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Intersectionality of Non-normative Identities in the Cultures of Engineering Survey

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Intersectionality of Non-normative Identities in the Cultures of Engineering Purdue University School of Engineering Education

Attitudinal Profiles in Engineering Survey

We are interested in your attitudes, beliefs, perceptions, and career expectations in engineering. Please make your best estimate for each item and answer as many questions as possible. There are no right or wrong answers.

Please note:

- You must be 18 years or older to participate.
- The survey will take approximately 20 minutes to complete
- Participation is voluntary. You may withdraw at any time.
- Participation will NOT affect your grade in this course in any way.
- You will be asked for contact information (email) in case we want to contact you for follow-up observations or interviews from your survey responses. This information is voluntary and will not be shared with any third party.
- If you have questions or concerns, please contact Allison Godwin (godwina@purdue.edu).
- You can contact the Purdue University Human Research Protection Program at (765) 49-45942 or if you have any questions regarding your rights as participants.



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Part I: Community

1. We would like to know about how you feel that you fit in engineering and belong in your engineering community.

		Not at all	0	1	2	3	4	5	6	Very much so
а.	I feel comfortable in engineering.		0	0	0	0	0	0	0	
b.	I feel I belong in engineering.		0	0	0	0	0	0	0	
С.	I enjoy being in engineering.		0	0	0	0	0	0	0	
d.	I feel comfortable in my engineering class.		0	0	0	Ο	Ο	0	Ο	
e.	I feel supported in my engineering class.		0	0	0	Ο	Ο	0	Ο	
f.	I feel that I am part of my engineering class.		0	0	0	0	0	0	0	

Part II: Engineering Course

2. Students differ in what they want to get out of the courses they take. Use the scale given to rate how important achieving each of the following is to you in this class.

		Very								Very
		Unimportant	0	1	2				6	Important
a.	Doing better than the other students in this class on exams.		0	0	0	0	0	0	0	
b.	Proving to my peers that I am a good student.		0	0	0	0	0	0	0	
С.	Doing better than the other students in the class on assignments.		0	0	0	0	0	0	0	
d.	Getting a better grade than other students in this class.		0	0	0	0	0	0	0	
e.	Knowing more than I did previously about these course topics.		0	0	0	0	0	0	0	
f.	Really understanding this course's material.		0	0	0	0	0	0	0	
g.	Feeling satisfied that I got what I wanted from this course.		0	0	0	0	0	0	0	
h.	Getting a passing grade with as little studying as possible.		0	0	0	0	0	0	0	
i.	Getting through the course with the least amount of time and effort.		0	0	0	0	0	0	0	
j.	Not having to work too hard in this class.		0	0	0	0	0	0	0	



Part III: Motivation

3. The following questions relate to your attitudes and beliefs about your experiences in this course, your engineering major, and your future. Please rate your agreement for each item.

	major, and your future. Please rate your agreement for each									
		Strongly				-		_		Strongly
2	Lyvill use the information bloom in my appingering source	Disagree	0	1	2	3	4	5	6	Agree
a.	I will use the information I learn in my engineering course in other classes I will take in the future.		0	0	0	0	0	0	0	
b.	I am confident about my choice of major.		0	0	0	0	0	0	0	
C.	Engineering is the most rewarding future career I can imagine for myself.		0	0	0	0	0	0	0	
d.	My interest in an engineering major outweighs any disadvantages I can think of.		0	0	0	0	0	0	0	
e.	I want to be an engineer.		0	0	0	0	0	0	0	
f.	I will use the information I learn in this engineering course in the future.		0	0	0	0	0	0	0	
g.	What I learn in my engineering course will be important for my future occupational success.		0	0	0	0	0	0	0	
h.	I do not connect my future career to what I am learning in this course.		0	0	0	0	0	0	0	
i.	My future career determines what is important in this course.		0	0	0	0	0	0	0	
j.	I expect to do well in this engineering course.		0	0	0	0	0	0	0	
k.	I am certain I can master the skills being taught in this engineering course.		0	0	0	0	0	0	0	
I.	I believe I will receive an excellent grade in this engineering course.		0	0	0	0	0	0	0	
m.	I am confident I can do an excellent job on the assignments in this engineering course.		0	0	0	0	0	0	0	
n.	Considering the difficulty of this engineering course, the teacher, and my skills, I think I will do well in this engineering course.		0	0	0	0	0	0	0	
0.	It is better to be considered a success at the end of one's life than to be considered a success today.		0	0	0	0	0	0	0	
p.	The most important thing in life is how one feels in the long run.		0	0	0	0	0	0	0	
q.	It is more important to save for the future than to buy what one wants today.		0	0	0	0	0	0	0	
r.	Long range goals are more important than short range goals.		0	0	0	0	0	0	0	
S.	What happens in the long run is more important than how one feels right now.		0	0	0	0	0	0	0	
t.	I don't think much about the future.		0	0	0	0	0	0	0	
u.	I don't like to plan for the future.		0	0	0	0	0	0	0	
V.	It's not really important to have future goals for where one wants to be in five to ten years.		0	0	0	0	0	0	0	
w.	One shouldn't think too much about the future.		0	0	0	0	0	0	0	
x.	Planning for the future is a waste of time.		0	0	0	0	0	0	0	



