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An Analysis of Implicit Bias in Medical Education

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**BACKGROUND**

- The Implicit Association Test (IAT) is a well-researched method for identifying an individual’s implicit bias.
- Occurring outside of conscious awareness, implicit bias is a form of nonverbal thoughts, behaviors, and actions that influence an individual and suggest unequal treatment.
- In the undergraduate medical education, the IAT is commonly used to assess the medical students’ personal bias\(^4\).
- Studies from the American Association of Medical Colleges (AAMC) have shown that bias is ranked highly as one of the least addressed educational goals in medical education and training\(^1\).
- Medical literature suggests that implicit bias affects clinical faculty patient care decisions; this in turn affects medical student education\(^2\).
- Data collected from our medical school’s first year curriculum suggest that there are missed opportunities to explore the effects of implicit bias on health outcomes.

**OBJECTIVE**

- To understand students’ insight into implicit bias and stereotyping
- To analyze comments in reflection papers submitted by students enrolled in the required “Determinants of Health” (Dott) course during the Spring 2015 at the University of Massachusetts Medical School (UMMS). Student reflections responded to the request that they “select a reading, experience in taking the IAT or class discussion and comment on how the material led to new insight about the potential effect of bias or stereotyping on future clinical decisions.”

**METHOD**

125 first-year medical students (48% Female; 52% Male; mean age 25 years; 95% from Massachusetts, 8.8% identified as under-represented ethnic/racial minorities) in the entering class of 2014 submitted written reflections following attendance and discussion-based learning in the Dott course. This research was exempt from IRB regulation as it involved existing documents and subjects were not directly identifiable. Grounded theory methodology was used for the qualitative analysis of the comments. Papers were de-identified, read, and codes were constructed according to emerging themes (descriptive, diagnostic and prescriptive) found. The codebook development focused on “bias,” “systemic/institutional bias,” “individual bias,” “awareness” and “health disparities.” Student commentary was coded for themes and tallied for total amount of discussion for each theme. Inter-rater reliability was calculated for 20% of the sample using Cohen’s kappa.

**RESULTS**

- **Under-represented minorities:** include Mexican-American, Mexican-Chicano, American Indian/Native Alaskan, Cambodian, African, Vietnamese, Black/African and American Portuguese.

**Descriptive Theme**

<table>
<thead>
<tr>
<th>Bias is inevitable</th>
<th>29% (n=26)</th>
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<tbody>
<tr>
<td>Bias is a product of society, cultural backgrounds and media. 57% (n=66)</td>
<td></td>
</tr>
<tr>
<td>Bias has a negative effect on the decision-making process that impacts patient care and treatment: 83% (n=79)</td>
<td></td>
</tr>
<tr>
<td>Bias is real in medicine: 32% (n=40)</td>
<td></td>
</tr>
<tr>
<td>There is a fine line between clinical judgment and highlighting bias towards patient care: 13% (n=16)</td>
<td></td>
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</tbody>
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**Diagnostic Theme**

- **IAT is a beneficial tool to acknowledge implicit bias:** 16% (n=20).
- Recognizing bias is an important step in actively acting against it for the benefit of better patient care: 73% (n=81).
- It is important to understand where biases stem from to make conscious efforts to treat patients equally and not judge unfairly: 58% (n=73).

**Prescriptive Theme**

- Bias is inevitable: 27% (n=20).
- Bias is real in medicine: 32% (n=40).
- It is a physician’s responsibility to dismantle the bias found in the healthcare system, through avenues such as advocacy and legislation: 32% (n=40).

- **Stress and pain are experienced unique to a patient’s cultural background and not judge unfairly:** It is a physician’s responsibility to dismantle the bias found in the healthcare system, through avenues such as advocacy and legislation: 32% (n=40).

**CONCLUSIONS**

- **The IAT is informative in the medical education curriculum**
- Medical students gain insight into the importance of understanding personal implicit bias and the effect it may have on clinical decision-making.
- Medical students can identify and self-reflect on the development of behaviors and skills that will facilitate improved patient care decision-making and interactions.
- Medical students may benefit from conversations with current faculty clinicians about the methods currently used to combat personal implicit bias in the current culture of healthcare.
- Additional exploration of faculty involvement in these topics may engage medical students throughout their undergraduate medical training.

**ACKNOWLEDGEMENTS**

I would like to thank the medical students of the entering class of 2014 for their honest and open opinions surrounding these critical components of the medical student professional development.

**REFERENCES**