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Assessing Achievement in Honors: The Importance of a Need for Cognition in Higher Education

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ASSESSING ACHIEVEMENT IN HONORS: THE IMPORTANCE OF A NEED FOR COGNITION IN HIGHER EDUCATION

by

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Abstract

Honors programs are increasingly common in academic institutions today. However, what makes a student successful in a program like this is not clear. Is it their ability to remember information, the amount of knowledge they have, or the way they process this knowledge? Or could it be something else like how humble they are, what political party they affiliate themselves with, their thirst for complex problems, or even their motivations for engaging in the program? Much of the academic world focuses on the concepts of intelligence, test-taking, and study habits when discussing factors that make a student successful. These factors may not, however, be as important to success as we expect. What if students are unsuccessful in programs not because they aren't smart enough, but because the program is designed in a way that pushes out conservatives, or those who do not yet possess a desire to think about complex issues?

This project aims to look at a cross-sectional analysis of several key variables in honors education at the University of Maine. I plan to examine intellectual humility, tolerance for ambiguity, need for cognition, and perceptions of political bias, and relate these variables to success in the Honors College at the University of Maine.

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Introduction

Honors programs are highly prevalent in the American educational system. They are present at over 700 different institutions across the country (nchchonors.org). Many of these programs are members of the National Collegiate Honors Council (NCHC). NCHC is the professional organization of Honors for a wide variety of programs that range from newly developed programs at two-year colleges to hundred-year-old programs at flagship universities, and programs designed as advanced versions of normal courses at the university, or great books curricula (among a few other styles). NCHC has the job of supporting all of these programs in the ways they need, and these needs are vastly different at each different type of school.

Given the diversity of these programs, I began by investigating the stated goals and missions for similarities across different implementations of honors education. I began by randomly selecting 10 NCHC institutions (sampled from a comprehensive list of NCHC affiliates by Professor Robert Glover at the University of Maine) and comparing their mission statements for common themes and goals. I found these mission statements contained some common themes that can be seen in Appendix A in the summary of programs and their mission statements.

Each of these programs details a different description of what honors aims to achieve. For example, three out of ten expressed a goal of clear communication, four out of ten discuss an interest in multi-perspectivism, and six out of ten directly mention "unique" or "enhanced opportunities" for their students. So what makes all of these things "Honors?" I found that these programs all advertised a liberal education, and many centered around several items of interest such as engaging students with difficult

problems (7/10). These items are what I will refer to as habits of mind. These habits include need for cognition (a desire to think about hard questions), tolerance for ambiguity (being able to accept answers that are not 'black and white'), multi-perspectivism (understanding view-points other than your own), and intellectual humility (having an accurate view of the importance of one's own ideas) among others.

UMaine's Honors College also expresses diverse and unique goals, but these habits of the mind are also central in their mission. The University of Maine Honors College identifies three major points in their mission statement: 1. "Critically engage students and the faculty in a shared intellectual experience based on active learning, analyses of fundamental primary sources, and extra-curricular opportunities; 2. To provide students with an exposure to and an understanding of a wide variety of disciplinary, cross-disciplinary, and interdisciplinary perspectives; and 3. To promote University-wide undergraduate research opportunities of a substantive nature based on individual faculty mentoring in the discipline." (https://honors.umaine.edu/prospective-students/mission-statement/). Here we can see the same habits of mind at play. Multi-perspectivism is discussed by addressing exposure to interdisciplinary perspectives, intellectual openness (being open to new ideas that aren't your own) is seen in understanding these perspectives, and the need for cognition can be seen in engaging students in active learning.

There is some research to support the claim that certain personality differences may be important to success. These factors though, are often presented vaguely such as in Fellowes' 2003 article where he refers, throughout the paper, to a group of undefined mental traits that come to help him in any field. But what are these factors, and how do

we get to them? Several psychologists have researched these traits, and have found correlations with success in all of these. Before discussing these findings, however, the definition and goals of a liberal education must be understood.

THE LIBERAL ENDEAVOR

Liberal education in America is a hot topic for debate in the media today, and is put up against specialization as the two major paths of education (Gordon, 2008). However, it isn't always clear what is meant by a "liberal" education. The root of the word liberal comes from the Latin "liberatus" which means freeing or liberating. This style of education argues that being broadly prepared will make you the best prepared. The Association of American Colleges and Universities (AAC&U) has developed an initiative called Liberal Education and America's Promise (LEAP), which seeks to provide a liberal education to every student in 21st century America (AAC&U, 2005). This initiative provides several goals (essential learning outcomes) which include inquiry and analysis, critical and creative thinking, communication skills, quantitative and informational literacy, and teamwork and problem solving skills. These skills are also the foundations of the educational goals set forth in Honors education.

There is also research that shows that these liberal values are actually quite important and valuable in the workplace and throughout life. Some researchers say that some of the "[f]actors considered important by the academic and business communities [were] global understanding, civic engagement, a sense of values and ethics, intercultural skills and knowledge" (Humphreys and Abigail, 2005, p. 40). These are exactly the types of values we would categorize as liberal, and also the kinds taught in Honors courses. For example some courses are developed to pursue these goals explicitly, like

the civic engagement course at UMaine in which students develop and apply these skills through working around the local community.

Others tout the benefits of a liberal education, and list the intellectual benefits of such education as "intellectual creativity, autonomy and resilience; critical thinking; a combination of intellectual breadth and specialized knowledge; the comprehension and tolerance of diverse ideas and experiences; informed participation in community life, and effective communication skills" (Axelrod, Anisef, and Lin, 2001, p. 52). These researchers, among many others, show that there is still value in these liberal teachings, and even that these traits are seen as desirable in the workplace. Honors programs put great focus on developing these traits (as seen through analysis of program missions). One factor seems to be foundational to acquiring these other factors: intellectual humility. For example, intellectual humility is absolutely vital to multi-perspectivism; you must understand that there are other ideas of merit beside your own if you want to be able to see the world through their eyes. Once humility is developed, honors programs seem to focus in on tolerance for ambiguity, intellectual openness, and need for cognition.

Humility

Humility is a personality trait that has recently become of great interest in psychology. Humility is a complex and multifaceted trait, and researchers disagree on an exact conceptual definition. For the purposes of this investigation, I will define it as an accurate understanding of self, intellectual openness, and relatively low self-focus (LaBouff et. al. 2011, pg. 2). This can be more easily described as a self-perception that is accurate as opposed to a heightened or lowered self-image. This is often seen as a positive personality trait (Emmons, 2013), but it isn't clear how important humility is for

academic success. Huelin (2003) associates humility with success in practicing and engaging in multi-perspectivism, which is especially important to the goals of UMaine's honors program.

