



EXPOSURE TO ORTHOTICS AND PROSTHETICS IN UNDERGRADUATE KINESIOLOGY STUDENTS IN THE SOUTHEASTERN UNITED STATES



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Background

Undergraduate kinesiology programs are frequently advertised as a gateway to a wide variety of healthcare professions, like physical therapy (PT). Despite requiring extensive knowledge of kinesiological principles¹, a career in orthotics and prosthetics (O&P) rarely makes these lists of advertised healthcare careers. Notable trends in public health, such as increases in life expectancy² and related comorbidities associated with aging, and the prevalence of diabetes,³ have led to increased demand for O&P services, and this increase in demand is expected to continue.⁴ Therefore, it is imperative that more people are recruited to join the O&P workforce to keep up with this demand. Current trends in workforce data for PT suggest a surplus in therapists by the year 2030.⁵ The national pool of kinesiology students is potentially a high-yield source of students to help fill this demand that may not be being fully tapped due to lack of O&P exposure in curricula.

Aim: To assess and increase the awareness of kinesiology students about the Orthotics and Prosthetics (O&P) field as a career option.

Objectives

1. To determine the proportion of students that are aware of O&P.
2. To compare exposure to O&P to exposure to physical therapy.
3. To determine whether interest in O&P will increase after being shown promotional materials designed to spark interest in the career.

Methods

This study utilized an original, 28-item survey aimed at assessing awareness of and interest in O&P in undergraduate kinesiology students.

The survey was sent to faculty at each location who distributed it to their undergraduate kinesiology students. 143 undergraduate kinesiology students (27 male; 116 female) from 6 universities in the southeast US participated in this study. Participation was limited to those 19+ years (mean age 20.1 ± 1.1). All survey participants provided informed consent prior to completing the survey. Median time to complete was 9.3 minutes, including two short O&P promotional videos from *WhatIsPOP.org*.⁶

Survey results were compiled by Qualtrics. All statistical analyses were performed in SPSS.

Question 1 : “Who would create and fit patients with custom devices to address abnormal walking patterns?” (Figure 1)

Question 2 : “Who would create and fit custom devices for patients with amputations?” (Figure 2)

Question 3 : “On a scale from 0 to 10, what level of exposure have you had to being a [PT / O / P] as a career option for Kinesiology undergraduate students? (0 - no prior exposure and 10 - comprehensive exposure)” (Figure 3)

