

Introduction

As an independent risk factor for health outcomes and as a marker of disease presentation, an important consideration for physicians is skin tone representation in medical textbooks. This study seeks to evaluate whether/to what extent the proportion of race and skin tones within medical textbook imagery has changed over time – using one of the most widely employed skin tone measures in social surveys – the Massey-Martin (MM) scale.

Aims and Objectives

(I): Assess representation of race and skin tones in popular preclinical anatomy textbooks, involving multiple medical students in the coding process described by Louie and Wilkes.

(II): Assess whether/to what extent the proportion of race and skin tone within commonly used medical anatomy textbooks has changed in newer editions to better represent the distribution seen in the U.S. population.

Methods

Electronic copies of multiple editions of *Atlas*, and *Moore* were acquired, and all images with visible body parts were coded for race and skin tone based on perceived phenotypic characteristics and the MM scale respectively. Each medical student coded images independently using MacBook Pro laptops issued by the OUWB. Proportions of race and skin tone were calculated for each textbook, and unpaired two tailed t-tests were conducted to evaluate whether differences representation across editions were statistically significant.

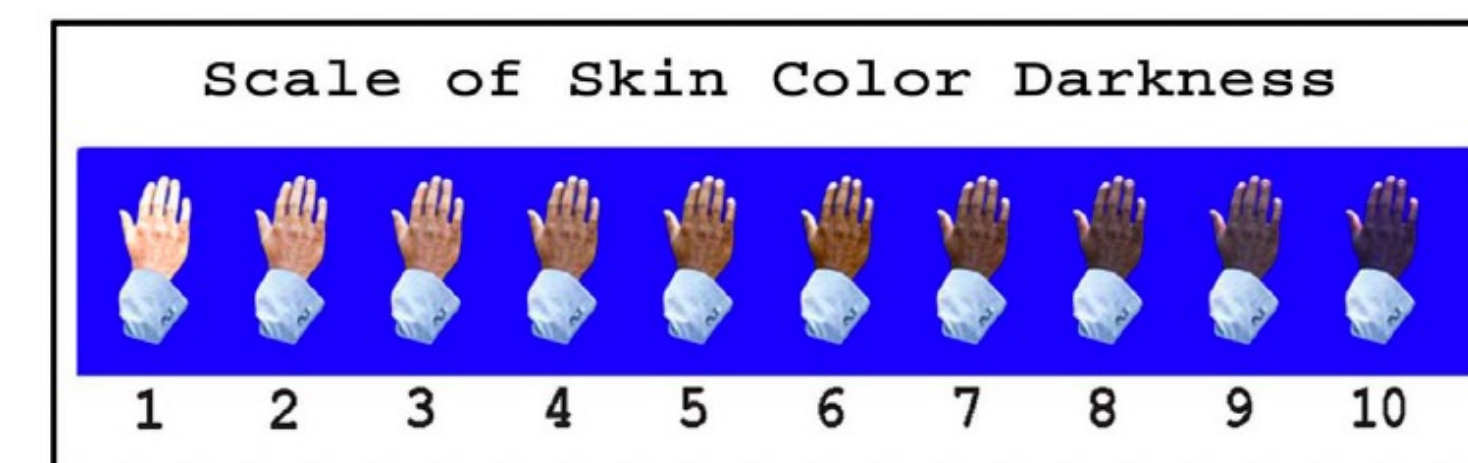


Fig. 1: The Massey-Martin Scale. Equitable imagery in the pre-clinical medical school curriculum. 2016.

