

# Impact of Volunteering with Street Medicine Detroit on Medical Students' Attitudes Toward Homeless Individuals

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## BACKGROUND

### Significance of Issue:

- Homeless population of Detroit exceeds 16,000 people.<sup>6</sup>
- Many do not have access to healthcare.

### Study Rationale:

- Previous studies<sup>7</sup> have suggested that healthcare professionals often have negative attitudes toward individuals experiencing homelessness.
- These attitudes are influenced by a variety of factors, including students' experiences in medical school.
- They are not innocuous, because they adversely affect the doctor-patient relationship, diminish trust, and result in failed delivery of care.

### Street Medicine Detroit (SMD) Model of Care:

- Student-run organization, founded at WSUSOM in 2012.
- Student volunteers work in interdisciplinary teams with MDs, DOs, NPs, social workers, and other health professionals, to provide shelter and street-based primary care for some of Detroit's most service-resistant and vulnerable people.

### Goals of SMD:

- Break down barriers.
- Provide a service for people who are homeless.
- Foster a unique learning environment for students.
- Positively impact the attitudes of medical students by breaking down the stigma toward the homeless through experiential education.

## RESEARCH QUESTION

How successful is SMD in achieving its goal of improving student attitudes?

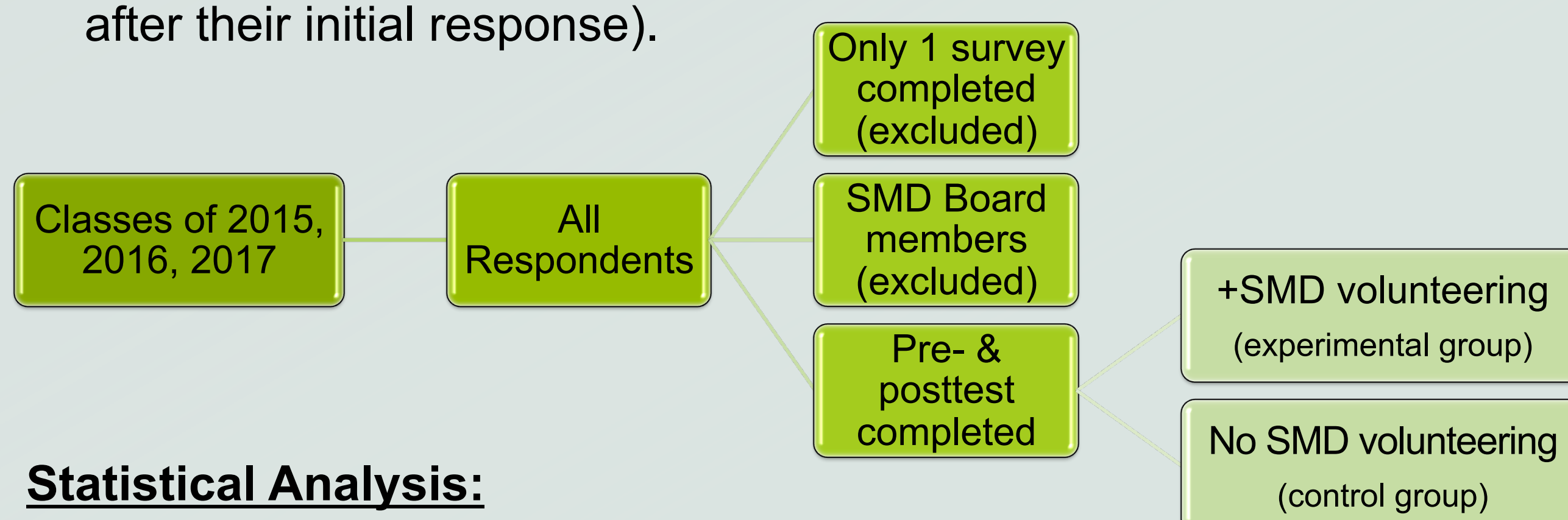
## METHODS

### Instrument used to assess student attitudes:

- Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI)
- Developed and validated by Buck et al.<sup>1</sup>
- Consists of 19 statements rated on a 5-point Likert scale

### Data Collection:

- Survey emailed to the WSUSOM student body at the
  - Beginning of the academic year (pre-SMD exposure)
  - End of the academic year (post potential SMD exposure)
- To increase sample size, students who completed only one of the above were contacted again at the end of the study (up to 2.5 years after their initial response).



