JOURNAL OF ATHLETIC TRAINING EDUCATION AND PRACTICE

www.natajournals.org
ISSN: 3067-1833
DOI: 10.4085/1947-380X-24-056

ORIGINAL RESEARCH

Representation of Skin Color and Gender in Athletic Training Textbooks: An Image Analysis

Karla Judge, DAT, LAT, ATC*; Kasee Hildenbrand, PhD, LAT, ATC, FNAP†;
Nick Cromidas, MEd, LAT, ATC‡; Scott Landis, DAT, LAT, ATC†; Gen Ludwig, EdD, LAT, ATC§;
Dani M. Moffit, PhD, LAT, ATC, FNAP*; Suzette Nynas, EdD, LAT, ATC||;
Katy Pietz, EdD, LAT, ATC†; Mitchell Willert, MS, LAT, ATC‡;
Valerie Moody, PhD, LAT, ATC, CSCS‡
*Department of Physical Therapy and Athletic Training, Idaho State University, Pocatello; †Athletic Training, Washington State University, Pullman; ‡Athletic Training, University of Montana, Missoula; §Kinesiology, Boise State University, ID; ||Health and Human Performance, Montana State University Billings

Context: A commitment to diversity, equity, and inclusion has been made in the profession of athletic training to combat disparities within the profession and the patients being treated.

Objective: To explore diversity, equity, and inclusion in athletic training publications to better understand skin color and gender representation.

Design: Quantitative, observational study.

Setting: Thirteen randomly selected athletic training textbooks were photographically analyzed.

Patients or Other Participants: Photos in commonly used athletic training textbooks were reviewed for skin color (White, non-White), gender (man, woman), and role (patient, clinician). Each text had 2 independent reviewers. A third reviewer was included in cases of nonagreement.

Main Outcome Measures: Descriptive statistics, using frequency counts and percentages, were calculated for the number of photos, gender, skin color, and depicted role.

Results: A total of 4351 photos from 13 different athletic training textbooks were included for analysis. For gender, 42% ($n = 1847$) of photos were identified as men, 36% ($n = 1568$) were women, and 22% ($n = 936$) were not able to be recognized as either a man or woman. Skin color revealed a significant disparity in representation with 92% ($n = 4000$) of the photos identified as White, 7% ($n = 312$) as non-White, and 1% ($n = 39$) unknown. Further analysis of images (4265 images included for this analysis) representing roles (clinicians or patients) revealed 2879 patients, 1328 clinicians, and 58 unknown. Of these images, there were more men (44.7%, $n = 1289$) than women (34.9%, $n = 1006$) patient images; however, there were more women (37.5%, $n = 498$) than men clinicians (36.3%, $n = 483$). White patients and White clinicians comprised 94% ($n = 2692$) and 86% ($n = 1180$) of the photos, respectively.

Conclusions: The need to promote diversity and inclusivity in educational materials is evident. Because athletic training textbooks overly represent lighter skin color and men, educators need to address these disparities.

Key Words: Diversity, disparity, equity

Dr Judge is currently an Assistant Professor in the Master of Science Athletic Training at Idaho State University. Address correspondence to Kasee Hildenbrand, PhD, LAT, ATC, FNAP, Athletic Training, Washington State University, 211 Smith Gym, Pullman, WA 99164-1410. khildenbrand@wsu.edu.

Full Citation:
Judge K, Hildenbrand K, Cromidas N, Landis S, Ludwig G, Moffit DM, Nynas S, Pietz K, Willert M, Moody V. Representation of skin color and gender in athletic training textbooks: an image analysis. *J Athl Train Educ Pract*. 2025;21(1):15–21.

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KEY POINTS

- Commonly used textbooks within athletic training do not adequately represent underrepresented groups within patient and clinician populations.
- The underrepresentation of patients of color may hinder students' abilities to develop culturally competent care practices.
- Specific initiatives to use more inclusive and diverse educational materials should be implemented by athletic training educators and authors to address these disparities.
- Promoting diversity and inclusivity in educational materials may contribute to creating a more equitable and inclusive learning environment for future health care professionals.