Huelin defines multi-perspectivism as "the ability and the inclination to attend carefully and empathetically to people, texts, arguments, and artistic works that are wholly or largely foreign and to comprehend them on [one's] own terms" (2003, p. 22). This can also be thought of as the ability to view these texts from several different (sometimes opposing) points of view. For example, a practitioner of multi-perspectivism would be able to think about something controversial, and see it from the perspective of a supporter, a dissenter, a victim, and even someone who has never had any experience with the subject. Then, this individual would be able to analyze arguments for and against in terms of being in these different frames of mind. This is discussed in psychology as perspective taking, and the benefits are profound (Galinsky, A. and Moskowitz, G., 2000; Boland, R. and Tenkasi, R., 1995; Lamm, C., Batson, C. and Decety, J., 2007), including improved grades, workplace engagement, and even increased happiness.

intellectual humility. Given that humility is about accurate self-perception, it is reasonable to see how an individual might be humble specifically about their intellect. This could allow for benefits to be seen in this individual even if they are not as humble in other facets. Thanks to the Templeton Foundation, a few researchers have been able to study a sub-set of humility called intellectual humility (Meagher et. al. 2015). Intellectual humility deals with the concept of humility in direct relation to an individual's thoughts and their perceptions of the thoughts of others. These grant writers

define intellectual humility as being "characterized by love of learning and openness to new discoveries and insights." (John Templeton Foundation, The Science of Intellectual Humility, https://www.templeton.org/what-we-fund/grants/the-science-of-intellectual-humility).

Intellectual humility is directly tied to how we create and manage our beliefs, and analyzing this trait requires a very sensitive measure. The measure we used in our research (which was provided by the researchers at the Thrive Center, a foundational hub for research on intellectual humility) breaks this concept down a little more for us to get specific about what it means to be intellectually humble (Appendix B). These items include things such as "I am open to others' criticisms of my intellectual ideas" and "My intellectual ideas are usually superior to others' ideas."

The Thrive Center states that:

"[i]ntellectual humility concerns how we come to hold and retain our beliefs. It is constituted by a state of openness to new ideas, receptivity to new sources of evidence and the implications of that evidence, and willingness to revise even deeply held beliefs in the face of compelling reasons." (Thrive center for human development, 2015)

This habit of mind is discussed as having an accurate view of the relative importance of your own ideas. This means that to have intellectual humility, you must be able to see that other ideas and perspectives can have merit, not just your own. This is extremely important to developing the multi-perspectivism that we look for in honors.

As you can see, humility is a very important factor in higher education. It demonstrates an ability to assess one's own strengths, and it encourages perspective-taking. We (the student body) are asked to take in information from various sources, and to assess the world we live in using the information we have as well as the information we don't. We are also asked to reflect on our own learning (most obviously found in the

reading list portion of the senior thesis) and to accurately recognize our strengths and weaknesses. This means that humility is important to our ability to participate in our own education.

Liberal Thinking Values

Three of the habits of mind that I chose are included in the afore-mentioned liberal education values which approach how we think about our world. These three habits discuss thinking hard about complex problems, being open to new ideas, and being comfortable with uncertain answers to important questions. These three constructs were chosen because of their relationship to the objectives set forth by honors programs, and because the three of these constructs together cover most of the theoretical ground behind the deep thinking done in Honors.

ambiguity tolerance. Tolerance for ambiguity is the first of the three deeper thinking habits I looked at. Tolerance for ambiguity defines an individual's comfort with unclear situations. This definition is derived from those in the articles I reviewed; the literature on this topic includes vast arrays of definitions as well as entirely different conceptions of the subject (tolerance for ambiguity, intolerance of uncertainty, ambiguity acceptance, resilience) (Boss, 2012; Birrell et. al., 2011).

Tolerance for ambiguity has been shown (contestably and controversially) to correlate with a great number of intellectual variables. For example: Endres, Chowdhury, and Milner (2009) found that when dealing with highly complex decision-making tasks, participants who had higher tolerance for ambiguity reported higher and more accurate self-efficacy than their counterparts with low tolerance for ambiguity. This finding shows how important it is to develop a high tolerance for ambiguity in students, and

especially so in those who are pursuing careers in which they will encounter these highly complex situations more often (such as emergency room doctors, or lawyers). Further, Mahdi (2013) demonstrates the importance of this trait in our complex world by displaying how students of differing majors dealt with the ambiguity of complex world problems. He shows that some majors were more likely to believe there was a right and wrong answer to issues such as poverty and discrimination.

intellectual openness. Openness (in this case specifically intellectual openness) can be thought of as an ability to accept new ideas and experiences (adapted from Oliver, 1990). This trait is what would allow our students to accept new points of view, and to approach issues that they have not yet experienced in their own lives. The importance of this trait is profound and can be seen internationally such as in openness to new art in London, or openness to group diversity in Brisbane (Steinerman, J. et. al. 2013; Chamorro-Premuzic, T. et. al. 2009; Schneider, T. et. al. 2012; Hobman, E. Bordia, P. & Gallois, C. 2004). However, the importance of this trait for education is self-evident, and as such has not been very extensively researched. I aim in this study to assess openness as a separate construct from need for cognition and tolerance of ambiguity, and to analyze the ways in which these three similar traits work together (or separately) in our Honors students.

need for cognition. Need for cognition is described as a desire to think about difficult problems (Cacioppo, J. and Petty, R., 1982). One article (von Stumm et. al. 2011) refers to need for cognition as a "hungry mind." In this article, they posit this trait as "a core determinant of individual differences in academic achievement." (p. 574) This article shows the importance of need for cognition in the academic setting, and even

shows how integral personality traits are to academic achievement in ways that may not be directly reflected in grade point average (such as emotional and social intelligences).

Umaine's Honors College mission statement discusses "thinking hard about things that matter." This factor underlies the missions of several other programs, and there is research that shows this to be important in determining grades. Cole et al (2013) discussed need for cognition in relation to first-year students, and their perceptions of their environment as well as their academic achievement. He shows in this article that student's who enter with higher need for cognition show heightened academic engagement, and that this effect was mediated by their perceptions of support in the academic environment. In a cross-cultural replication, a Turkish university (Gulgoz; 2001) reported that need for cognition was associated both with developed study skills and with GPA, and need for cognition has even been shown to associate with students seeking advice more when dealing with a difficult task (Curseu; 2011) as well as improved memory (Hill et. al. 2013). These articles demonstrate the importance of a need for cognition in all students, and demonstrate the significance of this in a standard university education.

However, this importance is even more relevant in honors education. Honors students are asked to engage in more difficult thinking tasks, and are asked to do so at an accelerated pace. They are also asked to engage with other students and faculty in deep discussions on the importance of these issues, and in analyzing these issues. This makes a desire to struggle with hard questions even more important to their success in the program, and arguably the rest of their lives. Need for cognition becomes foundational to a student's success and persistence in the honors courses.