Part IV: Career Expectations

4. How important are the following factors for your future career satisfaction?

		Not at all	0	1	2	3	Д	5	6	Very much so
a.	Making money		0	0	0	0	-	0	-	much 30
b.	Becoming well known		0	0	0	0	0	0	0	
С.	Helping others		0	0	0	0	0	0	0	
d.	Supervising others		0	0	0	0	0	0	0	
e.	Working with people		0	0	0	0	0	0	0	
f.	Inventing / designing things		0	0	0	0	0	0	0	
g.	Developing new knowledge and skills.		0	0	0	0	0	Ο	0	

5. How closely do the following describe you?

		Not at all like me	0	1	2	3	4	5	6	Very much like me
a.	I have overcome setbacks to conquer an important challenge.		0	0	0	0	0	0	0	
b.	My interests change from year to year.		0	0	0	0	0	0	0	
C.	I have been obsessed with a certain idea about a project for a short time but later lost interest.		0	0	0	0	0	0	0	
d.	I am a hard worker.		0	0	0	0	0	0	0	
e.	I often set a goal but later choose to pursue a different one.		0	0	0	0	0	0	0	
f.	I have difficulty maintaining my focus on projects that take more than a few months to complete.		0	0	0	0	0	0	0	
g.	I finish whatever I begin.		0	0	0	0	0	0	0	
h.	I am diligent.		0	0	0	0	0	0	0	

i

6. Please rate the current likelihood of you choosing a career in each of the following fields.

		Not at all								Extremely
		likely	0	1	2	3	4	5	6	likely
a.	Academia (Higher Education)		0	0	0	0	0	0	0	
b.	Engineering (Industry)		0	0	0	0	0	0	0	
С.	Entrepreneurship / Start a Company		Ο	0	Ο	0	0	Ο	0	
d.	Government / Policy		Ο	0	Ο	0	0	Ο	0	
e.	K-12 Education		0	0	0	0	0	0	0	
f.	Law		0	0	0	0	0	0	0	
g.	Medicine / Health		Ο	0	Ο	0	0	Ο	0	
h.	Non-profit / NGO		Ο	0	Ο	0	0	Ο	0	
i.	Other		0	0	0	0	0	0	0	



7. To what extent to you agree or disagree with the following statements?

		Stron Disagi	gly	_	, HYSI	CS		rongly Agree	Stror Disag	• ·		MATI	4		rongly Agree
		0	1	2	3	4	5	6	0	1	2	3	4	5	6
a.	I see myself as a person.	0	0	0	0	0	0	0	0	Ο	Ο	Ο	0	Ο	0
b.	My parents see me as a person.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
С.	My instructors see me as a person.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
d.	My peers see me as a person.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
e.	I've had experiences in which I was recognized as a person.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
f.	I am interested in learning more about	0	0	0	0	0	0	0	0	0	0	0	0	0	0
g.	I enjoy learning	0	0	0	0	0	0	0	0	0	0	0	0	0	0
h.	I find fulfillment in doing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
i.	I am confident that I can understand in class.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
j.	I am confident that I can understand outside of class.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
k.	I can do well on exams in	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ι.	I understand concepts I have studied in	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m.	Others ask me for help in	0	0	0	0	0	0	0	0	0	0	0	0	0	0
n.	I can overcome setbacks in	0	0	0	0	0	0	0	0	0	0	0	0	0	0

8. To what extent do you agree or disagree with the following statements:

		Strongly Disagree		ENG	INEER	ING		Strongly Agree
		0	1	2	3	4	5	6
a.	I feel like an engineer now.	0	0	0	0	Ο	0	0
b.	I will feel like an engineer in the future.	0	0	0	0	0	0	0
с.	I see myself as an engineer.	0	0	0	0	0	0	0
d.	My parents see me as an engineer.	0	0	0	0	0	0	0
e.	My instructors see me as an engineer	0	0	0	0	0	0	0
f.	My peers see me as an engineer.	0	0	0	0	0	0	0
g.	I have had experiences in which I was recognized as an engineer.	0	0	0	0	0	0	0
h.	I am interested in learning more about engineering.	0	0	0	0	0	0	0
i.	I enjoy learning engineering.	0	0	0	0	0	0	0
j.	I find fulfillment in doing engineering.	0	0	0	0	0	0	0
k.	I am confident that I can understand engineering in class.	Ο	0	0	0	0	0	0
I.	I am confident that I can understand engineering outside of class.	0	0	0	0	0	0	0
m.	I can do well on exams in engineering.	0	0	0	0	0	0	0
n.	I understand concepts I have studied in engineering.	0	0	0	0	0	0	0
0.	Others ask me for help on engineering topics.	0	0	0	0	0	0	0