INTRODUCTION

Diversity, equity, and inclusion (DEI) are important considerations in today's society, and health care education publishing is no exception. Publications can have a significant impact on shaping students' perspectives and understanding of the many opportunities that are available within their selected health care profession, as well as the patients that they treat. Educational textbooks are often the first opportunity for students to encounter clinical presentation of injury and illness. Additionally, textbooks provide opportunities for students to see themselves in their selected profession.[1] Therefore, it is crucial to ensure that publications represent diverse images and perspectives accurately and inclusively.

In athletic training, the Strategic Alliance, consisting of the National Athletic Trainers' Association (NATA), the Board of Certification (BOC), the NATA Research and Education Foundation, and the Commission on Accreditation of Athletic Training Education have all committed to the values of DEI, each creating individual task forces or committees to examine the impact within the profession. However, one area that can be highly impactful, yet is outside the purview of the Strategic Alliance, is the textbooks used to teach future athletic trainers.

Diversity is multifaceted and includes people with different ethnicities, races, nationalities, religions, genders, sexual orientations, gender identities, ages, socioeconomic statuses, and a myriad of other personal factors.[2] Research has demonstrated that greater DEI efforts in health care organizations result in higher-quality patient care, increased health care access, innovation, and reduced health disparities.[2] Exploring ways to integrate DEI initiatives into curricula is essential, and it has been suggested that efforts should focus on cultural awareness and reflection. Ensuring that textbooks used in athletic training curricula have diverse representation of clinicians and the patients they serve may be a good place for programs to promote DEI efforts.[2]

As populations across the world are becoming more diverse, athletic training textbooks must contain diverse images to adequately prepare students for clinical practice. Approximately 15% of all NATA members identify as minorities. Minority student members comprise 28.6% of the total NATA student membership.[3] In May 2024, the BOC reported that 79.99% of certified athletic trainers are White/Caucasian, with 20% reporting as people of color.[4] A 2021 study of National Collegiate Athletic Association (NCAA) athletic trainers revealed that 88% self-reported their ethnicity as White, and 12% self-reported as a minority.[5] These data are comparable to the 2020 US Census in which 75.5% of the population reported as White alone, with 24.5% of the population representing people of color.[6] Compared with other rehabilitative professions (ie, occupational therapy and physical therapy), athletic training clinicians are more diverse (Figure 1).

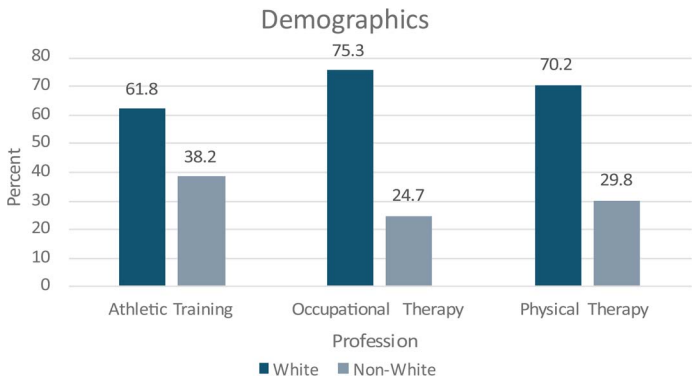
Proper visual representation in the athletic training literature is imperative to prepare clinicians to treat the diverse patient populations that they serve. It is known that people of color often have different skin presentations; yet, dermatological research finds that there is an underrepresentation of dark skin colors presented in textbooks, ranging from 4% to 18% in major dermatology resources in 2006.[1] Furthermore, in the primary medical literature, only 18% of images represent darker skin colors, and in general medicine textbooks, less than 5% of images were non-White.[1] The impact of underrepresentation of dark skin colors in the literature leads to health care professionals lacking confidence in managing and treating individuals with darker skin colors.[7] Without sufficient representation of diverse images and graphics in the literature, students are more likely to have poor patient outcomes, and patient safety may be compromised.[7] Therefore, the purpose of our study was to better understand representation of patients and clinicians in commonly used athletic training textbooks. Using 13 selected athletic training textbooks, this study analyzed and quantified published photos to understand skin color and gender representation.