Measurement

Currently, we measure student success through grades. If we are measuring correctly, then student grades should predict these habits. This means that those who have developed the habits of the mind should have higher grades, increased retention, increased graduation rates, and hopefully more future success. Thus, we should expect that those students who are earning the highest grades are the students who are best developing and/or expressing the desirable habits of the mind. That is, the measure we use for student success should be associated with the goals we use to define that success. However, to confirm all of these connections, we need to use assessment to analyze each relationship.

assessment. To understand the effects of issues like liberalization, academics are pushing toward programmatic assessment. What this means (in short) is that we want to know if our grades are being predicted by the variables we want/expect. Many program heads assess the effectiveness of their own programs (Boud, D. & Falchikov, N. 2007; Brown, S. & Glasner, A. 1999; Palomba, C. & Banta, T. 1999). A Google Scholar search of "education assessment" yields about 3,500,000 results. The importance of assessment is that it allows us to see more objectively if we are doing what we aim to do (Carnicom, S. & Snyder, C. 2010; Wilson, S. & Perrine, R. 2005; Achterberg, C. 2006; Lanier, G. 2008). Honors institutions use assessment to analyze the effectiveness of our programs in instilling these habits, as well as to discover if (and to what extent) we are also producing the negative effects in students who do not already possess these traits.

Shushok (2004) calls for widespread analytical and statistical assessment of honors programs, stating: "improved assessment practices will unearth practical findings

relevant to improving [the] overall effectiveness of honors education" (Dissertation abstracts international section A: Humanities and Social sciences vol. 63). His analysis of four years of data on first-year students at Carnegie University revealed significant benefits for Honors students in GPA, and "perceived [academic] gains" across several fields. This article, however, did not provide much in the way of explicit statements of success or failure in reaching any specific goals such as improved test scores or an increase in overall GPA.

Another article (Cosgrove; 2004) examined success (academic performance, graduation rates, and other retention measures) in three groups of students: Honors, those who left Honors early, and "high ability students" who were invited to the program but declined. The analysis of his particular program indicated that three-fourths of students leave the program early, but that those who are retained perform best across all of the academic success measures. This shows us the importance of assessment in honors programs: our grading system is set up to assess the extent to which each student meets certain goals (habits of the mind), but what we can't see without assessment is whether or not those grades and goals are actually associated with one-another.

Some investigation of this topic has already been undertaken at UMaine. Slavin et al (2008) examined retention and graduation rates in honors and non-honors students. These researchers used slightly more sensitive measures of student level and achievement, and discussed the high levels of complexity in the relationship between student rank and student ability (or in this case, how well they have already developed the desired traits). They statistically controlled for high school rank and SAT scores, and found no major differences in the different groups of students upon entering the

university. They found that honors students showed a one-year retention benefit, but no difference in graduation rates. They suggest in their summary that this result may change in future evaluations (due to development of the program, attracting more or different students, or a number of other factors), and that the result may be due to controlling for variables that are a bit too broad (ex: high school rank). However, this article's population includes students from the same university, and ones affiliated with the same honors program I am analyzing, and more importantly includes appropriate statistical controls for the complex issue at hand.

The findings we have seen so far, however, don't tell us if our goals are being met. We still do not know what we are measuring with our grades. We hope that our grades measure our goals, but could they actually be measuring something else? Much research discusses what grades actually measure, and one of the biggest concerns is that they are biased. More specifically, many people today are worried that some factors, like political views, may stand as barriers to success in the classroom.

Political Liberalism Versus Liberal Education

"liberalizing" values. These overarching habits I have discussed, have been criticized as "liberalizing." A major concern in American educational institutions today is that they seem to be overwhelmingly liberal by American standards. This idea, however, is split into two different categories: political liberalism, and educational liberalism. Political liberalism is involved in voting and governmental or public policy issues; educational liberalism is concerned with the development of traits such as need for cognition, multi-perspectivism, and humility (among others).

These values do happen to be associated with more liberal political views, and this link is a huge topic of debate and is researched intensively (Gross, 2014; Publishers weekly, 2013. Vol 260, issue 8, p 157; Reisz, 2013; Wilson, 2008; Aloisi, 2015; Martin, 2015). This issue is even more pronounced in liberal educations, like what is provided in Honors education. In example of this, our mission statement sets a goal of teaching students to be able to take multiple perspectives and to understand and interpret the gray areas of the world's issues. These habits are found to be associated with political liberalism as well (Todd & Sharif, 2005; Lynch, 2010; Dittmar & Dickinson, 1993)

existence. Many arguments are made today that our universities, and all schools, are politically liberal institutions, and that this liberal position is magnified due to a liberal institution run by liberal faculty. Farris et al (2014) say, "survey results confirm that faculty are more likely to be liberal than the administration and that collectively the academy tends to be more liberal than the general public" (p. 411). However, it should be clear that this political liberalization is a side effect of education, and not the purpose. Research shows that American instructors are more liberal (by American standards), and this ostracizes conservatives thus creating a barrier to their education. Students who feel ostracized perform more poorly academically, and tend to be less persistent in programs they feel ostracized by (Gross, 2004; Linvill & Havice 2011). This trend persists across various institutions (Erlich & Colby, 2004), and research has found an impressive list of barriers created by ostracism including: "Impaired working memory, decision making, and task persistence" (Buelow et. al. 2015, p. 39), deteriorating effects on intrinsic motivation (Lustenberger and Jagacinski, 2010), and workplace deficits such as: "(1) workplace ostracism is negatively related to service performance; (2) workplace

ostracism negatively impacts employee service performance via work engagement; and (3) neuroticism strengthens workplace ostracism's direct effect on work engagement and indirect effect on service performance" (Leung et. al. 2011, p. 836).

This shows that ostracism, which may be experienced by conservative students, has serious negative consequences on performance both academically, and in the working world. Conservative students could be experiencing deficits in working memory, decision making, task persistence, motivation, and overall performance (which are all vital to a successful education) simply because of their political views. Further, Kemmelmeier et. al. (2005) found that students who held more congruent beliefs to the institution they were enrolled in had better grades than those who had more opposing beliefs. However, this effect only held true for students whose beliefs were conservative. This means that conservative students felt the additive negative effects of having opposing beliefs, but liberal students did not. It is important to note here that these findings support the theory that political affiliation is not key, but perceiving a bias due to your political affiliation is.

They found this to also be assisted by a system of self-selection bias where students tended to opt into programs that promote similar beliefs to those which they also hold, and were more likely to leave the program early if they had opposing beliefs. This could mean that these negative effects may be driving students (specifically conservative students in our case) away from these programs, or that the program selects for these students (e.g. if the grades in our program are based on an idea that is politically liberalizing, conservative students could fail out or be asked to leave if they are unable to develop this belief quickly enough while liberal students are rewarded for already

possessing this trait). This would lead us to believe that the liberal environment would pose a problem for honors programs in being inclusive of diverse opinions and perspectives (one of the foundational themes I found in my analyses of honors mission statements).

However, what about the students who aren't being selected out at the start? What happens to the conservative students who do get into the program? Does a student's political orientation moderate the effect of their honors education on the development of these important habits of the mind?

Hypotheses

I expect to find that these goals of a liberal education (the habits of mind) will be associated with success in our Honors College (operationally defined by grades) and that a student's political orientation might influence the development of those qualities in this politically and educationally liberal environment. More specifically: 1. Positive habits of the mind (i.e. need for cognition, intellectual humility, and tolerance for ambiguity) will be associated with higher grades in Honors students at the University of Maine; 2. A more liberal political affiliation will be associated with higher grades in Honors students at the University of Maine; and 3. The habits of mind will be greater in students who have been in the program longer than those who are just starting.