9. To what extent do you agree or disagree with the following statements:

		Strongly Disagree	0	1	2	3	4	5	6	Strongly Agree
а.	Learning science will improve my career prospects.	_	0	0	0	0	0	0	0	
b.	Science is helpful in my everyday life.		0	0	0	0	0	0	0	
с.	Science has helped me see opportunities for positive change.		0	0	0	0	0	0	0	
d.	Science has taught me how to take care of my health.		0	0	0	0	0	0	0	
e.	Learning science has made me more critical in general.		0	0	0	0	0	0	0	
f.	Engineering can improve our society.		0	0	0	0	0	0	0	
g.	Engineering will give me the tools and resources I need to make an impact.		0	0	0	0	0	0	0	
h.	Engineering can improve our quality of life.		0	0	0	0	0	0	0	
i.	I see engineering all around me.		0	0	0	0	0	0	0	
j.	Engineering allows me to think deeply about problems.		0	0	0	0	0	0	0	

i

10. How accurately do the following describe you now?

		Very								Very
		Inaccurately	0	1	2	3	4	5	6	Accurately
a.	Often forget to put things back in their proper places.		0	0	0	0	0	0	0	
b.	Have a soft heart.		0	0	0	0	0	0	0	
С.	Make a mess of things.		0	0	0	0	0	0	0	
d.	Am quiet around strangers.		0	0	0	0	0	0	0	
e.	Keep in the background.		0	0	0	0	0	0	0	
f.	Sympathize with others' feelings.		0	0	0	0	0	0	0	
g.	Am interested in people.		0	0	0	0	0	0	0	
h.	Avoid my responsibilities.		0	0	0	0	0	0	0	
i.	Make people feel at ease.		0	0	0	0	0	0	0	
j.	Talk to a lot of different people at parties.		0	0	0	0	0	0	0	
k.	Leave my belongings around.		0	0	0	0	0	0	0	
l.	Feel others' emotions.		0	0	0	0	0	0	0	
m.	Am the life of the party.		0	0	0	0	0	0	0	
n.	Follow a schedule.		0	0	0	0	0	0	0	
0.	Don't talk a lot.		0	0	0	0	0	0	0	
р.	Have frequent mood swings.		0	0	0	0	0	0	0	
q.	Do not have a good imagination.		0	0	0	0	0	0	0	
r.	Have excellent ideas.		0	0	0	0	0	0	0	
s.	Get irritated easily.		0	0	0	0	0	0	0	
t.	Have a vivid imagination.		0	0	0	0	0	0	0	
u.	Get stressed out easily.		0	0	0	0	0	0	0	
۷.	Change my mood a lot.		0	0	0	0	0	0	0	
W.	Am full of ideas.		0	0	0	0	0	0	0	
х.	Get upset easily.		0	0	0	0	0	0	0	
у.	Have a rich vocabulary.		0	0	0	0	0	0	0	