METHODS

Study Design

Our study used a quantitative, observational design to review athletic training textbooks and conduct an analysis of published photos to determine skin color and gender representation of clinicians and the patients that they serve. Two reviewers were assigned to each text and independently reviewed all pictures and illustrations of people, page by page, for the following characteristics: role (patient, clinician, or unknown), gender (man, woman, or unknown), and race (White, non-White, or unknown). "Unknown" was chosen when the reviewers were unable to make a determination on the aforementioned categories. Once each reviewer completed

Figure 1. Rehabilitation profession diversity.



the textbook review, they then compared their results with those of the other reviewer. In the event of any discrepancy between the 2 reviewers, a third reviewer was assigned to review. Our reviewers attempted to remain unbiased and chose man, woman, or unknown based on stereotypical societal expectations for gender.

Textbook Selection

To establish the scope of our analysis, we used the list of approved textbooks for exam question creation on the BOC website during Summer 2023 ($n = 76$). Due to the volume of textbooks on the approved textbook list, a randomized collection of texts from each domain was selected. Following the BOC guidelines, textbooks used in this study were no older than 10 years from the date of publication (see Table 1 for texts chosen and the edition).

We sorted and coded each textbook on the 2023 to 2024 BOC textbook list by athletic training Domains I to V.[8] If a textbook crossed more than 2 domains or was identified as a general athletic training text (crossed all domains), these texts were coded as a sixth domain (VI). Using MicrosoftExcel randomizer, 2 books from each domain were selected. Two of the original books selected in Domain V contained no photographs, causing a need to select new texts from the list, which resulted in 1 text from Domain V and an additional text in Domain VI.

Image Selection

This study included an analysis of photographs and graphics depicting the human form when a face was visible or when there was an extremity with visible skin.[9,10] Images were excluded if they did not have clear depictions of skin color or if less than one-fourth of the body was visible to determine gender. For this study, the Fitzpatrick skin color scale[11] was used, where scores of 1 to 3 were used to classify people as White, and scores of 4 to 6 were used to classify people as non-White. Using the Fitzpatrick skin color scale presents with limitations[11]; however, several studies have found the scale to be useful to describe skin color representation in textbook images.[10,12,13] The researchers in this study chose to use the Fitzpatrick skin color scale as a proxy for race/ethnicity.

All photos that contained people were evaluated for the gender and depicted role of the person present (ie, clinician or

Table 1. Athletic Training Textbooks Used in Review

Text	Athletic Training Domain
Ehrman JK, Kerrigan DJ, Keteyian SJ. *Advanced Exercise Physiology: Essential Concepts and Applications*. Human Kinetics; 2018.	I
Scanlon VC, Sanders T. *Essentials of Anatomy and Physiology*. 8th ed. F. A. Davis Company; 2019.	I
Starkey C, Long BC, Cavallario JM. *Examination of Orthopedic & Athletic Injuries*. 5th ed. F. A. Davis Company; 2023.	II
Kendall FP, Kendall FP. *Muscles: Testing and Function with Posture and Pain*. 5th ed. Langara College; 2019.	II
Case DJ, Stearns RL. *Emergency Management for Sport and Physical Activity*. Jones & Bartlett Learning; 2015.	II
Casa DJ, Stearns RL. *Preventing Sudden Death in Sport and Physical Activity*. 2nd ed. Jones & Bartlett Learning; 2017.[a]	III
Rehberg RS, Konin JG. *Sports Emergency Care: A Team Approach*. 3rd ed. SLACK Incorporated; 2018.	III
Denegar CR, Saliba E, Saliba SF. *Therapeutic Modalities for Musculoskeletal Injuries*. 4th ed. Human Kinetics; 2016.	IV
Kisner C, Borstad J, Colby LA. *Therapeutic Exercise: Foundations and Techniques*. 8th ed. F. A. Davis Company; 2023.	IV
Nguyen J, McTeigue J. *Legal and Ethical Issues for Health Professions*. 4th ed. Elsevier; 2018.	V
Eberle SG. *Endurance Sports Nutrition*. 3rd ed. Human Kinetics; 2014.	VI (General Athletic Training or text that crosses 2 or more domains)
Miller-Isaac K, Noble M. *Athletic Training Clinical Workbook: A Guide to the Competencies*. F. A. Davis; 2015.	VI (General Athletic Training or text that crosses 2 or more domains)
Prentice WE. *Principles of Athletic Training: A Guide to Evidence-Based Clinical Practice*. 17th ed. McGraw-Hill LLC; 2024.	VI (General Athletic Training or text that crosses 2 or more domains)