Methods

Participants and Procedure

At the conclusion of the 2013-2014 academic year, a self-report survey (designed through Qualtrics online software, and described below) was distributed via e-mail to all students (N=1147) who had been enrolled in an Honors course over the past four years, regardless of their current enrollment status. Students were asked to complete the survey over the course of the summer (reminded once monthly), and were compensated with a chance to win an iPod Nano.

The data were analyzed using SPSS; a statistical analysis software designed for the social sciences (IBM corporation). Descriptive statistics were analyzed for variables of interest, and each of these variables was then examined for associations with academic success (i.e., grades).

A total 158 (7.26% of the total invited population) undergraduate honors students (102 women, 51 men, and 2 other) at the University of Maine completed the online survey. The sample reported a (91.6%) White/Caucasian majority (as opposed to 77% in the university as a whole), 3.9% (n = 6) Other, with 2.6% (n = 4) not reporting, 2.6% (n = 4) Asian/Pacific Islander, 1.3% (n = 2) Native American, and .6% (n = 1) Hispanic. Our sample included 27 students (17.2%) who were about to enter their sophomore year, 56 (35.7%) about to enter their junior year, and 74 (47.1%) about to enter their senior year with only one student not reporting.

Our sample consisted of 109 (69%) Maine residents, 29 (18.4%) students from New England outside of Maine, and 17 (10.8%) from other parts of the country (a relatively similar distribution as the whole university: 77% Maine residents, 22% from

outside of Maine. A self-report of socioeconomic status showed 20.3% (32 respondents) considered themselves to come from the upper middle class, 51.9% (82 respondents) from the middle class, 19.6% (31 respondents) from the lower middle class, and 6.3% (10 respondents) from the lower class.

Measures

- Habits of the Mind
    - *Need for Cognition* – This construct, characterized as a desire to think hard about difficult problems was measured through an adaptation of Cacioppo and Petty's (1982) *Need for Cognition Scale.* This measure asks participants to indicate the extent to which they agree or disagree with several statements (e.g., "I would prefer complex to simple problems"; 1 = Very *Strongly Disagree; 9 = Very Strongly Agree*).
    - *Intellectual Humility* - This construct, characterized as an accurate perception of the importance of one's own ideas was measured through an adaptation of Barrett et. al.'s (2013, manuscript) *Intellectual Humility Scale.* This measure asks participants to indicate the extent to which they felt several statements described them (e.g., "My intellectual ideas are usually superior to others' ideas*"; 1 = Not at all like me; 7 = Very much like me*).
    - *Tolerance for Ambiguity* - This construct, characterized as an ability to accept indefinite answers was measured through an adaptation of Herman et. al.'s (2010) *Tolerance of Ambiguity Scale.* This measure asks participants to indicate the extent to which they agree or disagree with

several statements (e.g., "An expert who doesn't come up with a definite answer probably doesn't know too much"; 1 = *Strongly Disagree; 5 = Strongly Agree*). This scale is the most recent version created in collaboration of multiple experts who have done reviews of other scales for this construct. This scale, however, is not agreed on unanimously as the best (Bors et. al. 2010): the biggest concern with this scale is that it may lack validity. I decided to use this measure for a few reasons: first, it is the most commonly used measure which would allow me to compare my findings with the larger body of research using this measure; second, this scale was the most appropriate fit for the size and scope of my analysis (removing half or more of the items in one of the larger scales could have compromised their integrity); and third, the concerns about this scale are still unclear, and will need more investigation before conclusively deeming this scale unfit for use.

- *Openness to experience* - This construct, characterized as ability to accept new experiences was measured through an adaptation of John & Srivastava's (1999) *Big Five Inventory*. This measure asks participants to indicate the extent to which they agree or disagree with several statements (e.g., "I see myself as someone who is curious about many different things"; 1 = *Strongly Disagree; 5 = Strongly Agree*). This measure was cut from the final analyses due to an overlap in predictability with the other variables of interest.

- Academic Success

- Grades were collected in two ways: the first was through student self-report of their GPA, and the second was through student's official academic records.
    - "AverageGrade" is the average actual grade accessed from the University of Maine Office of Student Records. This variable was set on a ten point scale (A = 1, A- =2 … C- = 9, below C- = 10)
    - "GPA" is a self-reported grade point average (4 – point scale) from each student

These items were all part of a larger survey that measured other constructs not discussed in this manuscript.*

Results

I began by investigating the distributions of my variables of interest. Overall, we found that students were generally liberal (M = 4.67, SD = 1.46), and perceived some political bias (M = 8.10, SD = 1.11). Students also showed elevated levels of our variables of interest: need for cognition (M = 6.43, SD = 1.10), tolerance for ambiguity (M = 3.47, SD = .36), openness to experience (M = 3.83, SD = .52), and intellectual humility (M = 5.20, SD = .64). Scale reliabilities were all within the acceptable range.

To understand bivariate relationships, correlations were computed. First, as expected, the habits of the mind were inter-correlated – need for cognition, tolerance for ambiguity, openness, and intellectual humility were all significantly positively associated

* The survey includes several items (some created by the researchers) such as a scale designed to measure intrinsic versus extrinsic motivations, attitudes toward Muslims, standard demographics, perceptions of political bias, political affiliation, engagement with the program, and overall attitudes toward the program.

with one another (please see Table 1 for correlation coefficients). Second, we found that perceptions of political bias were negatively associated with intellectual humility ($p = .038$, $r = -.170$), and political affiliation ($p = .009$, $r = -.211$). Finally, we investigated relationships with self-reported and recorded academic performance (grades), finding that self-reported (GPA) and recorded grades (Average Grade) were highly correlated with one another ($p < .001$, $r = -.544$) (see footnote 1 of Table 1 for explanation of negative value), that need for cognition was associated with improved academic performance ($p = .006$, $r = -.220$) and perceptions of political bias were trending negatively ($p = .069$, $r = -.149$) (see Table 1 for all comparisons). This means that students who had higher grades also reported higher GPA, higher need for cognition, and less political bias.

Table 1

Measures	1	2	3	4	5	6	7	Mean	SD
1. Average Grade								1.78	.93
2. Reported GPA	-.544**							3.58	.34
3. Intellectual Humility	.078	-.193*						5.20	.64
4. Tolerance for Ambiguity	.020	.066	.288**					3.47	.36
5. Openness	-.061	.067	.172*	.330**				3.83	.52
6. Need for Cognition	-.220**	.133	.149	.433**	.575**			6.43	1.10
7. Perceived Bias	-.149	.156	-.170*	.020	.036	-.037		8.10	1.11
8. Political Affiliation	.007	-.028	.138	.252**	.286**	.244**	-.211**	4.67	1.46

* = p<.05, ** = p<.01, [1]AverageGrade is scored "A = 1" through "below C- = 10." A higher value denotes worse grades.

