

# A Pilot Study of Art Museum-Based Small Group Learning for Pre-Health Students

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**Introduction:** Health professions educators are increasingly recognizing the fundamental role the arts and humanities play in professional identity formation; however, few reports exist of programs designed specifically for pre-health professional students.

**Methods:** We designed and delivered four, 2.5-h sessions for pre-health professions students at a local museum in partnership with museum educators. Participants were invited to respond to a follow-up survey asking about their perceived insights from and importance of the session. We used descriptive statistics and thematic content analysis for quantitative and qualitative data, respectively.

**Results:** Ten of the participants responded to the survey (n=10/23, response rate=43%) and all supported the integration of such an experience in their pre-health curriculum. The qualitative analysis of responses to the open-ended item about any insights gained from participation in the program revealed three themes: cultivation of the health professional, personal growth, and awareness and appreciation of multiple perspectives.

**Discussion:** Participants who responded to our survey drew meaningful connections to the relevance of these sessions to their development as future professionals.

**Keywords:** pre-health, pre-medical education, arts and humanities, art museum

## Introduction

Pre-health professional students must demonstrate a foundation of professional values that will transform them into clinicians—a process known as professional identity formation (PIF).<sup>1</sup> However, most pre-health professional teaching has focused on knowledge acquisition, with relatively little attention given to the PIF.

Health professions educators are increasingly recognizing the fundamental role the arts and humanities play in PIF, supported by a growing body of evidence.<sup>2–7</sup> In 2020, the Association of American Medical Colleges started an initiative—“The Fundamental Role of the Arts and Humanities in Medical Education to support greater integration of these fields into current medical education.”<sup>8</sup> Efforts to use arts and humanities-based teaching have spanned learner levels; however, a recent scoping review revealed most are focused on undergraduate medical education with a dearth of programs for pre-medical students.<sup>2</sup>

Given this paucity of programs for pre-medical students in the early stages of PIF, our multidisciplinary team designed and delivered a series of art museum-based sessions to premedical and other pre-health professional students at Johns Hopkins University (JHU). Our team has delivered similar programs to medical students in the past.<sup>9,10</sup> We designed, delivered, and evaluated sessions for pre-health students at a local museum in collaboration with art museum educators. The purpose of the evaluation was to examine the perceived impact of the sessions by participants.

## Materials and Methods

The four unique 2.5-hour sessions took place at The Baltimore Museum of Art, a free-admission museum located adjacent to JHU, from January to March 2020. Each session maintained a similar structure with a unique mix of individual and group

activities. The museum educator(s) started with a 20-minute “pair and share introduction” activity, in which students selected a work of art to introduce themselves to their partner and subsequently the group. Next, the museum educator(s) led a 45-minute large group activity, unique to each session and designed to achieve PIF goals (eg, communication skills). Then, the physician facilitated a unique 40-minute experience, such as Visual Thinking Strategies,<sup>11</sup> a Personal Responses Tour,<sup>12</sup> or a Group Poem.<sup>13</sup> Each session closed with a reflective writing activity.

All JHU undergraduate, post-baccalaureate, or graduate students planning a career in a health profession were eligible. A total of 23 unique students attended at least one of the four sessions (only one student attended more than one session).

Six weeks after the final session we invited participants to complete an online Qualtrics survey (see [Appendix 1](#) for survey questions). Participants responded to an open-ended item about the insights gained from the session. Participants were also asked about perceived importance of the sessions to their pre-health program and future patient care, as well as their exposure to similar programs in the past (yes/no) and interest in future, similar programs (yes/no). We assured participants their participation was optional. We collected participant responses anonymously and advised students that completion of survey indicated their consent to participate in this research study.

Two coders (KS and MKH) performed a thematic analysis of the de-identified responses to the open-ended survey item. Descriptive statistics were calculated for discrete items. The JHU Institutional Review Board reviewed and deemed the study exempt research.

## Results

Ten students responded to the survey (n=10/23, response rate=43%, [Table 1](#)). Most respondents reported no prior engagement in an art museum-based experience at JHU (n=9/10, 90%). All supported the integration of such an experience in the pre-health curriculum and 90% of participants “strongly agreed” (n=7/10) or “agreed” (n=2/10) that similar art museum-based experiences would enhance their pre-health experience (one selected “neutral”). Similarly, 90% “strongly agreed” (n=7/10) or “agreed” (n=2/10) that such experiences would enhance the care of their future patients (one selected “neutral”).

