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### Moral Foundations in Undergraduate Pre-health Students

Grace Rellinger Hope College

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## Introduction

Moral Foundations Theory argues that there is an automatic nature to the decisions that we make. The individualizing domains, fairness and harm, deal with one's concern for an individual. The binding domains, ingroup, authority, and purity, indicate a preference for group success even in opposition to individual outcomes (Haidt and Graham 2007). These can have significant importance to healthcare professionals who make decisions impacting their patients' lives. Throughout the undergraduate years, students begin to solidify their identity and develop their morals in this formative time. This could be shaped by the pre-health professional track or more specifically, what the student studies in this time. Political beliefs are also evolving and have a relationship with the moral foundations (Haidt and Graham 2007). Additionally, empathy has a varied relationship with the different moral foundations (Dawson et. al 2021). Currently, research does not focus on moral foundations in undergraduate studies, and there are no comparisons regarding how the moral foundations differ between pre-health students, students who left pre-health, and nursing students.

The aim of this study is:

• To test the hypothesis that variables important in shaping a student's identity will impact different moral foundations uniquely

## Methods

- The data come from a longitudinal panel survey sent to three consecutive cohorts of college freshman indicating an interest in prehealth or nursing. Students received one survey per year, via Qualtrics.
- A possible total number of 530 students were surveyed from three separate cohorts distinctive by time. The analytical population was 301 due to attrition rates over time and pairwise deletion in SPSS.
- Wave 1 includes all three cohorts' baseline data, and Wave 3 includes the same cohorts' data two years after the initial survey was given.
- Variables included:
  - Dependent Variables: Five moral foundations: fairness, harm, ingroup, authority, and purity (Haidt and Graham 2007)
  - Independent Variables:
  - Intellectual humility scale (Leary et. al 2017)
  - Empathic concern and perspective taking: Interpersonal Reactivity Index (Davis 1983)
  - College major with added double major category (Olsen and Gebremariam 2020)
- Data were analyzed using linear regressions in SPSS and were evaluated for significance at the 0.05 level.