Self-reported GPA was significantly correlated with intellectual humility in the sample ($r = -.193$, $p = .016$) but was determined to be less reliable than our variable collected from the university. Our other personality factors were all correlated with each other with two exceptions: Need for cognition and intellectual humility were not related

(p = .067), and perceptions of political bias were only related to intellectual humility (*r* = -.170, p = .038) and political affiliation (*r* = -.211, p = .009). There was a significant relationship between average grade for the fall of 2014 (AverageGrade) and need for cognition (*r* = -.220, p = .006).

Next, we wanted to look at how these variables developed over time since participants were spread across 3 years of the honors curriculum. We investigated the extent to which students who had been in the program longer may self-report different levels of these habits of the mind. In our analysis, we found no significant differences in our personality factors of interest (see table 2), but did find significant differences in perceptions of political bias between pre-sophomores and pre-juniors (Mean diff. = -.64, Std. err. = .19, sig. = .001), as well as pre-sophomores and pre-seniors (Mean diff. = -.55, std. err. = .27, sig. = .043), but not between pre-juniors and pre-seniors (see charts 1 and 2 following table 2). This means that our sophomores reported more political bias than our juniors and seniors, who reported similar levels of bias.

Table 2

Dependent Variable	(A) Year	(B) Year	Mean Difference (A-B)	Std. Error	Sig.
Tolerance of Ambiguity	1	2	-.06345	.06150	.304
		3	-.20541*	.08555	.018
	2	1	.06345	.06150	.304
		3	-.14196	.08555	.099
	3	1	.20541*	.08555	.018
		2	.14196	.08555	.099
Perceptions of Bias	1	2	-.640*	.194	.001
		3	-.547*	.267	.043
	2	1	.640*	.194	.001
		3	.093	.266	.727
	3	1	.547*	.267	.043
		2	-.093	.266	.727

Greyed cells significant at the $p<.05$ level. Year: 1 = pre-sophomore, 2 = pre-junior, 3 = pre-senior.

Chart 1: Tolerance for Ambiguity by Year

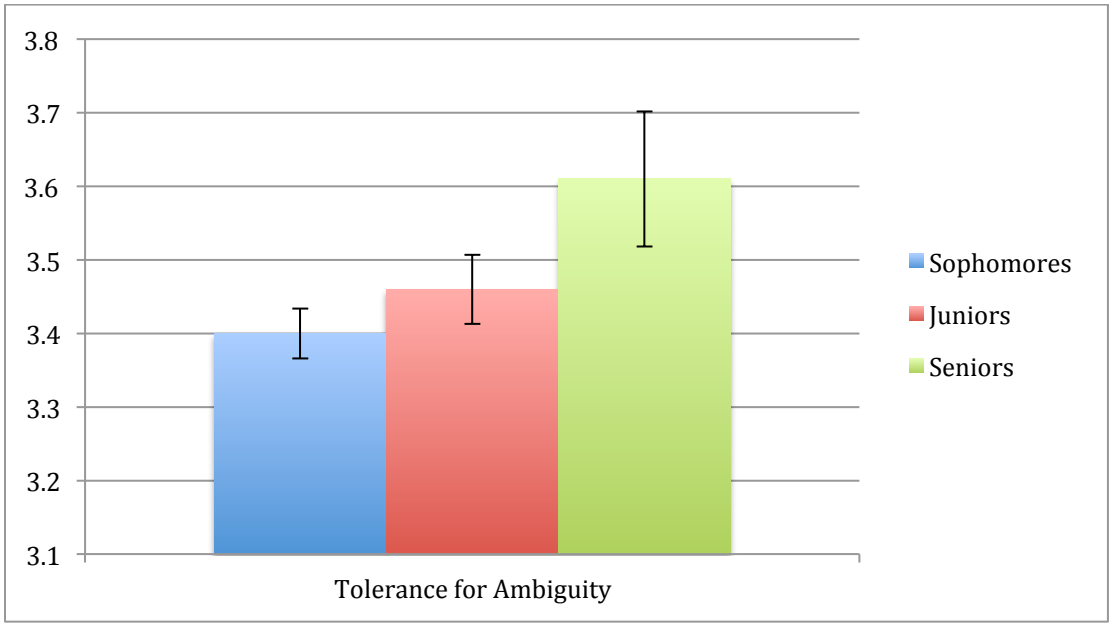
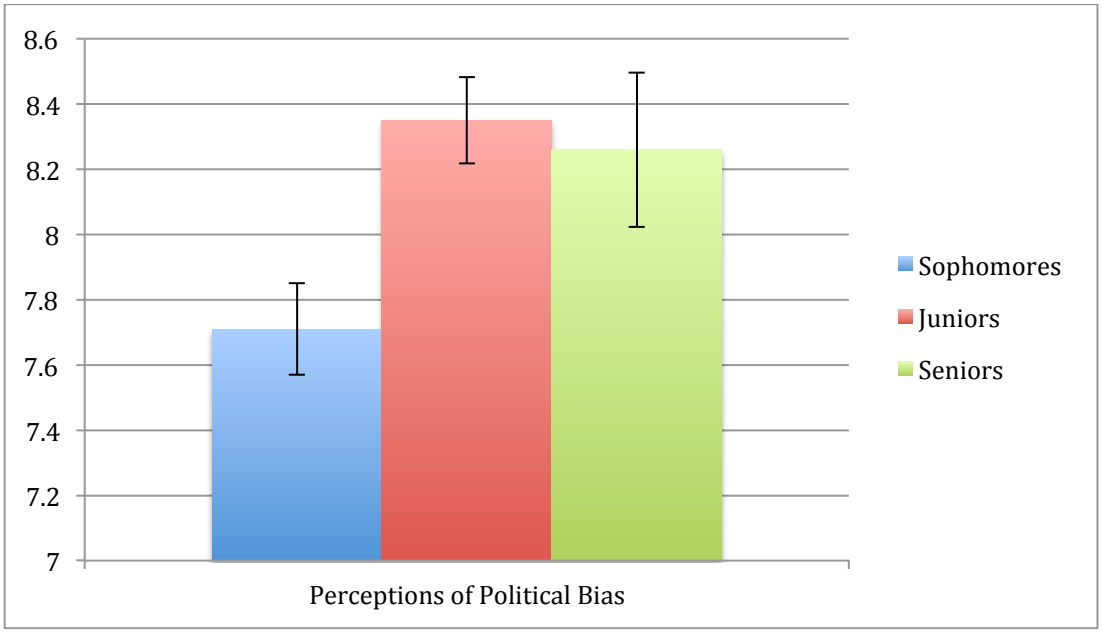


Chart 2: Perceptions of Bias by Year



Ultimately, we were interested in the extent to which these habits of the mind are associated with academic performance. We began by predicting recorded grades with all of the habits of the mind simultaneously. A regression was run to show us if two variables of interest effect unique portions of variance in the university collected grades or if they overlap. As you can see in table 3, need for cognition is the only significant predictor when accounting for the other variables of interest (p = .001, B = -.245, t = -3.27). You will also notice that perceptions of political bias were trending negatively (p = .054, B = -.129, t = -1.942). This shows us that need for cognition predicts a unique portion of variability in grades even when controlling for these other variables, and perceptions of political bias comes very close to doing so as well.

