What is the MMI? Could it be useful in selecting applicants for my program?

Nathan Smith, MD, Asst. Dean for Students and Admissions
Hadyn Swecker, PhD, Director of Admissions

Acknowledgements and Thanks

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MMI: Background

• Developed at McMaster University SOM in 2002
• Advanced Psychometrics for Transitions (APT) 2007
• Branded product: ProFitHR
  • 450+ interview stations, support for training and scheduling, example for applicant preparation
• Schools have also developed MMI stations

MMI

• What is it?
• Why do it?
  • “Tool” – part of a ‘Holistic Admissions’ process
    • Metrics
    • Experiences
    • Attributes
• How?

MMI – The Multiple Mini Interview
MMI: Description

- A “non-clinical” OSCE
- Applicants complete a circuit of 6-10 stations lasting 6-8 minutes, rotating from station to station.
- Each station has an assigned task
  - Task depends on the type of scenario presented

MMI Types of Encounters

- Discussion of assigned topic
  - Rater interviews applicant to elicit specific types of information and rates the applicant’s performance
- Role Playing/Acting
  - Rater observes applicant interacting with an actor and rates the applicant’s performance

MMI Types of Scenarios/Tasks

- Teamwork/Collaboration
  - Two Applicants carry out an assigned task
    - One rater observes applicant giving instructions and a second rater observes the applicant receiving instructions for a task
- Debate
  - Two applicants are assigned the pro and con positions of a problem to debate
    - One observer rates the applicant assigned the pro position and another observer rates the applicant assigned the con position of a problem

MMI: Description

- Each station is in a different room
- At each station, applicant will have
  - 2 minutes to read/consider a prompt/scenario
  - 6-8 minute interaction with either an interviewer, an actor or another applicant.
- Instructions to the applicants given from an overhead speaker
  - Read
  - Enter
  - Stop

MMI Circuit Example:

- Circuit with 9 Stations
- 8 Active Stations and 1 Rest Station
- 2 Minutes to Read the Prompt
- 8 Minutes for the Interview

One bad station is not the end!
MMI Rest Station

- No interaction
- Rest/Bathroom Break
- Increases the number of applicants to interview

2 MMI Circuits with 9 stations
Interview 18 applicants in 90 minutes

MMI: Description

- Applicants informed there are no correct answers;
- As appropriate to the scenario, they should adopt a position and defend their ideas
- Rater should challenge applicants to express themselves clearly and vigorously
- Raters do not provide applicants any verbal or non-verbal feedback about performance

Example station?

Example Station - Placebo

Dr. Mason recommends homeopathic medicines to his patients. There is no scientific evidence or widely accepted theory that suggests these medicines work and Dr. Mason doesn’t believe they work. He recommends these medications to patients with mild, non-specific complaints such as muscle aches and fatigue because he believes that it will do no harm, but will reassure them.

Consider the ethical problem Dr. Mason’s practice may pose. Discuss these issues with the interviewer.

How can the MMI be used in an admissions process?

In Medical School Admissions
• Does the MMI offer a valid and reliable assessment of non-cognitive attributes important for mission?
• Do MMI stations distinguish between the non-cognitive attributes we want to assess?
• Does the MMI discriminate between those accepted and those on a waitlist and those not accepted?

• MMI is able to assess different non-cognitive attributes
  • Example attributes: advocacy, ambiguity, collaboration, cultural sensitivity, empathy, ethics, honesty and integrity, responsibility and reliability, and self-assessment
• MMI appears to be adjustable to the requirements and conditions of different institutions

1Lemay JF, et al., Medical Education 2007: 41: 573-579

MMI: Reliability and Validity Studies
Knorr and Hissbach reviewed 66 publications
• 40 reported reliability values
  • Factors that promote reliability
    • Increasing number of stations has greater impact than increasing number of raters per station
    • Exclude stations that are too difficult or too easy
    • Skills based rater training or normative anchored rating scales

1Knorr M, Medical Education 2014; 48: 1157-1175

MMI: Validity
• Validity studies
  • Relationship of MMI to academic measures is small
  • Most consistent predictor of early success in medical school
  • Predicts clerkship and licensing exam performance
  • Predicts better performance on Canadian Licensing exam

1Husbands A, Medical Education 2013; 47: 717-725
2Eva KW, Medical Education 2009; 43: 767-775
3Eva KW, JAMA, December 5, 2012; 308, No. 21: 2233-2240

The Admissions Process - Holistic Review
What is holistic review?
• Holistic review is a flexible, individualized way of assessing an applicant’s capabilities by which balanced consideration is given to experiences, attributes, and academic metrics and, when considered in combination, how the individual might contribute value as a medical student and physician.

Holistic Admissions
• “Best Practice” for conducting medical school admissions
• Essential for increasing diversity and creating an enriched educational environment that promotes excellence in education
• Emphasizes multiple relevant factors, both academic and non-academic, in selecting applicants
• Recognizes the importance of balancing Metrics, Attributes and Experiences in admissions decisions

AAMC Website:
https://www.aamc.org/admissions/admissionslifecycle/409104/prepholisticreview.html
Holistic Admissions

• A process that affords each applicant balanced consideration of life experiences, personal attributes and academic metrics.

Pre-admission GPA is clearly the best predictor of academic performance

(Salvatori, 2001)

Still, non-cognitive variables such as interpersonal skills, integrity, and professionalism are valued

(see Albanese, et al., 2003)

Key Problems With Traditional Interviews

• Medical Education Literature
  • Errors of logic
  • Halo/horn effect
  • Cultural noise
  • Irrelevant candidate attributes
  • Inter-examiner agreement low
  • Contrast effects
  • People like us and “isms”, stereotyping

Reliability: Standardized Interview (not an MMI)

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Axelson, R., Kylian, C. Rater and Occasion Impacts on the Pre-admission assessments. Med Ed (2009); 43:1198-1202

What can it tell you that a traditional interview can not?
Predictive Tools and their Correlation with future Assessments

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Overcoming the Reliability Challenge

- Focus upon behaviors, not traits
  - They are more easily specified
  - Discussion is less constrained
- Sample, sample, sample!
  - An average is better than a single observation
  - Can minimize the impact of interviewer bias

AAMC Core Competencies for Entering Medical Students

**Interpersonal**
- Service Orientation
- Social Skills
- Cultural Competence
- Teamwork
- Oral Communication

**Intrapersonal**
- Ethical Responsibility to Self and Others
- Reliability and Dependability
- Resilience and Adaptability
- Capacity for Improvement

From the AAMC Admissions Initiative
https://www.aamc.org/initiatives/admissionsinitiative/competencies/

What attributes or competencies would be important for your program?

Foundations of Medical Education
Six Core Competencies

- Professionalism
- Practice-Based Learning and Improvement
- Systems-Based Practice
- Medical Knowledge
- Clinical Skills
- Interpersonal and Communication Skills
Things to consider

• Buy-in
• Man/woman power— who and how many?
• Setting—what space will you be using?
• Number of applicants
• Logistics of the interview day with other components
• Data management

Things to consider

• Evaluation tool
• Training
• Video
• Piloting Scenarios
• Number of stations (optimal would be 6)
• How long? (5-8 minutes per station)