[a] Cover was in color; pictures in the book were black and white.

patient).[14,15] Gender was determined by general appearance of the person depicted in the photo using stereotypical societal norms for gender. However, "unknown" was an acceptable response if the photo did not have enough visual cues to determine depicted role or gender.[14,15]

Interrater Reliability

All reviewers involved in data collection coded the first 4 chapters of *Principles of Athletic Training: A Guide to Evidence-Based Clinical Practice*.[16] Cohen κ was used to determine interrater agreement.[9,10] To ensure intercoder consistency, all coders initially categorized and coded the data individually. Following this, we convened as a group to discuss the challenges encountered and the rationale behind our categorizations. This collaborative discussion enabled us to develop a stricter, more unified definition for classifying the data. Moving forward, we implemented a dual-review system, where each book was reviewed by 2 coders. Following the review of each other's work, we found a high level of similarity in our classifications, indicating strong intercoder reliability with Cohen κ ranging from .76 to .96.[17] After interrater reliability was established, all reviews were completed, and descriptive statistics were calculated.

Data Analysis

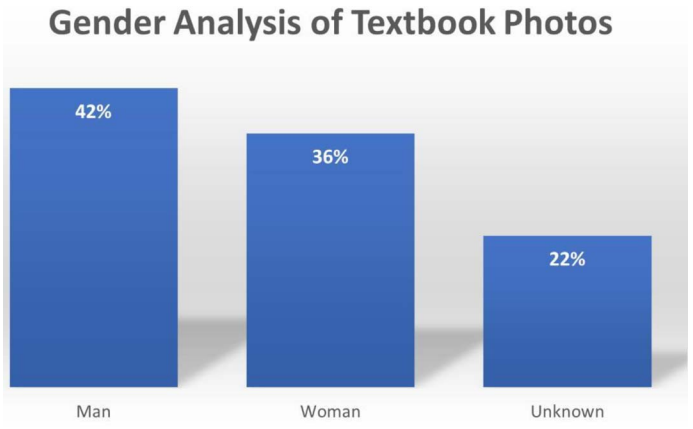
All photographs that contained people were evaluated for the number of people present, gender of the individual(s) in the photo (ie, man, woman, or unkn own), skin color (ie, white, non-White, or unknown), and the depicted role of the person present (ie, clinician or patient). Each picture was considered an isolated image, regardless of whether it was part of a series. Descriptive statistics, using frequency counts and percentages, were calculated for number of photos, gender, race, and depicted role using Microsoft Excel 2019. A χ^2 test of independence was also conducted to examine the relationship between gender (male and female) and race/ethnicity (White and non-white) for clinicians and patient images. For this analysis, all images that were classified as unknown were removed.

RESULTS

A total of 4351 photos from 13 different athletic training textbooks were included for analysis. Of the 4351 photos, a balanced representation of gender was illustrated, with 42% of photos being men ($n = 1847$), 36% being women ($n = 1568$), and 22% unknown as either man or woman ($n = 936$; Figure 2). However, analysis of race revealed a significant disparity in representation, with 92% of the photos identified as White ($n = 4000$), 7% identified as non-White ($n = 312$), and 1% unknown ($n = 39$; Figure 3).

In addition to the analysis for gender and skin color, we also analyzed images representing roles (clinicians or patients), gender, and race. For these particular analyses, 1 of the textbooks was excluded from evaluation due the images being illustrations rather than photos of depicted clinicians and patients. Consequently, a total of 4265 images were considered for analysis of role and gender. The results indicate that there were 2879 images of patients and 1328 images of clinicians; however, 58 of the images were deemed unknown

Figure 2. Gender analysis of textbook photos.



both regarding role (patient or clinician) and gender (man or woman; Table 2).