Table 3

	β	*t*	*p*	R^2
Step One				.044
Need for Cognition	-.210	-2.599	.010*	
Step Two				.064
Need for Cognition	-.277	-3.118	.002*	
Tolerance of Ambiguity	.156	1.761	.080	
Step three				.067
Need for Cognition	-.278	-3.129	.002**	
Tolerance of Ambiguity	.139	1.499	.136	
Intellectual Humility	.059	.699	.486	
Step Four				.091
Need for Cognition	-.289	-3.270	.001**	
Tolerance of Ambiguity	.154	1.677	.096	
Intellectual Humility	.031	.364	.716	
Perceptions of Bias	-.157	-1.942	.054	

*p < .05, **p<.01

Influence of Perceptions of Political Bias. Next, we investigated the extent to which perceiving a political bias was associated with academic outcomes and how it interacts with the development of our habits of the mind. Note here that political affiliation was

also measured, but perceptions of bias were the key variable. We found in this analysis that perceiving political bias was associated with poorer academic performance (see Table 5). This relationship remained significant only in conservative students when separated by political affiliation.

Table 5

Measures	1	2	3	4	Mean	SD
1. Average Grade					1.78	.93
2. Intellectual Humility	.078				5.20	.64
3. Need for Cognition	-.220**	.149			6.43	1.10
4. Perceived Bias	-.149	-.170*	-.037		8.10	1.11
5. Political Affiliation	.007	.138	.244**	-.211**	4.67	1.46

*significant at the p<.05 level. ** significant at the p<.01 level.

Summary. We found that need for cognition is a unique predictor of variability of university-collected grades. We also found that perceptions of political bias are a strong predictor, but that the significance of this drops out when statistically controlling for political orientation. We found that intellectual humility was also a strong predictor, but that the predictability here also dropped out when controlling for tolerance of ambiguity. This means that these variables are predicting and effecting the same portion of the variability in grades (as seen in regression table 3).

Other Investigations. Several exploratory relationships were examined. We found several significant differences between students who self-reported their status as a first-generation college student and those who had a family history of post-secondary education. An independent samples T-test demonstrated that first-generation students

expressed more intellectual humility (M = 5.44, SD = .51) than their counterparts (M = 5.14, SD = .65) (t (151) = 2.397, p = 0.018), and lower actual grades (M = 2.09, SD = 1.05) than their counterparts (M = 1.70, SD = .89) (t(153) = 2.097, p = .038). Though this was not a variable of interest in our study, we did find these results to be interesting.

Discussion

Throughout this thesis, I have noted the importance of several personality traits to success in an Honors education, one potential barrier to this success, and examined these factors in relation to the success of Honors students at the University of Maine. In these analyses, I found that need for cognition was a significant predicting factor in grades, and that perceptions of political bias were a trending factor in grades as well. As stated in the results section, our other personality variables were dropped from the final analysis due to overwhelming statistical similarity with need for cognition. Tolerance for ambiguity and intellectual humility can be seen in the tables and results as examples of the way in which need for cognition overshadows the effects found in other variables.

Need for cognition, a desire to think about difficult problems, was found to be the most important predictor of success. This could mean that grades in the honors program are based on a set of skills that are consistent with the goals set out in our mission. Furthermore, need for cognition showed a strong relationship with political orientation, but not with perceptions of political bias. This shows us that students who are more liberal tend to have a higher need for cognition, but this does not mean that they are more or less likely to perceive a liberal bias in the Honors College.

Perceiving political bias in the honors college was found to correlate with two of our items, however. First, perceptions of political bias were found to be associated with political affiliation. The relationship here shows us a very straightforward (and expected) trend: the more conservative an individual reports being, the more bias they report experiencing. This tells us a very interesting story, though: liberal students report very little bias in the program. These liberal students are not just reporting that they do not feel they are the victims of bias, but that they feel there isn't as much in the program in general. That is, they do not notice the bias being experienced and reported by conservative students. This could have very significant implications, and would be a great area for future research.

Intellectual humility was also correlated with perceptions of political bias. The negative relationship seen here tells us that the less intellectually humble you are, the more likely you are to perceive a political bias in the honors curriculum. What this could mean is that if you are less intellectually humble you believe that no ideas are valuable except yours, and as you interact with the honors program you see it houses a wide variety of opinions which could lead the less intellectually humble person to feel like the honors program is discriminating against them for not accepting the ideas of others. They could then interpret this bias as being politically motivated. We further found that intellectual humility was related to political orientation. This relationship calls for future research to assess if (as I suggest) political orientation is a mediator in the relationship between intellectual humility and perceptions of bias.

Tolerance for ambiguity showed no significant relationships in my sample. This lack of effect could be attributed to a small sample size, issues with scale validity, a

selection bias, or a lack of correlation in this population. Another similar item, intellectual openness, was shown to have no relationship when controlling for need for cognition. This means that intellectual openness does explain some of the variability in Honors grades, but that variability is part of the same variability that is explained by need for cognition.

One analysis was run out of curiosity, here, and it showed some interesting results. First generation college students have been shown to struggle with secondary education, and have been viewed as an at risk population in academia (Stephens, N. Hamendani, M. & Destin, M. 2001; Sirin, S. 2005; Pascarella, E. et. al. 2004; Lightweis, S. 2014; Macias, L. 2013; Ochoa, M. 2012; Chhen Stewart, L. 2012; D'Amico, M. & Dika, S. 2014). In our analysis, we found that first generation students expressed a higher intellectual humility, and lower grades. This means that being a first generation college student could be presenting a barrier in grades that mediates the association between them and intellectual humility.

Limitations & Future Directions

There are several limitations to this research. The first of these is the cross-sectional sample: future research should focus on assessing the development of these variables over the course of the program. Secondly, this sample was gathered at the University of Maine alone; future research should gather information from programs across the country of varying size. Third, many of the personality variables gathered overlap greatly; future research should determine several other unique individual predictors of success to analyze. Fourth, we found that politically liberal students did not perceive political bias within the honors program; future research could look in to

understanding why no bias is perceived (as opposed to seeing the program as biased against others) and if this has an effect on the students with similar, or dissimilar beliefs. Lastly, grades were only measured in relation to overall GPA and average grades; future research should also include honors versus non-honors grades, as well as cumulative and semesterly GPA.

Conclusions

Liberal education seeks to help students develop skills and qualities (e.g. need for cognition, tolerance of ambiguity, intellectual humility) that are deemed valuable. All of these traits were found to be related to each other in terms of the variability of grades each explained. These habits have been shown to correlate with grades in the Honors College, and correlate less strongly with success outside the program. A barrier to the development of these habits was found in perceptions of political bias: the experience of stigmatization is negatively associated with grades and in developing these traits. We have seen that for students who persist, the personality traits increase over the course of the program which may be attributable to a cultivation of these traits through the program. Lastly, we see that first generation students are a very interesting subset of this group who show heightened levels of certain traits of interest, and also lower grades overall than students with a family history of secondary education. This study significantly contributes to our understanding of what impacts our grades in the Honors College, the extent to which our students embrace the qualities we hope to teach (based on our mission), and which populations are more susceptible to negative effects of this.