Results

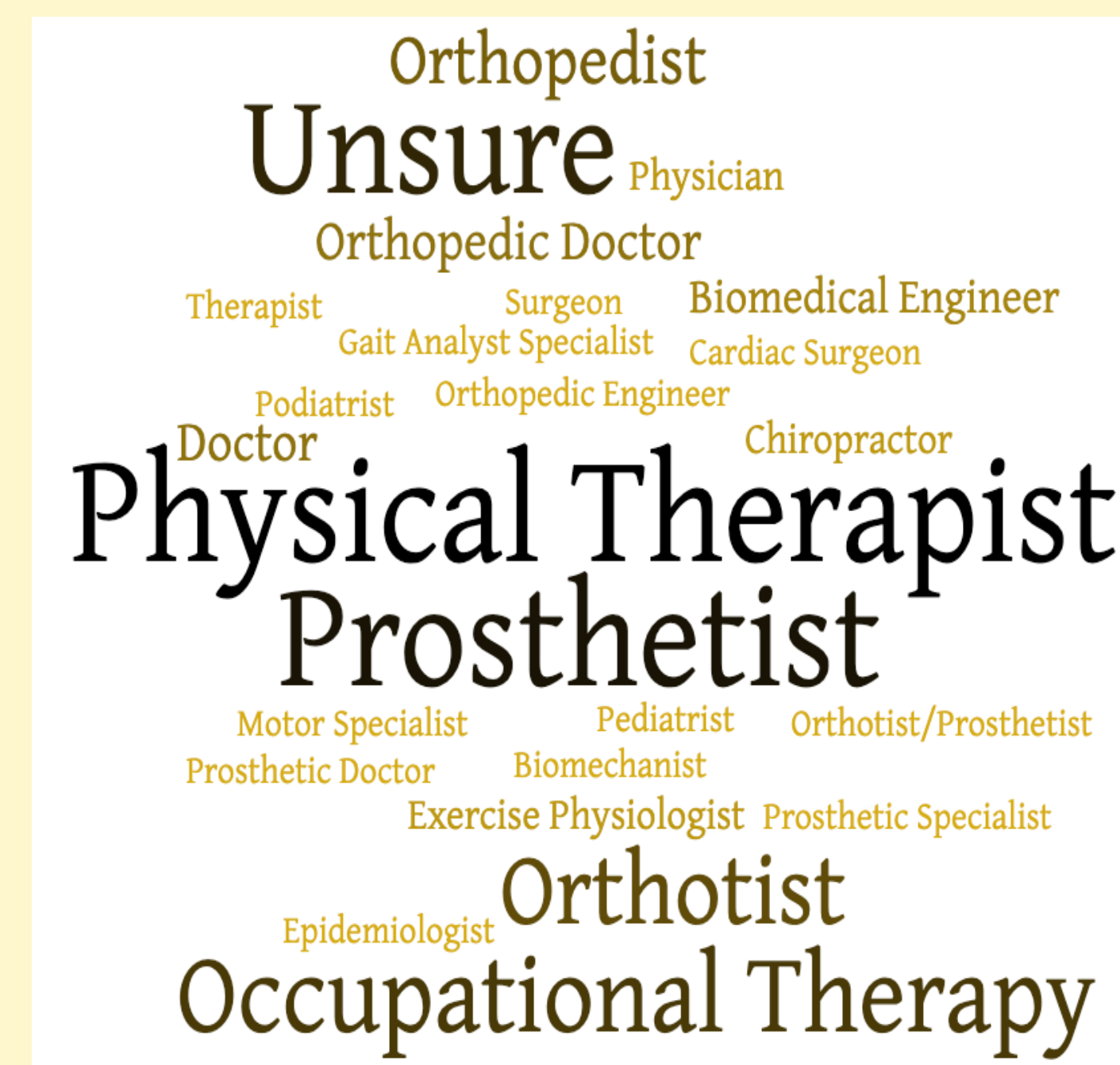


Figure 1: Word cloud based on question 1.

