Curious about Curiosity:
Preliminary validity evidence for a 5-factor curiosity scale in medical students
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Introduction
• Curiosity is essential to the work of physicians, making it important to promote in medical students1,2
• Existing literature describes stagnation of curiosity over the course of medical school3
• Curiosity is likely not a singular trait, but rather multifactorial4

Objective
Gather preliminary validity evidence for Kashdan’s five-dimensional curiosity scale in medical students and determine whether curiosity changes for medical students during their 4 years

Methods
Cross-sectional Survey
• Kashdan’s five-dimensional curiosity scale contains 25 questions on a 7-point Likert scale with 1 being “Strongly Disagree” and 7 being “Strongly Agree”
• Administered to all students at the University of Colorado, School of Medicine in years 2020-21 (N=676) and 2021-22 (N = 648)

Analysis
• Evaluated the scale’s structure and properties with confirmatory and exploratory factor analysis
• Domain averages compared across the different years of medical school
• Conducted cognitive interviews with students (N = 6) to understand students’ interpretation of questions

Results

Kashdan’s Five-Dimensional Curiosity Scale (2018)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Questions</th>
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<tbody>
<tr>
<td>Joyous Exploration</td>
<td>1. I see challenging situations as an opportunity to grow and learn.</td>
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<td></td>
<td>2. I am always looking for experiences that challenge how I think about myself and the world.</td>
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<td></td>
<td>3. I keep trying to do things that are difficult and new.</td>
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<td></td>
<td>4. I enjoy learning about subjects that are new to me.</td>
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<td></td>
<td>5. It frustrates me if I am left not knowing all the information I need.</td>
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Depression Sensitivity (DS)
1. I can spend hours on a single problem because I just can’t rest without knowing the answer
2. I find it troubling if I can’t figure out what is going on in a problem
3. I work even harder to solve it
4. I am frustrated when the answer is not clear
5. It frustrates me if I am left not knowing all the information I need

Averages of Five Dimensions Across Medical School

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>Joyous Exploration</td>
<td>4.5</td>
</tr>
<tr>
<td>Depression Sensitivity</td>
<td>3.2</td>
</tr>
<tr>
<td>Social Curiosity</td>
<td>4.8</td>
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Cognitive Interview Results
• Questions from JE, DS, and ST aligned well with medical student experiences and made sense to students when reading them
• High scores for JE and ST and a low score for DS were seen as a strength for professional identity formation
• While SC was seen as an important attribute for medical students, SSC and 4 were seen as intrusive and unrelated to the field
• All T5 items were identified as irrelevant to the medical school experience and more representative of personality

Discussion
• Curiosity is a multi-factorial trait, not unidimensional as previously described
• Professional identity formation in medical school may be reflected by JE, ST, and DS
• Medical students are more curious than the national average
• Curiosity is stable over the course of medical school and higher than the national comparison

Implications
The study provides preliminary evidence for a scale that can be used to determine the impact of curricular changes on medical student curiosity.

Next Steps
• Follow a single cohort over time
• Determine whether high levels of curiosity correlate with other markers of academic success in medical school
• Further investigate the Social Curiosity domain and appropriateness of the items for medicine is warranted
• Examine the validity evidence for new items in this domain

References