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Appendix A

Program Mission Statements

- Oregon State University is one of the top 75 Honors universities in the country, and is also one of the few programs which offers a degree in Honors. This program identifies two learning outcomes in their program. The first is scholarly inquiry which is operationalized through their thesis process. The second is engaged inquiry which is defined by them as an ability to communicate and demonstrate ideas effectively to people from different perspectives. (http://honors.oregonstate.edu/about)

- Macaulay Honors College is a smaller program, and can be found at CUNY University. Their vision and mission statements say "Macaulay Honors College inspires and prepares students to solve the challenges facing New York City, our nation, and the global community" and "Macaulay Honors College offers exceptional students transformative opportunities to develop their potential beyond what they ever imagined." (http://www.macaulay.cuny.edu/about/mission.php)

- Mount Mercy University has a small honors program, and their mission statement says "The Honors Program offers accomplished students unique classes that encourage the exploration of ideas beyond traditional academic boundaries and strengthen skills that make students successful learners." (https://www.mtmercy.edu/honors-program-0)

- St. Francis College is a small college that can be found in New York City. Their honors program webpage has a description of the program. This description starts off with the question "Are you intellectually curious?" Their mission statement and other descriptors show equal emphasis on the idea of intellectual curiosity and critical thinking. (http://www.sfc.edu/page.cfm?p=4354)

- Columbia College is a community college in Missouri. The honors program here

claims that it is "designed to enhance the educational opportunities of academically gifted students who seek to participate in analytical, synthetical, and creative study. The program welcomes students who are eager to accept academic challenges and to become creatively involved in their own pursuit of educational excellence." (https://www.ccis.edu/day/academics/honors.asp)

- Massbay is the next program, and is also a community college. This program touts itself as providing "opportunities to challenge yourself and to engage with your peers, professors and the community in new ways." (http://www.massbay.edu/honors/)

- Marymount Manhattan College offers a wide variety of honors experiences, but the official honors program of the college offers more demanding 'honors gen-eds.' These are courses that are already taught and required at the university, but are set up with a more demanding criteria, and typically have a smaller class size. The program defines itself as a place where "Students take an active role in their education. They examine not only what they are taught but also how they receive, create, and share ideas with others. The College Honors Program (CHP) serves students who want and need a learning environment that is enriched with even greater academic and creative challenges, and who will work and learn with students seeking similar experiences." (http://www.mmm.edu/academics/college-honors-program.php)

- The Ohio State University at Newark Honors Program is another program which takes normal courses taught at the university, and intensifies them to create honors versions of courses already offered. This program seeks to "promote the intellectual and personal development of high-ability undergraduate students both inside and outside the classroom." (http://newark.osu.edu/academics/honors-program/)

- Delta State University's honors program is a small program, and seeks to offer "enhanced educational and cultural experiences for talented and academically committed

students within an environment that fosters discovery and creativity." (http://www.deltastate.edu/college-of-arts-and-sciences/honors-program/)

- Finally, Southeastern University has an Honors Program that is about average in size, and is also one of the Christian universities with an honors program. This program aims to be "Cultivating within its scholars a passion for developing their personal faith and higher learning so that they may pursue truth and lead lives full of good work to serve as vibrant leaders in their professions, Christian communities, and through the world in the spirit of Christ." (http://www.seu.edu/academics/honors/)

- NCHC's goal is stated to be: "To support and enhance the community of educational institutions, professionals, and students who participate in collegiate honors education around the world." This quote can be found at the bottom of their homepage (nchchonors.org).

Appendix B

The Intellectual Humility Scale

Please read each statement below and use the rating scale to indicate how well the statement describes how you actually are. (7-point Likert Scale)

1. I am open to others' criticisms of my intellectual ideas
2. I desire to be famous for an intellectual contribution
3. My intellectual ideas are usually superior to others' ideas
4. I know just about everything there is to know
5. I know what I am not good at doing
6. I am open to others' ideas about how to do things
7. I can learn from other people
8. I get excited when a friend outperforms me intellectually
9. I am an intellectually humble person
10. Other people think that I am an know-it-all

Appendix C

The Need for Cognition Scale

9-point Likert scale

For each of the following statements, please rate your agreement from very strong disagreement (-4) to very strong agreement (4).

1. I really enjoy a task that involves coming up with new solutions to problems.
2. I believe that if I think hard enough, I will be able to achieve my goals in life.
3. I am very optimistic about my mental abilities.
4. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
5. I tend to set goals that can be accomplished only by expending considerable mental effort.
6. I only think as hard as I have to.
7. I don't reason well under pressure.
8. I like tasks that require little thought once I've learned them.
9. When something I read confuses me, I just put it down and forget it.
10. I take pride in the products of my reasoning. I don't usually think about problems that others have found to be difficult.
11. I am usually tempted to put more thought into a task than the job minimally requires.
12. Learning new ways to think doesn't excite me.
13. I am hesitant about making important decisions after thinking about them.
14. I usually end up deliberating about issues even when they do not affect me personally.

15. I prefer just to let things happen rather than try to understand why they turned out that way.
16. I have difficulty thinking in new and unfamiliar situations.
17. The idea of relying on thought to make my way to the top does not appeal to me.
18. The notion of thinking abstractly is not appealing to me.
19. I am an intellectual.
20. I find it especially satisfying to complete an important task that required a lot of effort.
21. I prefer to think about small, daily projects to long-term ones.
22. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
23. I find little satisfaction in deliberating hard and for long hours.
24. I think primarily because I have to.
25. I more often talk with other people about the reasons for and possible solutions to international problems than about gossip or tidbits of what famous people are doing.

Appendix D

The Tolerance for Ambiguity Scale

5-point Likert scale

Items from Budner's (1962) original scale:

Please rate your level of agreement with each of the following statements.

1. An expert who doesn't come up with a definite answer probably doesn't know too much.
2. I would like to live in a foreign country for a while.
3. There is really no such thing as a problem that can't be solved.
4. People who fit their lives to a schedule probably miss most of the joy of living.
5. A good job is one where what is to be done and how it is to be done are always clear.
6. It is more fun to tackle a complicated problem than to solve a simple one.
7. In the long run it is possible to get more done by tackling small, simple problems rather than large and complicated ones.
8. Often the most interesting and stimulating people are those who don't mind being different and original.
9. What we are used to is always preferable to what is unfamiliar.
10. People who insist upon a yes or no answer just don't know how complicated things really are.
11. A person who leads an even, regular life in which few surprises or unexpected happenings arise really has a lot to be grateful for.
12. Many of our most important decisions are based upon insufficient information.
13. I like parties where I know most of the people more than ones where all or most of the people are complete strangers.