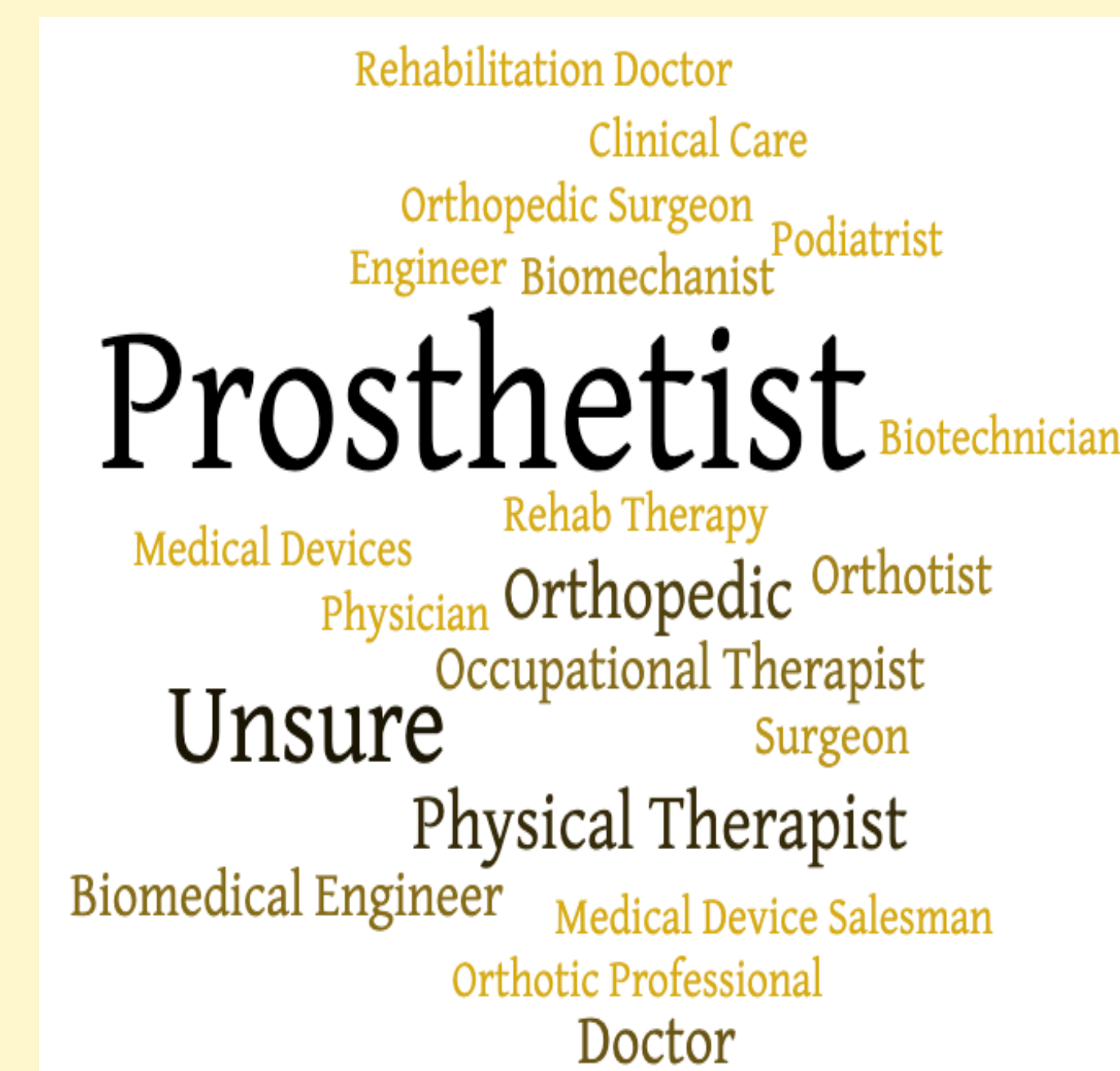


Figure 2: Word cloud based on question 2.