# **Moral Foundations in Undergraduate Pre-health Students**

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## **Tables**

	Model 1: I	airness	Model 2:	Fairness	Model 3	: Harm	Ν	Model 4: H	Harm				
	b	Std. B	b	Std. <i>B</i>	b	Std. B		b	Std. B				
Constant	2.22 ***		2.24 **	*	2.09 ***			2.08 ***					
Race	-0.03	-0.02	-0.03	-0.02	0.00	0.00		0.00	0.00				
Noral Foundation W 1	0.32 ***	0.35	0.32 **	* 0.34	0.37 ***	0.43		0.37 ***	0.43				
lumility W 3	0.00	0.01	0.00	0.02	0.01	0.06		0.01	0.05				
Perspective Taking W 3	0.00	0.02	0.00	0.01	-0.01	-0.09	-(	0.01	-0.09				
Empathic Concern W 3	0.00	0.03	0.00	0.03	0.00	0.04		0.00	0.03				
Double Major	-0.18	-0.12	-0.18	-0.13	-0.07	-0.05	-(	0.07	-0.05				
Changed Majors	-0.07	-0.13	-0.06	-0.12	0.04	0.08		0.04	0.07				
Nursing	-0.33 **	-0.25	-0.34 **	-0.25	-0.12	-0.09	-	0.12	-0.09				
oft Dro Hoalth	0.04	-0.03	-0.04	-0.03	0.05	0.04		0.05	0.04				
	-0.04	-0.05	0101	0.00									
P <mark>olitics W 3</mark> p<0.1 = +, p<0.05 = *, p<0.01 =	**, p<0.001 = ***	_	-0.01	-0.04				0.01	0.03				
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Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for o	**, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr	e not signficant Binding Mc	-0.01 oral Foundations V Model 6: Ingre	-0.04 V 3	 Model 7: Authorit b Std.	<u> </u>	Model 8: Au			Model 9: F	Purity Std. <i>B</i>	Model 10:	•
Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for o Fable 2: Regression Analysis	**, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr	e not signficant Binding Mc	-0.01 oral Foundations V Model 6: Ingre	-0.04 V 3 oup	— Model 7: Authorit	B	Model 8: Au	uthority			•		•
Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for o Table 2: Regression Analysis	**, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr b 1.96 **	e not signficant Binding Mo Toup Std. B	-0.01 oral Foundations V Model 6: Ingre b S 2.04 **	-0.04 V 3 oup td. <i>B</i>	Model 7: Authorit	B	Model 8: Au	uthority Std. <i>B</i>	]	b	Std. B	b	Std. E
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Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for o Table 2: Regression Analysis Constant Race Moral Foundation W 1	**, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr b 1.96 ** -0.12	e not signficant Binding Mo roup Std. <i>B</i> 	-0.01 oral Foundations V Model 6: Ingression b S 2.04 ** -0.02 - 0.30 **	-0.04	Model 7: Authorit b Std. 2.34 *** - -0.23 + -0.1	<u>B</u>  .6 2	Model 8: Au b 2.58 *** -0.21	uthority Std. <i>B</i> -0.14	<u> </u>	<i>b</i> 2.06 *** 0.06	Std. <i>B</i> -0.04	<i>b</i> 2.02 *** -0.03	Std. <i>E</i> -0.02 0.23
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Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for a Table 2: Regression Analysis Constant Race Moral Foundation W 1 Humility W 3 Perspective Taking W 3 Empathic Concern W 3		e not signficant Binding Mc oup Std. <i>B</i> 	-0.01 oral Foundations V Model 6: Ingre b S 2.04 ** -0.02 - 0.30 ** 0.00 0 0.03 0 0.00 0	-0.04 V 3 Dup td. <i>B</i>  0.01 0.29 0.02 0.02 0.16 0.01	Model 7: Authorit         b       Std.         2.34 ***	B .6 2 2 3 01	Model 8: Au b 2.58 *** -0.21 0.10 0.00 0.02 -0.01	uthority Std. <i>B</i> -0.14 0.11 0.01 0.17 -0.06	<u> </u>	b 2.06 *** 0.06 0.22 * 0.01 0.00 0.02 +	Std. <i>B</i> -0.04 0.23 0.09 0.03 0.19	<i>b</i> 2.02 *** -0.03 0.22 * 0.00 0.01 0.02	Std. <i>E</i> -0.02 0.23 0.03 0.04 0.16
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Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for a Table 2: Regression Analysia Constant Race Moral Foundation W 1 Humility W 3 Perspective Taking W 3 Empathic Concern W 3 Double Major Changed Majors	$ {2} $ ***, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr $ \frac{b}{1.96} ** -0.12 0.37 *** 0.02 0.01 -0.26 -0.07 $	e not signficant Binding Mc roup Std. <i>B</i>  -0.06 0.36 0.12 0.12 0.12 0.04 -0.12 -0.08	-0.01 oral Foundations V Model 6: Ingression b S 2.04 ** -0.02 0.30 ** 0.00 0.03 0.00 0.22 -0.10	-0.04	Model 7: Authorit         b       Std.         2.34 ***          -0.23 +       -0.1         0.20 *       0.2         0.02       0.1         0.02       0.1         0.02       0.1         0.00       -0.0         -0.06       -0.0         -0.03       -0.0	<i>B</i> .6 2 2 3 01 04 05	Model 8: Au b 2.58 *** -0.21 0.10 0.00 0.02 -0.01 -0.03 -0.05	uthority Std. <i>B</i> -0.14 0.11 0.01 0.17 -0.06 -0.02 -0.09	<u> </u>	<i>b</i> 2.06 *** 0.06 0.22 * 0.01 0.00 0.02 + 0.25 + 0.11 *	Std. <i>B</i> -0.04 0.23 0.09 0.03 0.19 -0.16 -0.19	<i>b</i> 2.02 *** -0.03 0.22 * 0.00 0.01 0.02 -0.23 -0.12 *	Std. <i>E</i> -0.02 0.23 0.03 0.04 0.16 -0.15 -0.21
Left Pre-Health Politics W 3 p<0.1 = +, p<0.05 = *, p<0.01 = Note: models were also controlled for of Table 2: Regression Analysis Constant Race Moral Foundation W 1 Humility W 3 Perspective Taking W 3 Empathic Concern W 3 Double Major Changed Majors Nursing Left Pre-Health	$ {2} $ ***, p<0.001 = *** ohort and gender but were for Differences in Model 5: Ingr $ \frac{b}{1.96} ** -0.12 0.37 *** 0.02 0.01 -0.26 -0.07 $	e not signficant Binding Mc oup Std. <i>B</i> -0.06 0.36 0.12 0.12 0.12 0.04 -0.12	-0.01 oral Foundations V Model 6: Ingression b S 2.04 ** -0.02 - 0.30 ** 0.00 0 0.03 0 0.00 0 -0.22 - -0.10 - -0.40 *	-0.04	Model 7: Authorit         b       Std.         2.34 ***	<i>B</i> .6 2 2 3 01 04 05 07	Model 8: Au b 2.58 *** -0.21 0.10 0.00 0.02 -0.01 -0.03	uthority Std. <i>B</i> -0.14 0.11 0.01 0.17 -0.06 -0.02	<u> </u>	b 2.06 *** 0.06 0.22 * 0.01 0.00 0.02 + 0.25 +	Std. <i>B</i> -0.04 0.23 0.09 0.03 0.19 -0.16	<i>b</i> 2.02 *** -0.03 0.22 * 0.00 0.01 0.02 -0.23	Std. <i>E</i> -0.02 0.23 0.03 0.04 0.16 -0.15