Of the 4265 images analyzed, there were more men (44.7%, $n = 1289$) than women (34.9%, $n = 1006$) patient images; however, there was a more even distribution of images for clinicians regarding gender, with more women (37.5%, $n = 498$) being represented than men (36.3%, $n = 483$). Additionally, of the 4265 images, most of the images were representative of White patients and White clinicians. Here, 94% ($n = 2692$) of the photos were of White patients, and 87% ($n = 1180$) of the photos were of White clinicians.

Of note, 48 images were deemed unknown when determining if the image was representative of a patient or a clinician. Here, 83% of the "unknown" or "other" images were White images ($n = 48$). A χ^2 test of independence was conducted to examine the relationship between gender (male or female) and race/ethnicity (White or non-White) for clinicians and patient images. The results indicated a significant association between gender and race/ethnicity ($\chi^2[1, N = 897] = 27.997$, $P < .001$ for clinicians and $\chi^2[1, N = 2061] = 6.633$, $P = .01$). The observed counts in both analyses for White and non-White individuals differed statistically significantly from the expected counts in both male and female groups. For clinicians, White men and women were 6.5 times more likely to be portrayed than non-White individuals. Interestingly, for patient images, White men were 14.5 times more likely to be represented than

Figure 3. Skin color analysis of textbook photos.

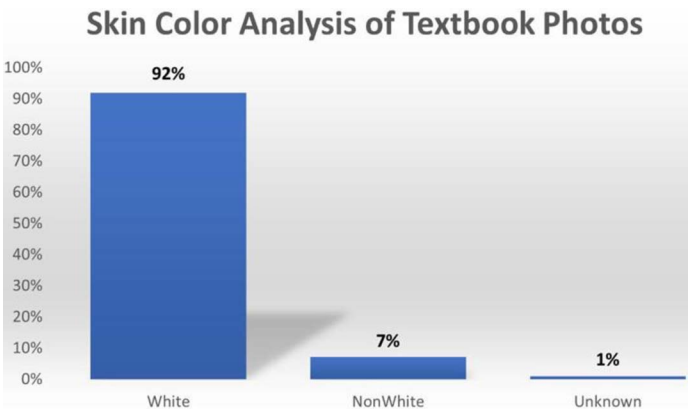


Table 2. Depicted Roles of People Identified in Athletic Training Textbook Analysis

Total Images	Images of Patients	Images of Clinicians	Other/Unknown/ Either
4265	2879 (68%)	1328 (31%)	58 (1%)

non-White men, and White women were 24.7 times more likely to be represented than non-White women. When comparing White men with White women, women were more likely to be portrayed (1.7 times more likely; Figures 4 and 5).

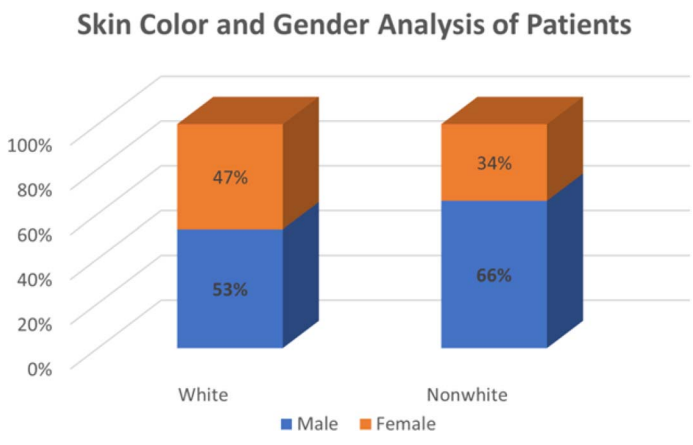
DISCUSSION

The findings of this study highlight significant disparities in the representation of gender, skin color, and depicted roles within commonly used athletic training textbooks. Although a relatively balanced representation of gender was observed among the analyzed images (44.7% men and 34.9% women), a substantial overrepresentation of White individuals in both patient and clinician roles is evident. These results underscore a concerning lack of diversity in visual portrayals within this field. The substantial underrepresentation of people of color in textbooks, including athletic training textbooks, is particularly concerning in the context of patient populations, as it can contribute to implicit biases and stereotypes among future health care professionals.