### Statistical Analysis:

- Differences among groups were analyzed via
  - paired t-tests
  - analysis of covariance

## RESULTS

### Participant Demographics:

- Sample size = 91 students
- 25/91 students volunteered with SMD between taking the pre- and posttest (experimental group)
- 66/91 students did not volunteer with SMD (control group)
- There was no difference between the 2 groups based on
  - Gender (60.4% participants female; [60% of volunteers were female, 60.6% of non-volunteers were female])
  - Where participants lived for most of their lives (65.9% in suburbs [52.0% volunteers, 71.2% non-volunteers]; 14.3% in rural area; 7.7% in major city; 12.1% in other city)

### The Instrument

- Adequate internal reliability (Cronbach's  $\alpha = 0.81$ )
- 15/19 statements were grouped into 3 subscales for analysis, as proposed by Fine et al.<sup>2</sup>:
  - Attitudes: 8 items,  $\alpha = 0.76$
  - Interest: 5 items,  $\alpha = 0.72$
  - Confidence: 2 items,  $\alpha = 0.72$

### Changes in HPATHI Scores

- Students who later volunteered with SMD had higher HPATHI scores at baseline than students who did not subsequently volunteer:
  - higher attitudes ( $p=0.020$ )
  - higher interest ( $p=0.004$ )
  - higher confidence ( $p=0.044$ )
- Changes in subscales between pre- and post-test were not significant.
- When controlling for baseline confidence with ANCOVA model, volunteering was significantly associated with an increase in confidence ( $p=0.034$ ).
- The number of runs (average 3, range 1-11) was not correlated with
  - Posttest confidence scores (after controlling for baseline confidence)
  - Changes in attitudes, interest, confidence

