Effects of Role Models and Empathy on Moral Foundations in Pre-Health Students

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Introduction

The presence and quality of a role model while a medical student progresses through their medical training is influential on their ability to mentally succeed. This is especially important when considering a student's empathy levels as "Role models are one of the important influences within medical education for the formation of empathy within students" (Franzen and Clifton 2023). Empathy comes in many forms, and "requires that we can feel what someone else is feeling – we must 'sense accurately'; it also requires us to 'convey that understanding sensitively' (Jeffrey and Downie 2016). Most research discusses two forms of empathy: perspective taking and empathic concern. The focus of this study is to look at how mentorship influences the moral foundations of a student beyond their measured empathy. There are five foundations in the background of individuals' moral sensations. Graham et. al (2013) argue that these are: harm/care, fairness/ reciprocity, ingroup/loyalty, authority/respect, and purity/ sanctity. "MFT proposes that, to a degree, everybody has a sense of morality at birth related to these five intuitions, but these moral values are strongly influenced by experience and one's environment" (Graham et. al 2013). Some of these foundations are oriented towards individuals (individualizing domains: harm and fairness) while others are the basis for stable social groupings ("binding" domains: ingroup, authority, and purity). This study seeks to expand on the studies conducted with medical students with a population of pre-health students.

Methods

- The data used for this study came from a longitudinal panel study that was sent out to three consecutive cohorts of freshman at Hope College. They were surveyed once per year. Students were selected because they indicated they were on the pre-health track prior to arriving at Hope College. The survey was taken on Qualtrics.
- Wave 3 data (Junior year) includes all students who took Wave 1, including those who changed career intentions over time.
- Dependent variables: The five Moral Foundations from Wave 1 and Wave 3.
- Independent variables:
  - Empathy: Empathic concern and perspective taking scales from IRI.
  - Social support scale
  - Reported mentor at Hope (y/n)
  - Religious coping
  - Key controls: Political ideology, gender, and whether the student was still pursuing a health career
  - Lagged dependent variable: half of the models include the relevant foundation from Wave 1 so as to highlight change over time
- The data were analyzed using a series of linear regressions with SPSS. Significant was analyzed at the 0.05 level.

Tables

Table 2: Regression Analysis for differences in Group Focused Moral Foundations

	Ingroup Wave 1		Ingroup Wave 3		Authority Wave 1		Authority Wave 3		Purity Wave 1		Purity Wave 3	
	b	St. B	b	St. B	b	St. B	b	St. B	b	St. B	b	St. B
Wave 1 Foundation			0.279 ***	0.284			0.281 ***	0.28			0.242 ***	0.242
Empathy												
Empathic Concern	0.029 **	0.153	0.018	0.102	-0.002	-0.015	0.007	0.051	0.003	0.026	0.029 ***	0.222
Perspective Taking	0	-0.002	0.019 +	0.122	0.002	0.014	0.002	0.019	0.006	0.05	-0.002	0.008
Social Support	0.007	0.019	0.002	0.007	0.001	0.005	0.022	0.085	0.024 *	0.094	-0.1	-0.038
Mentor at Hope			-0.143 +	-0.092			-0.021	-0.017			-0.028	-0.024
Political Ideology	0.163 ***	0.296	0.1 ***	0.222	0.09 ***	0.222	0.071 **	0.202	0.036 +	0.093	0.056 **	0.165
Gender	0.137	0.074	0.08	0.046	0.183 **	0.134	0.043	0.032	-0.002	-0.001	-0.136 +	-0.104
Stayed in Health			-0.043	-0.028			0.012	0.01			-0.036	-0.03
Religious Coping	-0.15	-0.023	0.027	0.044	-0.083 ***	-0.176	0.006	0.014	-0.026	-0.058	0.014	0.03

$p < 0.1 = +$, $p < 0.05 = *$, $p < 0.01 = **$, $p < 0.001 = ***$

Table 1: Regression Analysis for differences in Individualizing Moral Foundations

	Harm Wave 1		Harm Wave 3		Fairness Wave 1		Fairness Wave 3	
	b	St. B	b	St. B	b	St. B	b	St. B
Wave 1 Foundation			0.311 ***	0.343			0.23 ***	0.059
Empathy								
Empathic Concern	0	-0.002	0.008	0.068	0.019 **	0.155	0.009	0.08
Perspective Taking	0.005	0.041	0.007	0.061	0.005	0.044	0.003	0.03
Social Support	0.023 *	0.092	0.027 *	0.119	0.027 *	0.116	-0.004	-0.019
Mentor at Hope			0.043	0.04			-0.011	-0.011
Political Ideology	-0.012	-0.031	-0.014	-0.047	-0.022	-0.061	-0.006	-0.022
Gender	-0.126 *	-0.099	0.088	0.074	-0.092	-0.077	0.077	0.068
Stayed in Health			-0.024	-0.023			0.055	0.055
Religious Coping	0.029	0.065	0.009	0.021	-0.014	-0.034	0.01	0.025

$p < 0.1 = +$, $p < 0.05 = *$, $p < 0.01 = **$, $p < 0.001 = ***$

Results and Discussion

- The fairness and ingroup moral foundations were both significantly impacted by heightened empathic concern in students.
- When we include lagged dependents for foundations at Wave 1 to model the influence of empathy over time, the only influence was empathic concern on purity.
- The presence of a role model/mentor at Hope positively impacted students' ingroup moral foundations. This is likely explained by a student feeling more like they are a part of the ingroup of Hope college students when they have an active mentor/role model on the campus.
- Previous research done in preparation for this had suggested that empathic concern is positively impacted by the presence of a mentor at Hope.
- Social support has a significant positive impact on the development of the moral foundations of harm, fairness, and purity. This is contrary to what may have been predicted because both harm and fairness are individualizing moral foundations but are here enhanced by social embeddedness.
- Religious coping was only significantly related to the authority foundation. This can likely be explained by seeing a religious figure as an authoritative influence in one's life.
- These results diverged from other studies showing that "harm/care commonly predicted empathic traits" (Dawson et. al 2021). While the present models flip the IV/DV, our results suggest the two are not always related.
- The ingroup moral foundation seems to be the most significantly (consistently?) impacted by both the presence of a role model and high empathy in students.

Conclusions

The moral character of pre-health students is positively influenced by increases in empathy that could be aided through the presence of role models, social support, and religious coping. However, each of the moral foundations have a different relationship with these variables, so a more holistic understanding could have the greatest positive impact on a pre-health student.

Future longitudinal studies can be done that follow students from their pre-health undergraduate careers to their professional school educations. These moral foundations and empathy levels that are impacted by variables like role models, social support, and religious coping can be repeated to see how they continue to be related to beneficial outcomes. Questions could be asked along the lines of whether a student seeks these relationships out in their undergraduate career and maintains them throughout their professional schooling, whether their positive influences on character become predictors of medical students retaining empathy at the bedside and succeed in the classroom.

Limitations

- The relationship of perspective taking and the impact of role models may be less pronounced in pre-health students than medical students because medical students have more opportunities for role play and other pedagogy (Jeffrey et. al 2016). This type of teaching by a role model is not emphasized in undergraduate learning.
- The variable that measured a mentor at Hope was not present in Wave 1, so it's impact can only be measured at Wave 3.

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