14. Teachers or supervisors who hand out vague assignments give people a chance to show initiative and originality.

15. The sooner we all acquire similar values and ideals the better.

16. A good teacher is one who makes you wonder about your way of looking at things.

Appendix E

The Openness Scale

5-point Likert Scale

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please select the statement which indicates the extent to which you agree or disagree with that statement.

1. I see Myself as Someone Who...
2. Is original, comes up with new ideas
3. Is curious about many different things
4. Is ingenious, a deep thinker
5. Has an active imagination
6. Is inventive
7. Values artistic, aesthetic experiences
8. Prefers work that is routine
9. Likes to reflect, play with ideas
10. Has few artistic interests
11. Is sophisticated in art, music, or literature

Appendix F

Political Affiliation

How would you identify yourself politically?

7-point Likert Scale: Very conservative, Conservative, Leaning Conservative, Moderate, Leaning Liberal, Liberal, Very Liberal

Political Bias

Do you perceive a political bias in the honors college? Please indicate below.

7-point Likert scale: Very conservative, Conservative, Leaning conservative, No Bias, Leaning liberal, Liberal, Very Liberal

Stigma Sensitivity

5-point Likert Scale

1. Political bias has not affected me personally
2. When interacting with members of the Honors College, I feel like they interpret all of my behaviors in terms of my political standing
3. My political standing does not effect how people in the Honors College interact with me

Appendix G

IRB Approval and Informed Consent

Informed Consent (Spring)

University of Maine Institutional Review Board Approved for Use Through 04/21/2015

You are invited to participate in a research project being conducted by Christopher Paradis, a Psychology Major, and supervised by Dr. Jordan LaBouff, Honors Preceptor of Psychology at the University of Maine. The purpose of this study is to investigate student experiences in the University of Maine Honors College.

You must be 18 or older to participate

What Will You Be Asked To Do?
If you decide to participate, you will be asked to answer several questions about your experiences in the Honors sequence. You will also be asked to answer several demographic and personality questions. It will take between 15 and 30 minutes to complete this survey. Consenting to participate in this survey will also give the researchers permission to confidentially link your academic records (i.e., grades, major and program affiliations, standardized test scores) to your responses. Each Spring, you will be contacted to complete a similar survey examining your experiences at UMaine.

Risks
It is possible that some questions may make you uncomfortable. You may skip any questions that you do not feel comfortable answering, and you may terminate participation at any time. You must reach the finishing page of the survey to earn entry into the raffle.

Benefits
While there are no direct benefits to you from participating in this study, your participation will help enhance our understanding of how students interact with the honors curriculum, and will provide information to better student experiences.

Compensation
Participants who reach the finishing page of the survey will be entered into a raffle for an iPod Shuffle. Winners will be selected once data collection is complete (before the end of June) and will be notified via e-mail.

Voluntary
Participation is voluntary. You may skip any questions you do not wish to answer and may terminate participation at any time without loss of entries earned. You must reach the finish page of the survey to earn entry into the raffle.

Confidentiality
Your student ID number will be used to link this survey to planned future surveys. You will be assigned a unique, random code, before analysis. The key linking that code and your student ID will be stored separately, on a password-protected drive, using software to provide additional security, in a locked laboratory or office. That key will be deleted within one year of your leaving UMaine, or 6 years after the most recent data collected from you, whichever is first. The then anonymous data will be kept indefinitely on a separate password-protected drive, using software to provide additional security, in a locked laboratory or office.

Contact Information

If you have any questions about the study, please feel free to contact Jordan LaBouff on FirstClass (Jordan.LaBouff@umit.maine.edu). Additionally, if you have any questions about your rights as a research participant, please contact Gayle Jones, Assistant to the University of Maine's Protection of Human Subjects Review Board, at 207-581-1498 (or e-mail gayle.jones@umit.maine.edu).

Do you agree to participate?

"By clicking this link I give my consent to participate in this study."

"I DO NOT consent to this study and would like to leave this website.

Informed Consent (Fall)

University of Maine Institutional Review Board Approved for Use Through 04/21/2015

You are invited to participate in a research project being conducted by Christopher Paradis, a Psychology Major, and supervised by Dr. Jordan LaBouff, Honors Preceptor of Psychology at the University of Maine. The purpose of this study is to investigate student experiences in the University of Maine Honors College.

You must be 18 or older to participate

What Will You Be Asked To Do?
If you decide to participate, you will be asked to answer several questions about your experiences in the Honors sequence. You will also be asked to answer several demographic and personality questions. It will take between 15 and 30 minutes to complete this survey. Consenting to participate in this survey will also give the researchers permission to confidentially link your academic records (i.e., grades, major and program affiliations, standardized test scores) to your responses. Each Spring, you will be contacted to complete a similar survey examining your experiences at UMaine.

Risks
It is possible that some questions may make you uncomfortable. You may skip any questions that you do not feel comfortable answering, and you may terminate participation at any time. You must reach the finishing page of the survey to earn entry into the raffle.

Benefits
While there are no direct benefits to you from participating in this study, your participation will help enhance our understanding of how students interact with the honors curriculum, and will provide information to better student experiences.

Compensation
Participants who reach the finishing page of the survey will be entered into a raffle for an iPod Shuffle. Winners will be selected once data collection is complete (before the end of October) and will be notified via e-mail.

Voluntary
Participation is voluntary. You may skip any questions you do not wish to answer and may terminate participation at any time without loss of entries earned. You must reach the finish page of the survey to earn entry into the raffle.

Confidentiality
Your student ID number will be used to link this survey to planned future surveys. You will be assigned a unique, random code, before analysis. The key linking that code and your student ID will be stored separately, on a password-protected drive, using software to provide additional security, in a locked laboratory or office. That key will be deleted within one year of your leaving UMaine, or 6 years after the most recent data collected from you, whichever is first. The then anonymous data will be kept indefinitely on a separate password-protected drive, using software to provide additional security, in a locked laboratory or office.

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Do you agree to participate?

"By clicking this link I give my consent to participate in this study."

"I DO NOT consent to this study and would like to leave this website.

IRB Approval

Office of the Vice President for Research

MEMORANDUM

TO: Jordan LaBouff
301 Little Hall

FROM: Gayle Jones
Assistant to the Protection of Human Subjects Review Board

SUBJECT: "Text Engagement in Honors," # 2012-06-18

DATE: August 25, 2015

The Institutional Review Board for the Protection of Human Subjects (IRB) approved your proposed modifications on 4/22/2014. The new approval period is now 4/22/2014 through 4/21/2015. A continuing review of this project must be conducted by the IRB before the end of the approval period, and you will receive a request for review information approximately 6-8 weeks before that date.

Enclosed are approved copies of the consent documents for this project. The approval period for these consents expires 4/21/2015. **Please be sure the approval information is on the versions you post on-line.** The Board waived the requirement for signed consent based on Section I.L.3.b. of the Policy.

Please remember any unanticipated problems or injury to the subject must be reported to the IRB. Any proposed changes to the research must be approved by the IRB **prior** to implementation. If you have any questions, please contact me at 1-1498. Thank you.