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Psychosocial predictors of attitudes toward physician empathy in clinical encounters among 4732 1st year medical students: A report from the CHANGES study☆

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ABSTRACT

Objective: Medical school curricula intended to promote empathy varies widely. Even the most effective curricula leave a significant group of students untouched. Pre-existing student factors influence their response to learning experiences. We examined the individual predictors of first semester medical students' attitudes toward the value of physician empathy in clinical encounters.
Methods: First year students ($n = 4732$) attending a stratified random sample of 49 US medical schools completed an online questionnaire that included measures of dispositional characteristics, attitudes and beliefs, self-concept and well-being.
Results: Discomfort with uncertainty, close-mindedness, dispositional empathy, elitism, medical authoritarianism, egalitarianism, self-concept and well-being all independently predicted first year medical students' attitudes toward the benefit of physician empathy in clinical encounters.
Conclusion: Students vary on their attitude toward the value of physician empathy when they start medical school. The individual factors that predict their attitudes toward empathy may also influence their response to curricula promoting empathic care.
Practice implications: Curricula in medical school promoting empathic care may be more universally effective if students' preexisting attitudes are taken into account. Messages about the importance of physician empathy may need to be framed in ways that are consistent with the beliefs and prior world-views of medical students.

> All learners construct knowledge from an inner scaffolding of their individual and social experiences, emotions, will, aptitudes, beliefs, values, self-awareness, purpose, and more ... if you are learning in a classroom, what you understand is determined by how you understand things, who you are, and what you already know.
>
> Peter Senge, Director of the Center for Organizational Learning at MIT

1. Introduction

There is a substantial body of empirical evidence that physician empathy improves interpersonal and technical quality of care, clinical outcomes and patient satisfaction [1–13]. In addition, interpersonal empathy can reduce racial bias and thus may protect against disparities in care [14–16]. These findings provide support for teaching medical student empathy as a valid part of medical school curricula. However, there is no consensus and little evidence regarding the most effective method of teaching empathy. Two systematic reviews of curricula aimed at promoting empathy in medical students found a wide range of approaches to both defining and teaching empathy [17,18]. While both reviews concluded that it is possible to maintain and/or increase empathy during medical school, examination of the studies reviewed revealed that within each sample of students, despite an increase in average combined scores, there was considerable variation in the degree to which empathy levels changed [17,18]. These studies

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suggest that even interventions with statistically significant main effects leave significant numbers of medical students untouched. Similarly, an intervention with resident physicians that was enthusiastically endorsed by the New York Times as an example of effective empathy training [19] influenced female participants but had no effect on the primary outcome among male participants [20].

The fact that even the most successful interventions are not benefitting some subgroups suggests that a one-size-fits-all approach to increasing medical student empathy may not be sufficient. There has been little investigation into why some students benefit from empathy promoting curricula while others do not. Educational research shows that prior attitudes and knowledge have a strong effect on current learning [21]. Thus, it is possible that pre-existing student characteristics affect the way they responded to curricula. There is evidence that learners may be alienated from the curricula or distort presented material if their prior knowledge or attitudes are at odds with curricula [21–24]. Individual dispositions may also influence responses to new information and perspectives [21,25–29]. Thus, improving our understanding of the incoming medical student characteristics that predict attitudes toward the value of physician empathy in clinical encounters may be a first step in understanding differences in students' response to curricula during medical school. It may also provide insight into ways to design curricula that take individual differences into account and thus have a broader impact on medical students' attitudes toward, and skills at, providing empathic care.

The purpose of this study was to examine whether student dispositional factors, sociopolitical attitudes, self-concept, and well-being predicted incoming first semester medical students' (n = 4732), attitudes toward physician empathy, independent of socio-demographic factors. Predictors were chosen because they have been shown to be associated with physician and trainees attitudes toward and provision of empathy and patient-centered care in prior studies [25,30–41].

