

Journal of the Medical Research Institute

## Abstract: Drivers of Meaningful Research among Medical Students: Insights from a Mixed Methods Study.

Accepted abstract in the 1<sup>st</sup> International conference of biomedical informatics and medical statistics: paving the way for research Excellence, 17th February 2025.

Mahmoud Bassiony<sup>1\*</sup>

1) MBBCh, Alexandria Faculty of Medicine.

Background: Research is a critical competency for physicians, yet medical students face varying motivations and barriers to engagement. Understanding these factors is essential for designing effective educational interventions to foster meaningful research participation. **Objectives:** This study aimed to explore the primary drivers and barriers influencing medical students' engagement in research, with a focus on motivations, perceptions, and the role of mentorship and curriculum design.

Methods: A mixed-methods approach was employed, including a survey of 379 medical students and focus group discussions. The survey assessed research motivations for learning methodology, while focus groups explored perceptions of research culture and interest influences. Quantitative data analyzed were for statistical significance, and thematic analysis was conducted on qualitative responses.

**Results**: Quantitative findings revealed that residency requirements (60%) and personal interest (30%) were the top motivators for research engagement, with community pressure influencing 12% of students, particularly females from certain backgrounds. Qualitative themes highlighted the importance of positive peer role models, early exposure, and recognition as key factors. Barriers included insufficient role models (40% reported no research instructors) and a muted research culture. Additionally, 50% of students reported struggles with the complexity of the research curriculum, and 65% had not participated in research projects. Despite these challenges, 80% of students strongly agreed (score of 5 on a 0-5 scale) that medical students need to learn scientific research.

**Conclusion:** While extrinsic motivators like residency requirements dominate, intrinsic factors such as personal interest

and community expectations also play significant roles. Barriers such as lack of mentorship and curriculum complexity hinder engagement. Peer mentorship, hands-on opportunities, and showcasing accomplishments can foster meaningful research participation. A multi-pronged approach leveraging social connections and community engagement is recommended to cultivate self-driven research engagement among medical students.

**Keywords:** Medical students, research engagement, mentorship, curriculum design, motivations, barriers, peer role models, residency requirements, community pressure, mixed-methods study.



Drivers of Meaningful Research among Medical Students: Insights from a Mixed Methods Study