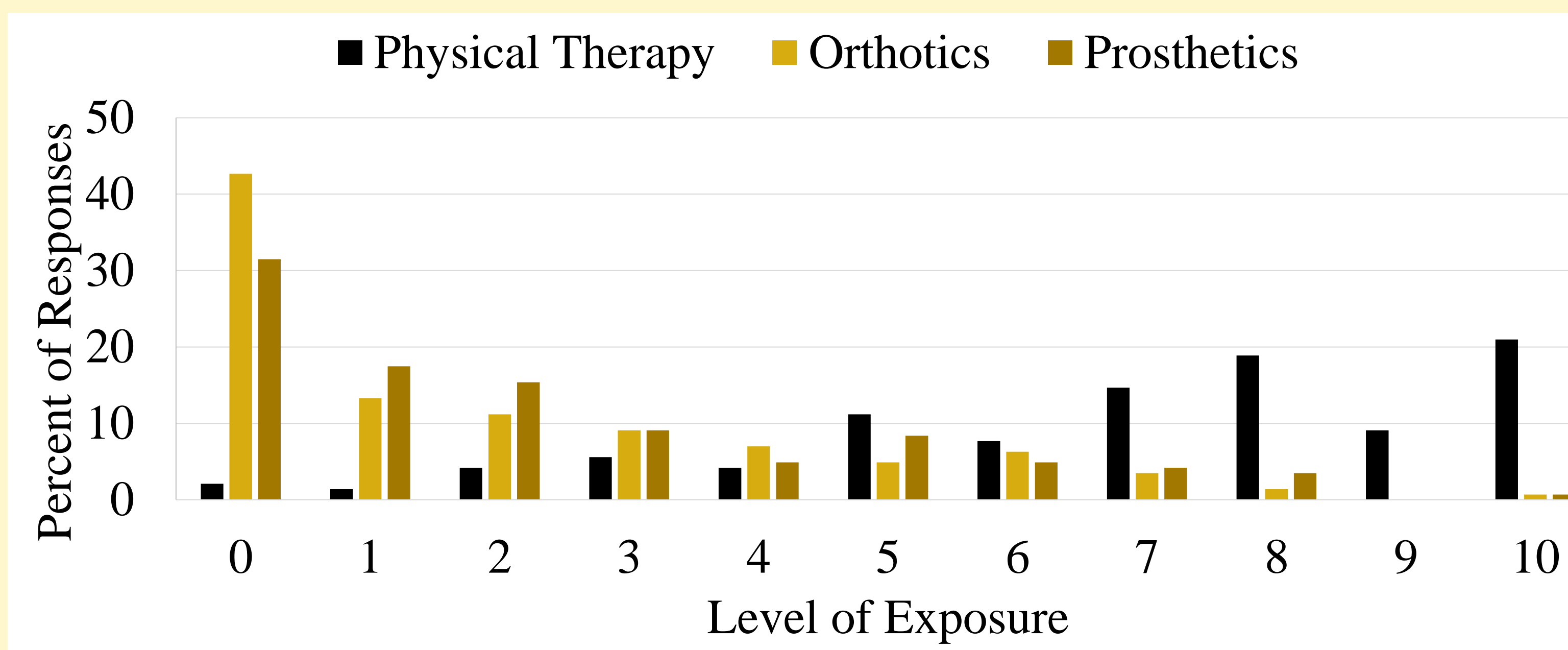


Figure 3: Level of exposure to the career fields based on question 3 (n=143).

