealism	38.23 <sup>b</sup> ± 4.60	37.16 <sup>b,c</sup> ± 4.61	36.90 <sup>c</sup> ± 5.70
Relativism	31.99 <sup>b</sup> ± 4.63	32.51 <sup>b</sup> ± 4.67	29.92 <sup>c</sup> ± 4.86
Ethical decision making	80.40 <sup>b</sup> ± 7.53	79.73 <sup>b</sup> ± 8.22	82.98 <sup>c</sup> ± 7.62

<sup>a</sup> Means in the same row that do not share superscripts differ at  $P < .05$  in the Tukey honestly significant difference comparison.

I am not supporting drug use, I feel that everyone is entitled to their personal life.” A second upper-class student wrote, “The illegal drug use one, what do you mean by illegal? Marijuana and heroin are different!”

Finally, our study revealed that athletic training educators reported the lowest idealism and relativism scores. Educators’ low idealism scores suggested a belief that harming others is sometimes necessary to achieve a desired outcome. Intuitively, it would seem that low levels of idealism should result in low ethical decision-making scores. However, we found that athletic training educators also reported the highest ethical decision-making scores. Collectively, these findings are noteworthy, because they suggest that educators’ low relativism scores—belief in universal ethical principles—may moderate the negative effects of educators’ low idealism scores on their ethical decision making.

### Sex Differences

The following section discusses only the main effect for sex, because no interactions were noted. At the time of this study, the profession of athletic training was undergoing a demographic transition from its traditional male majority toward a slight female majority.<sup>32</sup> Litt<sup>27</sup> reported that female athletic training students’ moral judgment scores were higher than male students’ scores. Using various approaches to examine ethics, several researchers supported Litt’s finding that men and women use different moral orientations to resolve ethical dilemmas.<sup>57–61</sup> Similarly, previous investigators<sup>44,62,63</sup> have reported sex differences in subjects’ IMPs. These findings, coupled with an increasing number of women in the profession, suggest that curricular and instructional changes to address sex-related differences in ethics may be necessary. As such, identifying innate sex-related differences in ethical thought may be of great consequence to the profession of athletic training. Although we found a difference between men’s and women’s relativism scores, the magnitude of this difference was small and was attributable more to our large sample size than any meaningful sex differences. Therefore, our results do not support Litt’s findings or the existence of any meaningful sex differences in IMP or ethical decision making. Collectively, our findings support Forsyth’s original study and those of others who failed to detect meaningful sex differences associated with IMP<sup>12,17,40,64–66</sup> or moral judgments of hypothetical ethical-dilemma vignettes.<sup>5,66–68</sup> Therefore, our findings provide theoretical support to previous researchers who argued that no systematic relationship between sex and ethicality exists. Thus, our results do not support a need to address sex differences in current athletic training education practices concerning ethics.

### Education Level Differences

The main effect for education level will be discussed in this section. No interactions were demonstrated. Collectively, our idealism and relativism results suggest that students entering ATEPs are idealistic (high idealism scores) and relativistic (high relativism scores), believing that causing harm to others is always wrong and that “right” decisions are predicated by circumstance rather than by universal rules, respectively. Interestingly, we found educators to be less idealistic and less relativistic than students. Athletic training educators, therefore, may rely more often than students on universal ethical prin-

ciples or professional codes when making ethical decisions. Consequently, the idealism and relativism findings of this study support those of previous researchers, who found that more-educated professionals had lower idealism and relativism scores than students had.<sup>62,63,69,70</sup> Last, our findings lend support to research in medicine<sup>52–55</sup> and nursing,<sup>56</sup> which revealed a deterioration in students’ idealism with education.