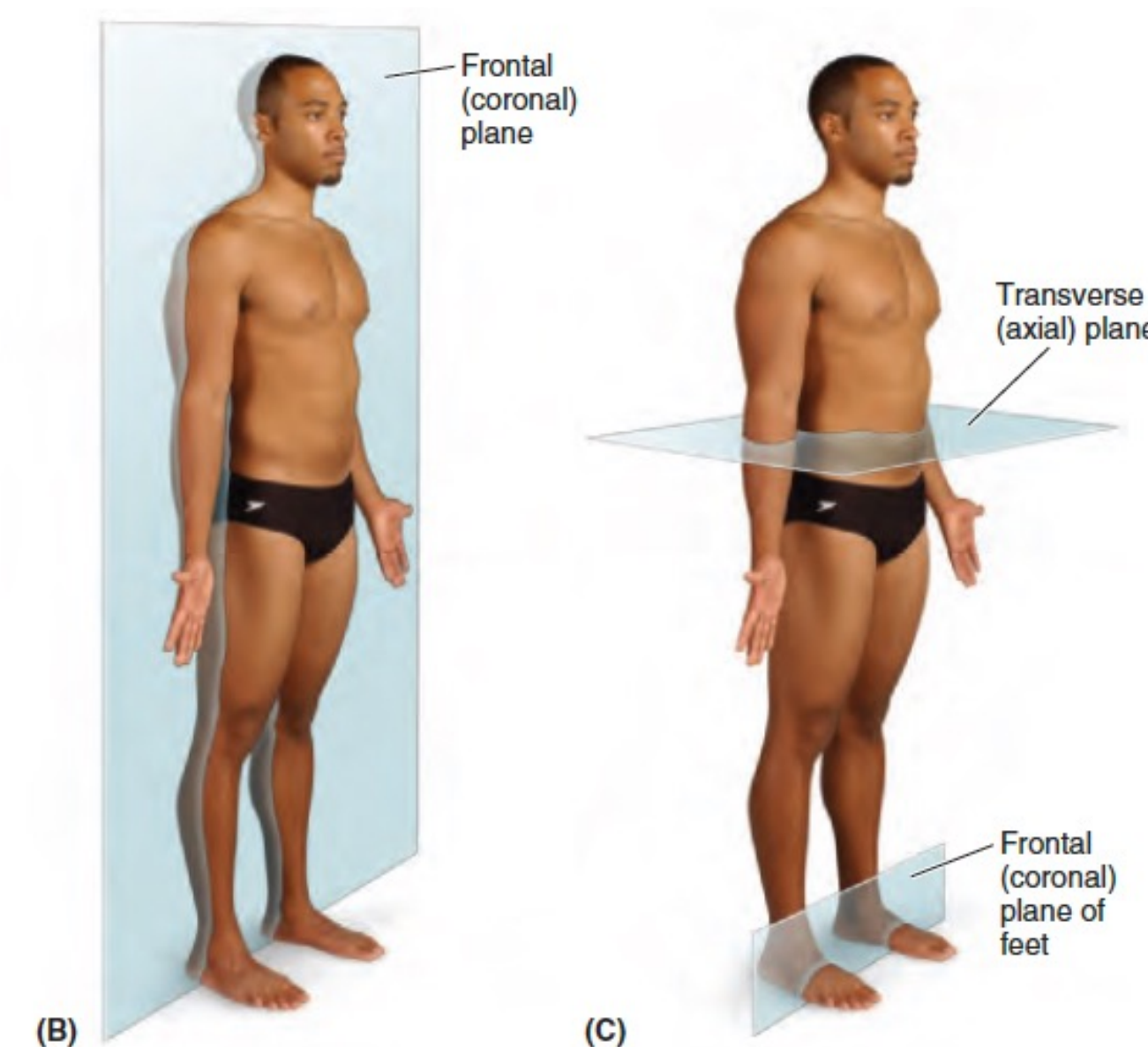


Fig. 1.2b and c: Moore Clinically Oriented Anatomy 7th edition. 2014.

Results

The textbooks studied approximated the racial distribution of the US population – 68.25% White, 10.5% Black, 21.25% Persons of Color. However, the skin tones represented – 79.5% light, 19.25% medium, and 1.25% dark, overrepresent light skin tones and underrepresent dark skin tones. In addition, there is no significant difference in representation of race or skin tones across editions of *Atlas*. While there is significant difference in representation of race in *Moore* across editions (p=0.046, 0.0098, 0.037 for White, Black and POC respectively), there was no significant difference in representation of skin tones across editions.