	Model 1: F	airness	Model 2	: Fairness	Model	3: Harm	Ν	Model 4: H	larm				
	b	Std. B	b	Std. <i>B</i>	b	Std. <i>B</i>		b	Std. B				
Constant	2.22 ***		2.24 *	***	2.09 *	**		2.08 ***					
Race	-0.03	-0.02	-0.03	-0.02	0.00	0.00		0.00	0.00				
/loral Foundation W 1	0.32 ***	0.35	0.32 *	** 0.34	0.37 *	** 0.43		0.37 ***	0.43				
lumility W 3	0.00	0.01	0.00	0.02	0.01	0.06		0.01	0.05				
erspective Taking W 3	0.00	0.02	0.00	0.01	-0.01	-0.09	-(	0.01	-0.09				
mpathic Concern W 3	0.00	0.03	0.00	0.03	0.00	0.04		0.00	0.03				
ouble Major	-0.18	-0.12	-0.18	-0.13	-0.07	-0.05	-(	0.07	-0.05				
hanged Majors	-0.07	-0.13	-0.06	-0.12	0.04	0.08		0.04	0.07				
ursing	-0.33 **	-0.25	-0.34 *	* -0.25	-0.12	-0.09	-(	0.12	-0.09				
eft Pre-Health	-0.04	-0.03	-0.04	-0.03	0.05	0.04		0.05	0.04				
	0.04												
		_	-0.01	-0.04	_	_		0.01	0.03				
Politics W 3	_		-0.01	-0.04		_		0.01	0.03				
<b>Politics W 3</b> p<0.1 = +, p<0.05 = *, p<0.01 = * lote: models were also controlled for co		_	-0.01	-0.04				0.01	0.03				
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## **Results/Discussion**

- about harm equally.
- are dynamic or static relative to pre-health students.
- of students, or how politics have changed.
- related to the binding domains (Davis et. al 2016).
- dataset (Davis et. al 2011).

While each moral foundation is stable throughout time, authority and purity are the most fluid. The extreme stability of harm and absence of significance in other predictors may be indicative that harm is not dependent on identity formation or that college students care

Purity appears to be the most susceptible to influence. Students who double major or have changed their major have lower levels of purity, while students who have left healthcare score higher. Therefore, changing aspects of a student's identity are predictors of purity. Nursing students have lower levels of fairness, ingroup, and purity when compared to prehealth students. Future research should determine if nursing students' moral foundations

Politics have a potent effect in the models, particularly with the binding domains. This seems to mediate the moral foundation's relationship with other variables. Previous research has established that liberals are most concerned with the individualizing domains (Graham et. al 2009), yet the opposite is true in this research where they have higher levels of authority and ingroup. This may be because of the ideology of this particular population

Race is a marginal predictor of authority, a relationship that appears to be mediated by politics. This is consistent with previous research that have found politics and race to be

Empathy has been related to moral foundations (Dawson et. al 2021), but empathic concern was found to only predict purity here. Empathy is positively correlated with humility, which was included in the models but not related to the moral foundations in this

## Conclusions

There are differences in moral foundation stability, with purity and authority being more fluid than ingroup, harm, and fairness. Additionally, clear discrepancies exist between pre-health and nursing students, as nursing students have lower levels of fairness, ingroup, and purity. Politics play a significant role in the binding domains, with liberals scoring higher in authority and ingroup.

Future research should focus on how politics may mediate the relationship between variables analyzed in this study and moral foundations. It also can continue to explore differences in nursing and other pre-health students, as well as those who left pre-health completely.

## Limitations

• The survey contains missing data due to some participants not completing all questions, as well as a small sample size. This may have been impacted by the COVID-19 pandemic as well.

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