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Research Abstracts

Self-determination of aptitude in surgical specialties: Assessing contributing factors to fine motor skills in preclinical medical students

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Introduction: It is still uncertain if particular activities or hobbies can be significant contributors to improving dexterity skills that would lead to better surgical aptitude. The main objective of this study was to investigate if students' prior exposure to activities such as painting, playing sports musical instruments, videogames or sewing would influence their surgical simulation scores. Then, to determine if their aptitude perceptions towards a surgical career was supported by their performance on the simulation.

Methods: A cohort of 40 preclinical medical students participated in laparoscopic task simulation study where they were scored on their performance on standardized tasks. They completed a pre- and post-task survey where self-rated their performance, described their participation in activities that require dexterity along with their interests in pursuing a career in surgery. Data was evaluated by modeling to detect associations between their performance and their survey responses.

Results: Findings show that the type of activity is influenced enormously by the age at which they start practicing it. Students who started painting in their life had an advantage on surgical performance in the simulator. However, the participation in sports in later life showed the opposite effect. Videogames did not show any association. Student's rating of their performance and interests in a career in surgery showed that although they can rate their ability correctly, their performance is not enough to persuade their specialty interest into or out of surgery.

Conclusions: There are activities that can provide an advantage to improving surgical skills in a simulator, but this advantage can be complex and may be related to the stage of development of the participant. Also, this study shows that medical student's interest in can be deeply engrained and that an objective assessment of their skill is not likely to persuade them in the decision to pursue a career in surgery.