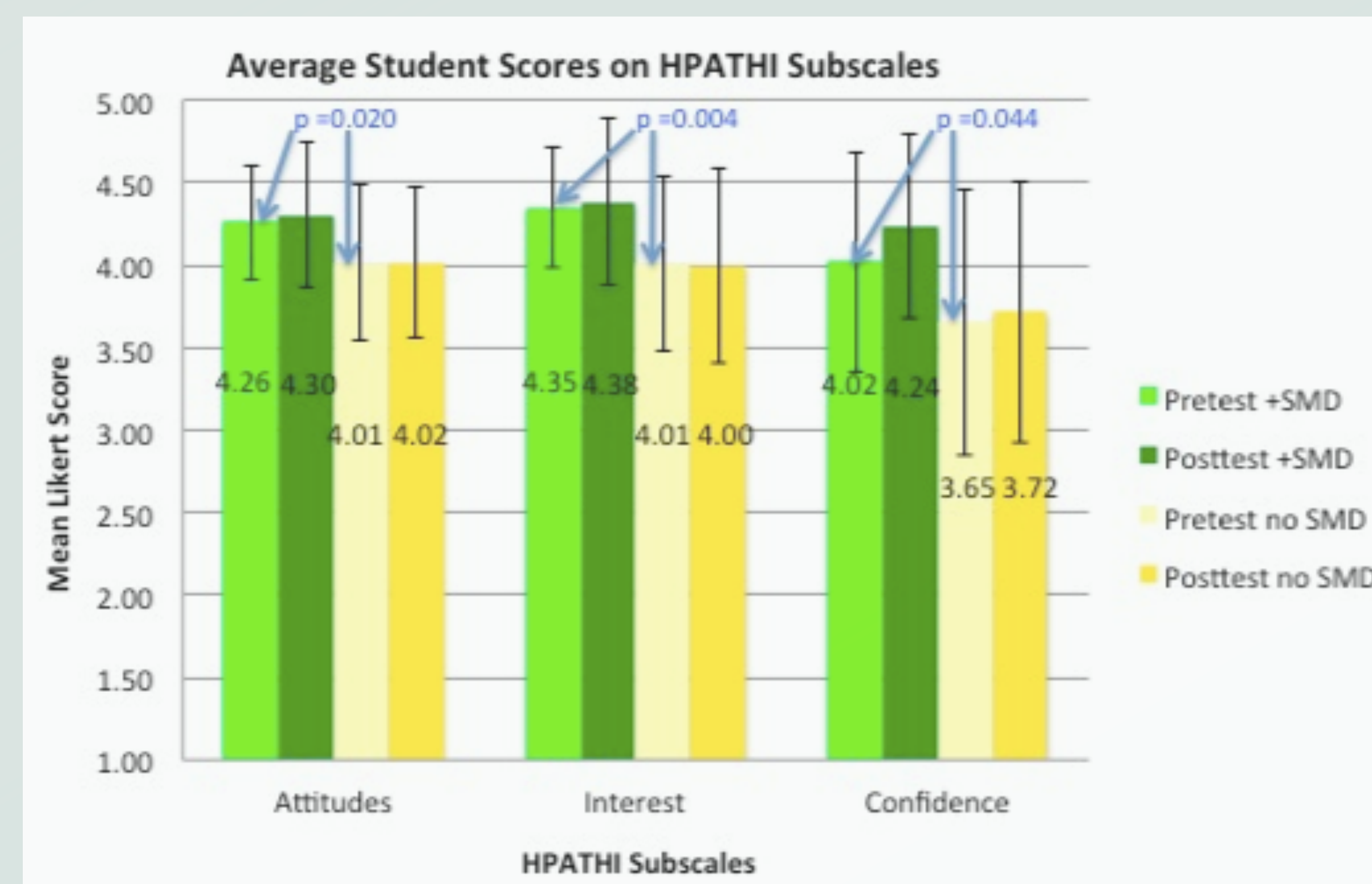


Figure 1. Mean pre- and posttest HPATHI scores of volunteers and non-volunteers (bars represent standard deviation)

## DISCUSSION

- We found a statistically significant difference in baseline attitudes of students who eventually volunteered in comparison to those who did not. This suggests that students who seek out SMD have more positive attitudes toward and interest in working with the homeless, and are therefore motivated to seek out such experiences.
- Statistically insignificant improvement in HPATHI scores subsequent to SMD exposure could be due to the ceiling effect (i.e. the baseline scores are very high and cannot get much better).
- When controlling for baseline confidence, volunteering is associated with significantly increased confidence. However, there is not a linear relationship between the number of runs and confidence scores.
- Based on discussions with volunteers and testimonials, the SMD team expects that student attitudes toward homeless individuals improve through working with the underserved. However, HPATHI may not be the ideal tool to measure this change.

## FUTURE WORK

- Develop a new instrument more tailored to SMD:
  - Conduct qualitative interviews with SMD volunteers.
  - Identify skills learned via volunteering.
  - Identify changes in perspective/attitudes.
  - Consider modifying HPATHI, adding skills section based on above.
- Administer new survey to future incoming students. With an increase in SMD volunteering, we expect an increase in our experimental group.

## TESTIMONIALS

### From a patient:

- "I felt respected and I thought everyone was very professional. Your services are needed here. This is where the people are!"<sup>3</sup>

### From a student:

- "My experience was positive. I feel like I helped someone today, however small it was. [...] I like the fact that we are getting to people who can't get to services on their own. I gained valuable interviewing experience and learned lots from Dean, who is a great teacher."<sup>4</sup>

### From a precepting physician:

- "We all go into medicine with the intention of helping those in need, but sometimes that focus can get lost along the way. SMD reinvigorated this initial motivation. Whether it's due to the exceptional medical students with whom I have worked alongside or the appreciative patients that I have been able to serve, SMD has not only made me a better physician but also a more caring person."<sup>5</sup>

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