Representation of Skin Color

The profession of athletic training, although recognized for its diversity compared with other rehabilitative disciplines, exhibits notable disparities in racial and gender representation within educational materials.[18–20] Our study found that over 70% of individuals depicted in reviewed athletic training textbooks were labeled as White, echoing findings in general medicine where non-White representation remains strikingly low at under 5%.[1] Specifically, domains such as risk reduction, assessment, evaluation, and therapeutic intervention, pivotal in patient-centered care, feature non-White representation at levels below 5%. This underrepresentation raises concerns, particularly in light of Harrison's assertion that health care providers may lack confidence in treating individuals with darker skin colors, underscoring the critical need for diverse representation in educational resources.[7]

Figure 4. Skin color and gender analysis of patients.



When assessing patient skin color, a stark contrast emerges in racial representation. Although the NCAA reports that 62% of student-athletes are White, 94% of textbook images in our study represented White patients, and only 5% were non-White. This significant underrepresentation raises concerns about the potential impact on student perceptions of the diversity in patients they often treat.

Representation of Gender

Despite societal efforts to spotlight women in sports, our textbook review reveals disparity in gender representation. Our findings also revealed that 36% of the images were of women, suggesting a disparity in representation compared with national membership data. The NATA reports that 56% of its members are categorized as women, whereas 44% are categorized as men.[3] The BOC membership data reports even higher percentages of credentialed women than men at 58% and 42%, respectively.[4] When reviewing images by domain, only the domain of health administration and professional responsibility demonstrated a higher proportion of depicted women in the text than their male counterparts. These findings underscore the discrepancy between clinical practice and educational content within athletic training, suggesting a need for more inclusive educational strategies.

The observed gender representation among student-athletes in textbooks (44.7% men and 34.9% women) approximates the national proportions in the NCAA (56% men and 44% women). This suggests that textbooks may be doing a reasonable job of reflecting the current gender makeup of collegiate student-athletes. Furthermore, the observed clinician gender distribution (36.3% men and 37.5% women) aligns more closely with the reported composition of athletic trainers employed at NCAA institutions (47% men and 53% women) than with student-athletes. This suggests that textbooks might be portraying a more balanced clinician workforce than the student body.

Implications and Potential Biases

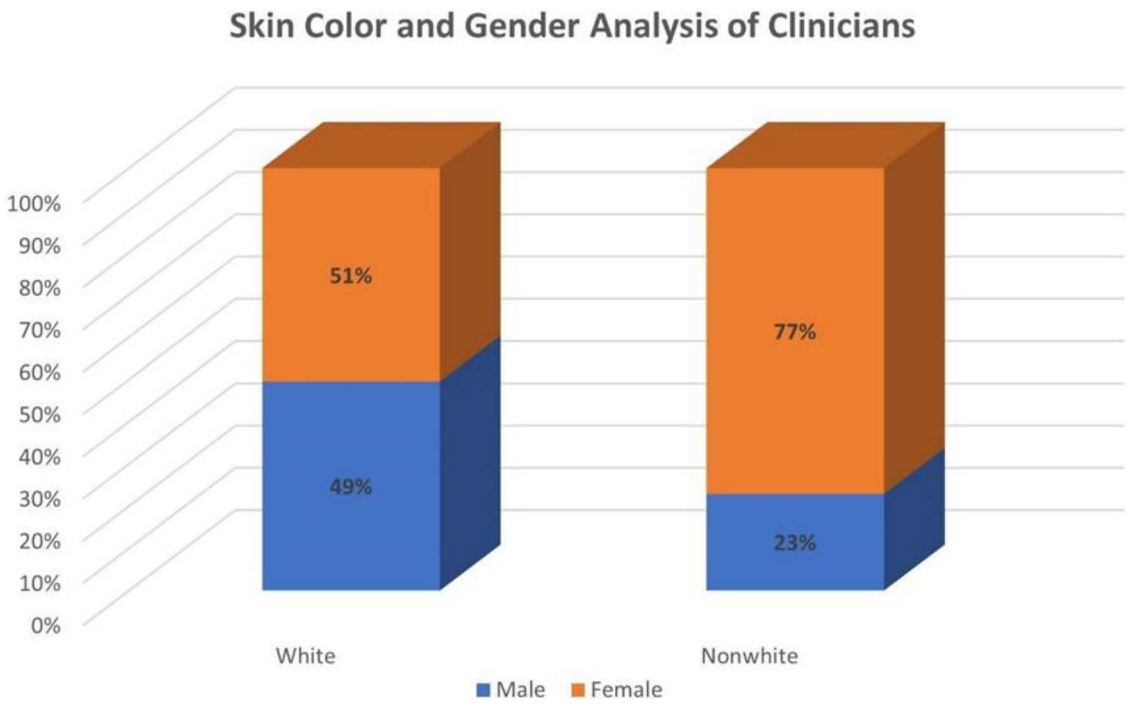
The predominance of White individuals across all categories is particularly troubling. Such a lack of representation can contribute to implicit biases and stereotypes, potentially impacting the perception of individuals from underrepresented groups within the field of athletic training. Additionally, the underrepresentation of individuals of color as patients may limit students' exposure to diverse patient populations, hindering their ability to develop culturally competent care practices.