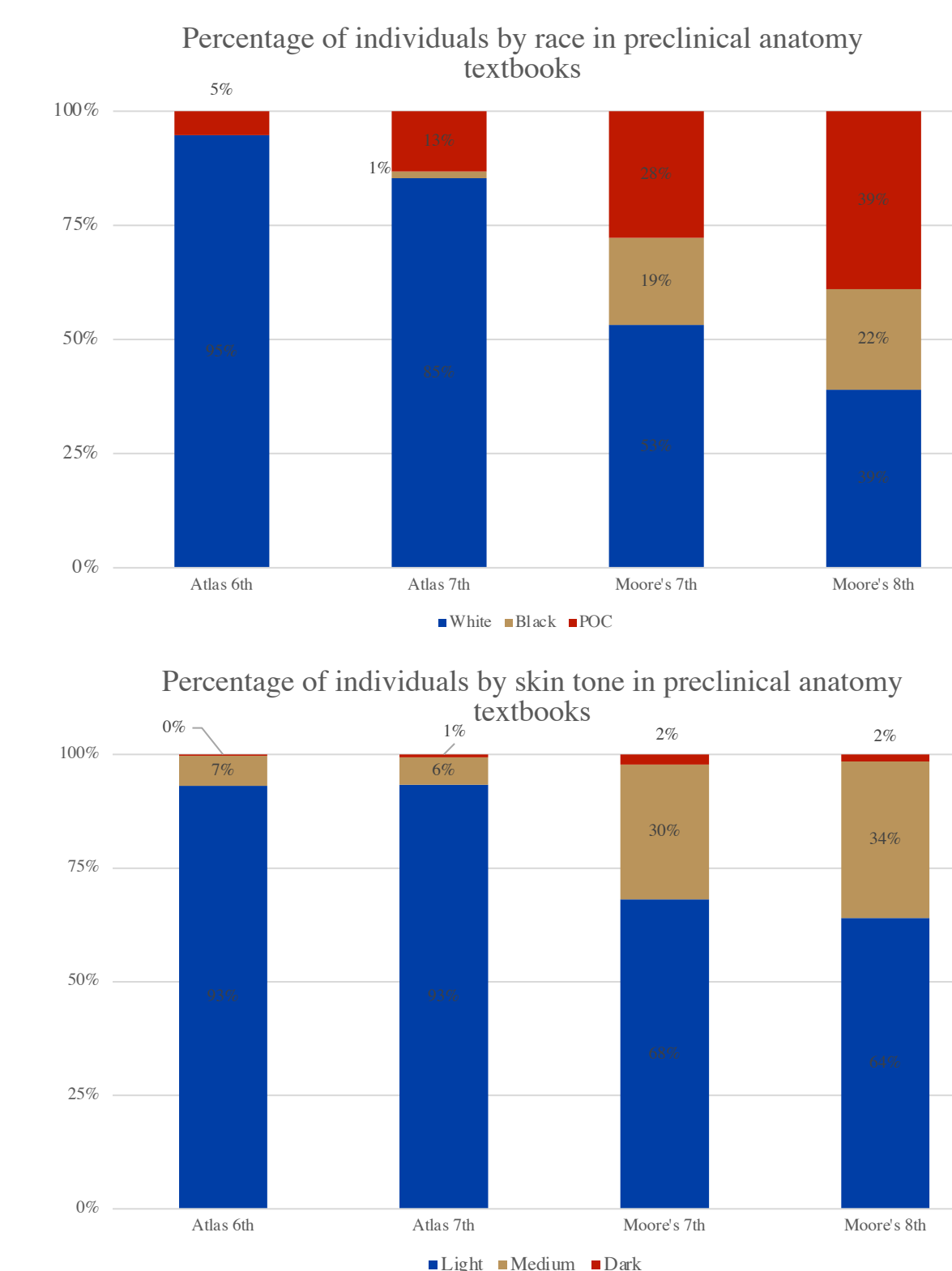


Fig. 2: Distribution of Race and Skin Tone in Best-Selling Preclinical Anatomy Textbooks across Editions

Conclusion

The study provides evidence that preclinical anatomy textbooks overrepresent light skin tones and underrepresent dark skin tones – a finding that has not significantly changed across editions. However it is limited by poor intercoder agreement. Krippendorff's alphas all fell <0.4, below the standard threshold of 0.8.

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