



# Heart and Guts for Medicine: Pre-university students’ perceptions and attitudes about the anatomy and physiology outreach

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## INTRODUCTION

Outreach programmes seek to motivate and inspire prospective students to embark on their healthcare journeys; undergraduate students exposed to anatomy outreach showed enhanced knowledge and interest in STEM and Allied Health degrees [1]. However, there is currently limited evidence to support the utility of outreach programmes via an integrated anatomy and physiology approach [2]. Hence, in this study, we aim to gather evidence on the attitudes and perceptions of pre-university students on outreach activities in healthcare professions via such an approach.

## METHODS

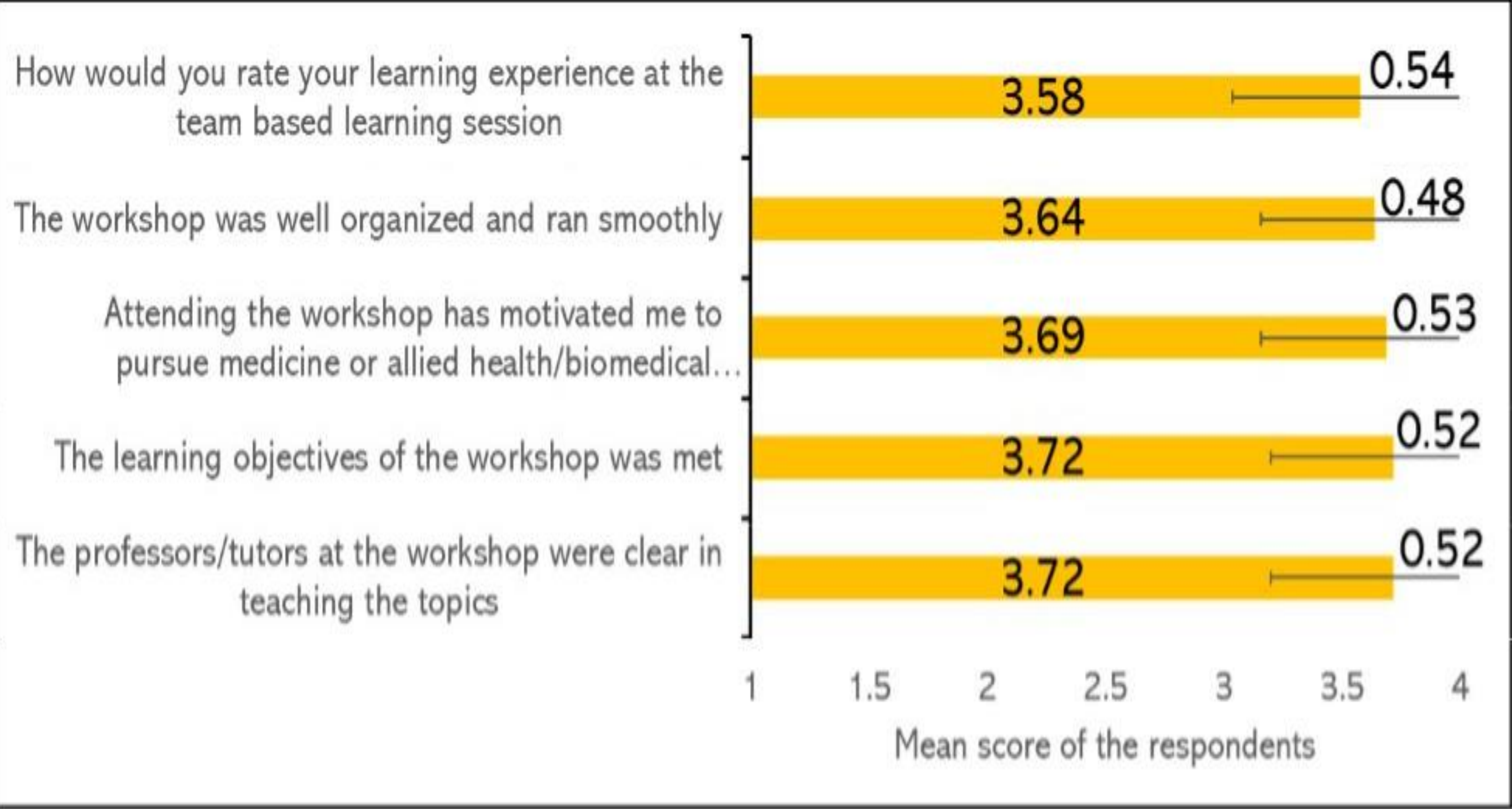
Ninety pre-university students from 21 institutions across Singapore participated in a tailored 2-day workshop mimicking medical teaching at the Lee Kong Chian School of Medicine. Given that pre-university students typically have an introductory-level knowledge of the cardiorespiratory system and gastrointestinal systems, these were selected as the workshop contents to ensure that it was pitched at an appropriate level. Following the workshop, a four-point Likert scale and open-ended survey questions were utilised to evaluate their experiences, and free text was analysed using inductive thematic analysis.

## RESULTS

Overall, the students’ learning motivation and experience were positively impacted by the outreach program, as shown by both the Likert and thematic analyses.

### Quantitative data analysis

Likert scale responses were obtained from 90% of participants; the mean scores ( $\pm$  SD) of the respondents (from 1-4) are as follows.



## CONCLUSION

1. Providing pre-university students with a near authentic experience of medical school increases their confidence in pursuing medical and/or allied health courses.
2. Multimodal learning resources as well as clinical application opportunities improve student engagement and their educational experience.
3. Opportunities for peer collaboration as well as faculty interaction improve student engagement and enhanced their understanding of anatomy and physiology concepts.

This study, while conducted in an Asian context, presents a novel outreach program design with global applicability, encouraging other educational institutions to modify the standard outreach approach by transforming the ‘open day’ concept into a comprehensive learning experience, allowing pre-university students to immerse themselves in the life of a medical student.

## REFERENCES

1. Holzer et al. Motivation and personality factors of Generation Z high school students aspiring to study human medicine. BMC Med Educ 2022 ;22(1):31

2. Mathis et al. Anatomy Observational Outreach: A Multimodal Activity to Enhance Anatomical Education in Undergraduate Students. J Stud Res 2020;9(1)

### Qualitative thematic analysis

Five themes were discovered from the qualitative comments.

#### Aspirations and motivations

...exposure to the life of medical students clarified students’ concerns on applying to medical school and studying medicine. This boosted their interest towards medicine and motivated them to seek a career in the profession.

#### Sense of satisfaction

The students had an overall positive learning experience. They would love to come back to learn different systems or carry on with the session by adding more days to the programme.

#### Interaction with facilitators

The students valued having interaction time with faculty facilitators because the facilitators provided systematic and precise explanations, which enhanced the students’ understanding of anatomy and physiology.

#### Unique learning settings

TBL activities were crucial for learning; the experience of sharing knowledge, discussing problems and clinically applying anatomy and physiology topics was more enjoyable, insightful and captivating than typical lectures.

#### Gaining perspective

...hands-on experience with real specimens was important, enlightening and provided with the opportunity to get a better picture of human structure and function.

## ACKNOWLEDGEMENT

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