Researchers in medicine<sup>20,71</sup> and nursing<sup>9,72</sup> have reported formal college education to have a sizeable positive effect on students’ moral development. With the education reforms of the past decade, one might expect athletic training education to have a similar effect. Conversely, Litt’s<sup>27</sup> findings revealed only a negligible improvement in athletic training students’ moral judgment scores from their first year to their final year. Further, a post hoc calculation of Litt’s results indicated that the effect size of this difference was less than small when compared with normative values for college students.<sup>5</sup> Although a direct comparison between moral judgment and ethical decision-making scores is not possible, our results seem to lend support to Litt’s findings. We found no differences in the ethical decision-making scores of underclass and upper-class athletic training students. Replication of these findings may indicate that athletic training programs inadequately foster students’ moral development. McNeel<sup>15</sup> suggested that vocationally oriented preprofessional programs centering on technical competence often provide too few opportunities for the consideration of questions regarding human values and morality. Therefore, perhaps the highly specialized content and regimented structure of entry-level ATEPs, with minimal breadth allocated to the liberal arts, insufficiently prepares students to reason morally.

The ATs educating students serve as important role models for students who are being socialized into the profession through didactic course work and clinical field experiences.<sup>23</sup> A comparison of students’ and educators’ ethical decision-making scores showed athletic training educators’ ethical decision-making scores were higher than students’ scores. The magnitude of this difference, however, was small. Educators’ scores were approximately 2 points higher than students’ scores. Moreover, this effect is likely attributable to our large sample size, which provided sufficient power to detect minute differences as significant. Bearing this in mind, 2 rival interpretations, each having different implications, exist for this finding: (1) current athletic training pedagogic methods are effective because students’ ethical decision-making scores are equivalent to educators’ scores, and (2) current athletic training pedagogic methods are ineffective because students’ ethical decision-making scores are equivalent to educators’ scores. The reason for the latter interpretation is that according to Rest et al.,<sup>46</sup> a student’s moral development relies upon the educator’s capability to challenge that student’s preconceived conceptions. Therefore, an educator’s capacity to model proper decisions and to create the appropriate amount of cognitive disequilibrium necessary to facilitate growth in students’ ethical decision making might be limited by the level of sophistication of his or her own abilities.<sup>5</sup>

When asked to provide open-ended comments about their feelings regarding ethics education, several educators in this study seemed to espouse the belief that teaching proper ethical decision-making skills is unimportant. For example, one athletic training educator wrote, “I believe this profession is going beyond its means with all the ‘new stuff’ that is coming out. We are not putting out athletic trainers anymore . . . We

need to get back to real A.T. and not all this ethics garbage!” Although this and similar comments in no way represent all athletic training educators, negative attitudes like this may be counterproductive and ultimately may discourage critical reflection and the continual refinement of the “Foundational Behaviors of Professional Practice.”<sup>2</sup> The cultivation of principled athletic training practitioners requires both a sincere belief that ethical practice is important and a willingness to actively encourage students to reflect on their professional demeanors. Thus, the continual development and refinement of these skills through continuing education seems necessary for all athletic training professionals desiring to mentor students. Unfortunately, the requirement for athletic training professionals to undergo regular continuing education in ethics is absent in 96% of states. At the time of this study, only 2 states (Ohio and Oregon) mandated continuing education contact hours pertaining to ethics.

## CONCLUSIONS AND RECOMMENDATIONS

This exploratory investigation represented a first attempt to measure athletic training students’ and educators’ IMPs and ethical decision making using vignettes specific to athletic training. The primary findings of this study were as follows:

1. Underclass students had the highest idealism scores and educators had the lowest idealism and relativism scores.
2. Sex, although significant, did not have a sizeable effect on students’ or educators’ IMPs and ethical decision-making scores.
3. Educators had slightly higher ethical decision-making scores than students had.
4. Education level failed to affect students’ ethical decision-making scores.

The relationship among one’s moral philosophy, ethical decisions, and actions is complex and difficult to measure. The vignettes developed for this investigation do not represent all possible ethical dilemmas or courses of action to resolve a problem that can occur in athletic training. Although some authors have reported IMP<sup>17,18</sup> to be a predictor of behavior and moral reasoning<sup>19,20</sup> to be significantly correlated with clinical performance, we caution against generalizing our ethical decision-making results to predict students’ behaviors. However, based on the empirical findings of this study, we believe the following relevant conclusions can be drawn. First, Litt’s<sup>27</sup> findings supported the common perception that men and women view and resolve ethical dilemmas differently.<sup>44,62–68</sup> Because women now constitute the majority of athletic training students, educators may feel tempted to alter their instructional practices in an effort to address this alleged sex difference. Yet, using a large, randomly chosen national sample, we failed to confirm the presence of sex differences in IMP and ethical decision making. Therefore, we recommend that educators not consider sex differences when instructing students on the topic of ethics.

