An Escape Room as a Novel Multiple Mini Interview (MMI) Station for Radiation Oncology Resident Selection

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I do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Je n’ai aucune affiliation (financière ou autre) avec une entreprise pharmaceutique, un fabricant d’appareils médicaux ou un cabinet de communication.
Background

• Dalhousie University Department of Radiation Oncology has used a MMI (Multiple Mini Interview) format for their CaRMS interview process for 5+ years.

• 4 MMI stations

• A new station was added by the selection committee that aimed to assess:
  • Critical thinking
  • Problem-solving
  • Time-management skills
Background
Escape room station

• “You are a first year Radiation Oncology resident. Today is your first call shift! Your evil senior resident (who is oddly obsessed with escape rooms) has locked up your on-call manual. In order to unlock it you must find and solve the clues the evil resident has hidden for you around the room. But hurry, your call shift starts in 9 minutes!”

• Note: You do not need to go beyond the red square marked in tape on the floor. All items of interest to the challenge are marked with red dot stickers. After your 9 minutes are up you will discuss your performance with the evaluators (3 minutes).
Escape room station
Escape room station

- Each of the 4 hidden clues produced a number for the 4 digit bike lock that was locking up the call manual.

- The TV screen clue helped the candidate put the 4 numbers in the right order.
Escape room station

• Example clue:
Escape room evaluation

• Evaluation rubric created using existing critical thinking assessment tools and an evidence based rubric design approach to assess:
  • Problem-solving
  • Implementation of potential solutions
  • Time management
  • Organization
  • Self-assessment
Escape room evaluation

- Organized
- Calm
- Approached problems from numerous angles
- Effectively solved puzzles
- Did not freeze
- Worked within time limits
- Self aware during debrief

Successfully “escaping” the room was not included in the evaluation.
## Escape room statistics

<table>
<thead>
<tr>
<th>Pearson correlation coefficient (r)*</th>
<th>Escape room station</th>
<th>Station B</th>
<th>Station C</th>
<th>Station D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation with interview score</td>
<td></td>
<td>0.70 (p&lt;0.01)</td>
<td>0.70 (p&lt;0.01)</td>
<td>0.75 (p&lt;0.01)</td>
</tr>
<tr>
<td>Correlation with overall score</td>
<td></td>
<td>0.67 (p&lt;0.01)</td>
<td>0.50 (p=0.39)</td>
<td>0.79 (p&lt;0.01)</td>
</tr>
</tbody>
</table>

* Where an r of 1 indicated perfect correlation

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</thead>
<tbody>
<tr>
<td>Escape room station</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station B</td>
<td>0.23 (p=0.36)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station C</td>
<td>0.41 (p=0.09)</td>
<td>0.47 (p=0.05)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Station D</td>
<td>0.46 (p=0.06)</td>
<td>0.42 (p=0.08)</td>
<td>0.41 (p=0.09)</td>
<td>1</td>
</tr>
</tbody>
</table>

* Where an r of 1 indicated perfect correlation
Escape room conclusion

• The novel escape room MMI station was similarly correlated to overall interview and application score, when compared to the other stations.

• The novel escape room MMI station was NOT correlated with another MMI station, indicating it provided valuable, non-redundant assessment information.
Escape room station

- Example clue:
Escape room station

• Example clue:

• In a different country they use Green (Gr) instead of Grey (Gy) to measure radiation dose.

• \( \frac{1}{2} \) of 5Gy = 3 Gr. If the same proportion holds, what is the value of 2/3 of 10Gy in Gr?
Questions or comments?