The overrepresentation of male patients (44.7%) compared with female patients (34.9%) also merits further investigation. This finding may reflect societal gender roles and stereotypes related to athletic participation and injury, requiring further exploration of the underlying reasons.

Limitations

This study contained several limitations. Geographically, all reviewers resided in a similar region with limited diversity.

Figure 5. Skin color and gender analysis of clinicians.



Unconscious bias of the reviewers may have occurred based on their similar racial backgrounds. Additionally, although efforts were made to prevent reviewers with long-standing collaborations from evaluating the same textbook, some overlap likely occurred. The categorization of race into White and non-White, based on the Fitzpatrick scale, oversimplifies the diversity within the non-White population. The reviewers used societal norms for gender classification and categorized only males and females, which may be an oversimplification. One final limitation of the study isone of the textbooks reviewed required analysis of 2 editions because the older edition included only black and white photos (except for the book cover). The reviewers were consistent in applying the Fitzpatrick scale to determine skin color.

Implications for Athletic Training Education

Commonly used textbooks within athletic training do not adequately represent underrepresented groups within patient and clinician populations. To prepare athletic trainers to provide better patient-centered care, improved representation of people of color must occur. Additionally, an increase in women representation and people of color as clinicians should occur. Improvement in both of these disparities can provide students with early exposure that translates to more representative exposure to patients and clinicians of different ethnicities and genders. Although the use of hardcopy textbooks is declining, the use of electronic versions continues to grow, and the images from these texts are often incorporated into presentations and lecture slides.

Recommendations and Future Research

The results of this study emphasize the need for increased efforts to promote diversity and inclusivity in educational materials. By addressing these disparities, athletic training programs can contribute to creating a more equitable and inclusive learning environment for future health care professionals, enhancing cultural awareness as an aspect of patient-centered care.

Here are some potential strategies:

- **Textbook authors and editors:** seek out and use diverse stock photos and illustrations.
- **Educators:** supplement textbook visuals with additional resources that depict a more representative patient and clinician population.
- **Professional organizations:** develop guidelines and best practices for promoting diversity and inclusion in educational materials.

By implementing these strategies, we can move toward a more representative and inclusive portrayal of the field of athletic training in educational materials.

CONCLUSIONS

Educators play a pivotal role in mitigating disparities in health care by ensuring that course materials, both required and supplemental, encompass a diverse demographic spectrum of patients and clinicians. By broadening students' exposure to diverse patient populations beyond textbook depictions, educators can enhance cultural competence and readiness to provide equitable health care.