Second, students and educators have different levels of idealism and relativism. Although we cannot promote either high or low levels of idealism and relativism as the most favorable, one’s IMP may significantly influence his or her interpretation of a morally toned situation. For example, an idealistic and relativistic student likely would justify not reporting a fellow student’s cheating because he or she did want to harm a friend, whereas a nonidealistic and nonrelativistic educator likely

would justify reporting a student’s cheating because he or she valued the honor code. Therefore, we recommend that educators be aware of students’ IMPs and remain cognizant of their own moral philosophies and biases if they are to create opportunities for students to reason using different perspectives. Educators might gain such awareness by incorporating the use of psychometric instruments such as those used in this study into their instruction. In doing so, educators may establish baseline measurements, track student development, gain a better understanding of their students, and improve their instruction.

Third, research demonstrates that formal education improves moral development. Our findings and those of Litt<sup>27</sup> failed to show improvements by education level in students’ ethical decision making and moral judgment. Furthermore, our results raise the question that a single course in ethics may not be enough to stimulate moral development. Researchers in medical<sup>73</sup> and dental<sup>74</sup> education suggested that approximately 20 hours of didactic and clinical instruction in formalized, small-group case studies is optimal to improve students’ moral reasoning. Therefore, we recommend that athletic training educators examine their pedagogical methods and consider ways to integrate ethics throughout the curriculum using multiple instructional tools. For example, 2 instructional techniques relating to ethics that can be incorporated into the classroom and clinical education settings with relative ease are “Profiles of Admirable Individuals” and “Everyday Ethical Dilemmas.”<sup>75</sup> To conduct the “Profiles of Admirable Individuals” technique, the instructor first asks students to write a short profile of an individual (AT or other health care professional) whose values, skills, and actions they greatly admire. Next, the instructor asks the students to explain what they find admirable about that individual and why. To conduct the “Everyday Ethical Dilemmas” technique, the instructor presents students with an ethical problem relating to athletic training. Students then are asked to respond briefly and anonymously regarding how they would attempt to resolve the dilemma and explain or justify their position or action. Information gathered from assessment techniques like these may help athletic training educators better understand what behaviors and attitudes students associate with best clinical practices, practitioners, and standards of conduct.<sup>75</sup> With this information, educators can tailor instruction by challenging students to reason from perspectives other than their own. Additional examples of how educators may facilitate reflective practice include instructional tools, such as small-group discussions, debate of relevant and realistic ethical dilemmas, role playing, and reflective journals. Although not a comprehensive list, these and similar instructional methods may aid students in becoming thoughtful practitioners who can evaluate their own professional decisions and behaviors.

It is also important to note that since this investigation concluded, the fourth edition of the *Athletic Training Educational Competencies*<sup>2</sup> has been published. This edition introduces the “Foundational Behaviors of Professional Practice,”<sup>2</sup> which consist of 27 items divided among 7 topic areas that represent a core set of professional behaviors deemed necessary for effective athletic training practice. These behaviors were developed by a focus group of expert athletic training educators based on the affective competencies found in previous editions of the *Athletic Training Educational Competencies*. What, if any, effect the “Foundational Behaviors of Professional Practice” will have on athletic training students and educators remains unknown.



Future researchers should consider revising the current vignettes and developing new scenarios that may better represent the potential ethical dilemmas encountered by ATs. In addition, we did not consider all factors contributing to athletic trainers' ethical decision making. Rather, our study represents a first attempt to measure a few elemental constructs identified as important components of making an ethical decision. Therefore, recommendations for future research include the following: (1) investigate, under the rigor of experimental control, which instructional modes best improve students' ethical decision making; (2) use experimental factorial vignettes designed to determine if attributes such as ethnicity, sex, or competition level are linked causally to an athletic trainers' ethical decisions; and (3) determine if other constructs, such as locus of control and personality, might be linked to ethical decision making and ultimately clinical behavior.

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