The qualitative analysis of responses to the open-ended item about any insights gained from participation in the program revealed three themes: cultivation of the health professional, personal growth, and awareness and appreciation of multiple perspectives.

## Cultivation of the Health Professional

Most respondents (n=7/10, 70%) discussed how the session helped them gain insight into how the arts are relevant to clinical practice and their professional development. Some mentioned specific skills including teamwork, communication, critical thinking, and approaching the unfamiliar. One commented: “Physicians and medical students and pre-

**Table 1** Demographic Characteristics of Student Participants (N=23) and Survey Respondents (N=10)

Characteristic	Program Participants, N=23 n (%)	Survey Respondents, N=10 n (%)
Level of education		
Undergraduate freshman	5 (22)	3 (30)
Undergraduate sophomore	3 (13)	1 (10)
Undergraduate junior	5 (22)	1 (10)
Undergraduate senior	6 (26)	3 (30)
Public health graduate student	2 (8.5)	2 (20)
Recent graduate	2 (8.5)	1 (10)
Health program of interest		
Medical	22 (96)	9 (90)
Dental	1 (4)	1 (10)

medical students (like me) often develop a tendency to detach from patients and lose their reflective ability. The practice of the careful examination of arts can challenge this by providing a non-medical lens that fosters a more perceptive, empathetic and compassionate worldview suggesting a restorative role of the arts.” Two respondents thought the sessions connected to the humanistic side of medicine and “seeing the patient as a whole.” Another respondent brought up the realization that art could change the way they viewed clinical situations.

## Personal Growth

Six respondents (n=6/10, 60%) commented on how the session led them to discover insights about themselves. One said the session helped to “identify some insecurities going into the application process.” Another wrote: “I gained a different perspective of approaching the health profession and life in general by attending the sessions.” Several other respondents mentioned their session gave them new ideas about how they could connect what they previously saw as divergent interests—art and medicine—in their future careers.

## Awareness and Appreciation of Multiple Perspectives

Two respondents (n=2/10, 20%) said the sessions helped them be more aware of their own and others’ perspectives. One wrote:

“Perspectives are a very important part of most conversations... because we tend to formulate ideas of how other people are or how they should be. It is important to make a conscious effort to constantly recognize this tendency as an example of a connection drawn between awareness of bias and improving encounters with others.”

## Discussion

We piloted and elicited feedback on art museum-based sessions for pre-medical and other pre-health professions students at one US university. Participants who responded to our survey drew meaningful connections to the relevance of these sessions to their development as future professionals, citing relevance to cultivation of the health professional, personal growth, and awareness and appreciation of multiple perspectives.

Findings from the recent scoping review by Moniz et al suggest that the arts and humanities can promote four major domains: mastering skills, perspective taking, personal insight, and social advocacy.<sup>14</sup> The first three of these roles map onto our study’s themes: cultivation of the health professional (which includes skills related to the profession), personal growth (ie, personal insight), and awareness and appreciation of multiple perspectives (ie, perspective taking). While professional identity formation is typically a focus of programming for undergraduate medical education, pre-medical students are at a critical time at the “gates of medicine”, where they are beginning to form and struggle with their professional identities.<sup>15</sup> This is a time where students can benefit from scaffolding and semi-structured activities like critical reflection, which may be facilitated in part by arts and humanities engagement.<sup>1,16,17</sup> Indeed, some of our participants mentioned how the sessions helped them reconstruct what their future careers may look like—such as integrating their artistic and scientific selves, supporting the idea that some students are already thinking about professional identity before entering the profession.

Our evaluation is limited by a self-selecting sample of participants elected to attend and a low survey response rate, raising the possibility for biased results. The respondents likely valued the arts and humanities prior to the session and may more easily appreciate their relevance to the healthcare professions. We also elicited only short, written responses; future research could explore focus groups or longer written reflections that permit more extensive qualitative analysis.

In this short report, we report an initial pilot study with pre-health learners in small group, art museum-based sessions. We found participants reported the sessions impactful to their professional identities and personal growth. Although our sample was small and self-selecting, this pilot study suggests arts and humanities-based programs for pre-health students is an area that merits further investigation.

## Ethics Approval

The Johns Hopkins Medicine Institutional Review Board reviewed this study and deemed it exempt research (IRB00244745). Participants were informed their participation was optional, anonymous, and would be used for research purposes, including publication of data.

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## Disclosure

The authors report no conflicts of interest in this work.

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