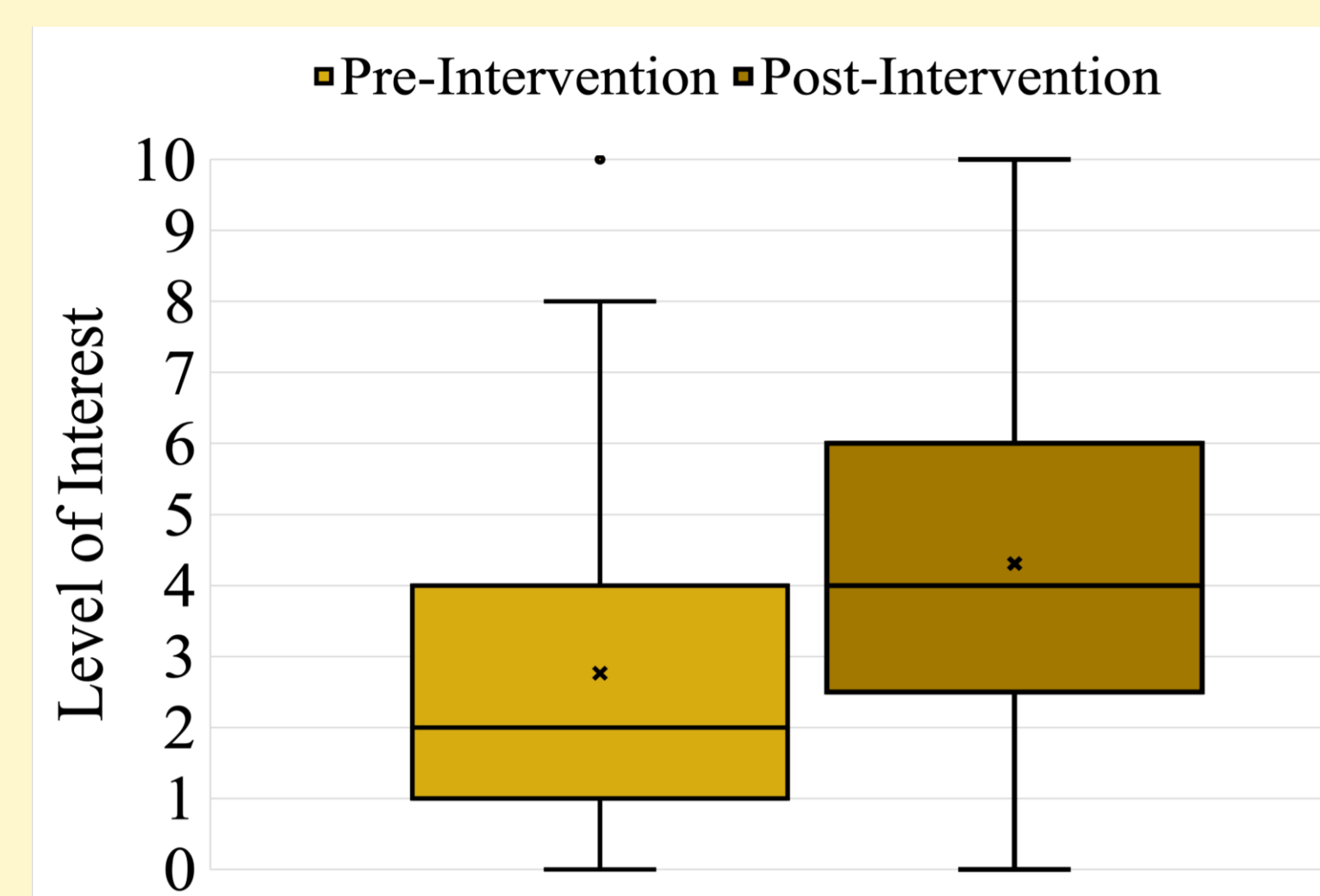


Figure 4: Level of interest in pursuing prosthetics and orthotics as a career on a scale of 0-10 before and after promotional videos from *WhatIsPOP.org*



Profession	Exposure	Interest Pre-intervention	Interest post-intervention
Physical Therapy	6.91±2.62	6.01±3.46	-
Orthotics	1.96±2.35*	2.76±2.37*	4.31±2.42**
Prosthetics	2.31±2.44*		

Table 1: Mean ± Std.Dev. of level of exposure and interest in the field. Paired *t*-tests were conducted with a 95% confidence interval. *Significant difference ($p < 0.001$) from physical therapy. **Significant difference from pre-intervention

Discussion and Conclusions

When asked two open-ended questions intended to elicit salient responses of “orthotist” (Figure 1) and “prosthetist” (Figure 2), the responses were quite varied. While many gave the intended answers, there were other frequent responses such as “physical therapist,” “occupational therapist,” and “orthopedist,” which may technically be correct in some instances, but were nevertheless different from the intended answer. “Unsure” was also a prominent answer in both cases, and there were many responses for professions that do not align with the scope given in the prompt. These findings suggest that some of these students either 1) were aware of O&P but it was not their first thought or 2) were not aware of O&P as an answer. Regardless, there is potential for increased education regarding the roles and responsibilities of O&P to potential future professionals, with kinesiology undergraduate students.

When ranking the level of exposure on a scale of 0 to 10, with 10 being most familiar, kinesiology students are not as regularly exposed to careers in O&P (1.96 ± 2.35 and 2.31 ± 2.44) as they are to PT (6.91 ± 2.62) (Figure 3; Table 1). This was expected, as O&P is a much smaller field than PT. Approximately 80% of respondents rated their exposure to O&P as ≤ 4 , while approximately 80% of respondents rated their exposure to PT exposure ≥ 5 .

Students were also found to have increased interest (+1.55) in exploring O&P after watching promotional videos (Figure 4). These findings together suggest undergraduate kinesiology programs may provide a reliable supply of people to enter O&P and, therefore, should be more explicitly targeted by outreach and recruitment efforts.

This study was limited to students 19 years of age and older, majoring in kinesiology at select universities in the southeast US. With the aim of increasing O&P awareness nationwide, similar surveys should be conducted with a wider scope of settings, programs, and participants.

Given the relative lack of exposure to, and apparent increased interest in O&P, there is a need for outreach efforts to expose more kinesiology students to careers in O&P.

Acknowledgements

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