2. Methods

2.1. Sample

This study uses baseline data collected as part of Medical Student Cognitive Habits and Growth Evaluation Study (CHANGES), a national longitudinal study of medical students who matriculated in US medical schools in the fall of 2010. CHANGES was designed to examine changes in medical students' well-being, experiences and attitudes between their first year of medical school (baseline) and the end of their last year of medical school. This research study was approved by the Institutional Review Boards of Mayo Clinic, the University of Minnesota, and Yale University. We randomly selected 50 medical schools from strata of public/private schools and 12 regions of the country using *a sample proportional to strata size* methodology. One sampled school had highly unique characteristics (military school) that would have limited the generalizability of our study findings and was excluded, leaving a sample of 49 schools. Since there are no accurate and comprehensive lists of first-year medical students (MS1) available early-mid fall of their first year, we used several methods to ascertain as many of the 8594 MS1 attending the 49 schools as possible (see Fig. 1).

We ascertained and invited 6007 students (68% of all MS1 attending sampled schools) to participate in the web-based survey. We achieved an 81% response rate (55% of the entire pool of MS1), which is comparable to other published studies of medical

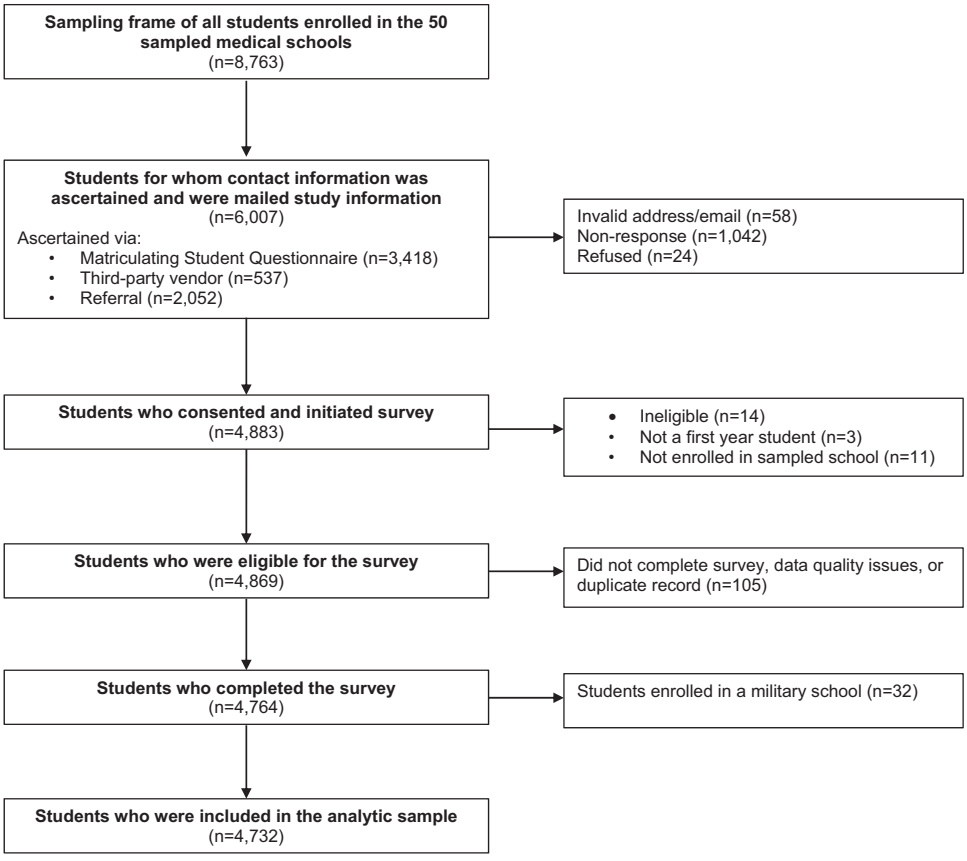

Fig. 1. Medical student CHANGES study participant recruitment flowchart.