REFERENCES

1. Kaundinya T, Kundu RV. Improving cultural competency and practicing cultural humility in dermatologic training: skin of color education and board certification. *J Am Acad Dermatol*. 2021;85(1):e53–e54. doi:10.1016/j.jaad.2021.03.060

2. Dehghanpour M. Diversity, equity, and inclusion in health science education. *Radiol Technol*. 2022;94(2):152–154.
3. National Athletic Trainers' Association. Total number of members 1974–2023. Nata.org. Accessed May 7, 2024. https://members.nata.org/members1/documents/membstats/2023EOY-stats.htm
4. Board of Certification. BOC certified AT demographics. Bocatc.org. Accessed May 9, 2024. https://7f6907b2.flowpaper.com/202223BOCCertifiedATDemographics/#page=3
5. Rizzone KH, Day C, Mackenzie S, Issac L, Sanchez A, Jones CMC. Racial and ethnic diversity of athletic trainers in National Collegiate Athletic Association institutions, 2008–2018: a retrospective study. *J Athl Train*. 2024;59(6):673–679. doi:10.4085/1062-6050-0741.20
6. US Census Bureau. Population estimates, July 1, 2023. Census.gov. Accessed May 7, 2024. https://www.census.gov/quickfacts/
7. Harrison J. A scoping review exploring the confidence of healthcare professionals in assessing all skin colors. *Br Paramed J*. 2023;8(2):18–28. doi:10.29045/14784726.2023.9.8.2.18
8. Board of Certification. 2023–2024 Exam References. Bocatc.org. Accessed June 1, 2023. https://bocatc.org/candidates/#st31
9. Louie P, Wilkes R. Representations of race and skin tone in medical textbook imagery. *Soc Sci Med*. 2018;202:38–42. doi:10.1016/j.socscimed.2018.02.023
10. Massie JP, Cho DY, Kneib CJ, et al. A picture of modern medicine: patient representation in medical literature: are we appropriately depicting diversity?. *Plast Reconstr Surg Glob Open*. 2019;7(12):e2563. doi:10.1097/GOX.0000000000002563
11. Fitzpatrick TB. The validity and practicality of sun-reactive skin types I through VI. *Arch Dermatol*. 1988;124(6):869–871. doi:10.1001/archderm.124.6.869
12. Reilley-Luther J, Cline A, Zimmerly A, Azinge S, Moy J. Representation of Fitzpatrick skin type in dermatology textbooks compared with national percentiles. *Dermatol Online J*. 2020;26(12):13030/qt91h8k9zc.
13. Pusey-Reid E, Quinn LW, Wong J, Wucherpfennig A. Representation of dark skin colors in foundational nursing textbooks: an image analysis. *Nurse Educ Today*. 2023;130:105927. doi:10.1016/j.nedt.2023.105927
14. Shivega WG, McLawhorn MM, Tejiram S, Travis TE, Shupp JW, Johnson LS. Representation matters: an assessment of diversity in current major textbooks on burn care. *J Burn Care Res*. 2021;42(4):617–620. doi:10.1093/jbcr/irab066
15. Kalantari A, Alvarez A, Battaglioli N, et al. Sex and race visual representation in emergency medicine textbooks and the hidden curriculum. *AEM Educ Train*. 2022;6(3):e10743. doi:10.1002/aet2.10743
16. Prentice WE. *Principles of Athletic Training: A Guide to Evidence-Based Clinical Practice*. 17th ed. New York, NY: McGraw-Hill Education; 2021.
17. Banerjee M, Capozzoli M, McSweeney L, Sinha D. Beyond kappa: a review of interrater agreement measures. *Can J Stat*. 1999;27(1):3–23. doi:10.2307/3315487
18. Zippia The Career Expert. Physical therapist demographics and statistics in the US. Accessed June 4, 2024. https://www.zippia.com/physical-therapist-jobs/demographics/
19. Zippia The Career Expert. Occupational therapist demographics and statistics in the US. Accessed June 4, 2024. https://www.zippia.com/occupational-therapist-jobs/demographics/
20. Zippia The Career Expert. Athletic trainer demographics and statistics in the US. Accessed June 4, 2024. https://www.zippia.com/athletic-trainer-jobs/demographics/