11. Rate the following statements on a scale from 0 – "strongly disagree" to 6 – "strongly agree"

11.	Rate the following statements on a scale from 0 – strongly t		- su	ong	iy ag	ree				Church all i
		Strongly	0	1	r	r	4	5	6	Strongly
2	I sometimes ignore racial statements.	Disagree	0 0	1 0	2 0	3	4		0	Agree
a. b.	I believe that there are times when the use of non-		0	0	0	0	0	0	0	
υ.	standard English should be ignored.		0	0	0	0	0	0	0	
C.	I believe my culture to be different from some of my		0	0	0	0	0	0	0	
С.	teammates.		0	0	0	0	0	U	0	
h	I believe that it is important to identify the ethnic groups		0	0	0	0	0	0	0	
4.	of my team members.		U	U	U	Ŭ	Ŭ	U	Ũ	
e.	I am uncomfortable in settings with people who exhibit		0	0	0	0	0	0	0	
	values or beliefs different from my own.									
f.	I ask peers from diverse cultures how they wish to be		0	0	0	0	0	0	0	
	referred to (e.g., Caucasian, White, Anglo) at the									
	beginning of our interaction.									
g.	In a society with as many racial groups as the USA, I		0	0	0	0	0	0	0	
	expect the use of ethnic jokes or phrases by some peers.									
h.	I believe a student should be referred for testing if		0	0	0	0	0	0	0	
	learning difficulties appear to be due to cultural									
	differences or language.									
i.	I believe that the teaching of ethnic customs and cultures		0	0	0	0	0	0	0	
	is NOT the responsibility of engineering programs or									
	personnel.		-	-	-	-	-	-	-	
j.	I believe that the materials used in engineering should		0	0	0	0	0	0	0	
L.	show at least three different ethnic groups.		0	0	0	0	0	0	0	
k.	I am sometimes surprised when members of certain		0	0	0	0	0	0	0	
	ethnic groups contribute to particular team activities (e.g. non-native English speakers writing the engineering									
	report or a woman constructing a prototype with									
	powertools)									
١.	I sometimes experience frustration when working with		0	0	0	0	0	0	0	
	peers whose culture is different from my own.									
m.	I believe the solution to communication problems of		0	0	0	0	0	0	0	
	certain ethnic groups is the individual's own									
	responsibility.									
n.	I believe that the requirements for English speaking		0	0	0	0	0	0	0	
	proficiency for non-native English speakers should be									
	higher.									
0.	, , , , , , , , , , , , , , , , , , , ,		0	0	0	0	0	0	0	
	language.									
р.	I believe that my views of society should be included in		0	0	0	0	0	0	0	
	my curriculum.		0	0	0	0	0	0	0	
q.	, 8		0	0	0	0	0	0	0	
	regularly and equally. I am uncomfortable in settings with people who speak		0	0	0	0	0	0	0	
r.	non-standard English.		0	0	0	0	0	0	0	
S.	I would prefer to work with individuals whose cultures are		0	0	0	0	0	0	0	
з.	similar to mine.		0	0	0	0	0	0	0	
t.	I experience frustration when working with individuals		0	0	0	0	0	0	0	
	whose culture is different than mine.		-	-	-	-	-	-	-	
u.	l ignore sexist statements to remain part of the group.		0	0	0	0	0	0	0	



	Strongly Disagree	0	1	2	3	4	5	6	Strongly Agree
v. If you are reading this question, mark answer as a 6.		0	0	0	0	0	0	0	
 W. I believe in making adaptions to my problem solving practices to accommodate different cultures. 		0	0	0	0	0	0	0	
x. I like working on teams		0	0	0	0	0	0	0	
y. I have a lot of experiences working on teams		0	0	0	0	0	0	0	

12. Rate the following statements about yourself on a scale from 0 – "strongly disagree" to 6 – "strongly agree"

	Strongly								Strongly
	Disagree	0	1	2	3	4	5	6	Agree
a. I am inclined to speak out.		0	0	0	0	0	0	0	
b. I try out various approaches.		0	0	0	Ο	0	0	0	
c. I am looking for new ways to attain my goal.		0	0	0	Ο	0	0	0	
d. I start a new life easily.		0	0	0	Ο	0	0	0	
e. I like to imagine solutions to problems.		0	0	0	Ο	0	0	0	
f. I am a trendsetter in societal developments.		0	0	0	Ο	0	0	0	
g. I have feeling for what's appropriate in culture.		0	0	0	0	0	0	0	
h. I seek out people from different backgrounds.		0	0	0	0	0	0	0	
i. I have a broad range of interests.		0	0	0	0	0	0	0	
I. I have a broad range of interests.		0	0	0	0	0	0	0	

Part V: About You

13. What is your current major? _____

14. What year are you in college?

- O 1st Year
- O 2nd Year

O 3rd Year O 4th Year or Higher

15. Are you a transfer student?

O Yes O No



16. Please rate your current interest in each of the following majors

10.	The sector of the four current interest in cuch of the following maj		~	4	2	2		_	6	F , 1
		Not at all	0	T	2	3	4	5	6	Extremely
		interested								interested
а.	Aero/Astronautical Engineering		0	0	0	0	0	0	0	
b.	Agricultural and Biological / Biosystems Engineering		0	Ο	0	0	0	0	0	
с.	Bioengineering / Biomedical Engineering		0	Ο	0	0	0	0	0	
d.	Chemical Engineering		0	0	0	0	0	0	0	
e.	Civil Engineering		0	0	0	0	0	0	0	
f.	Computer Engineering		0	0	0	0	0	0	0	
g.	Construction Management Engineering		0	0	0	0	0	0	0	
h.	Electrical Engineering		0	0	0	0	0	0	0	
i.	Engineering Physics		0	0	0	0	0	0	0	
j.	Environmental / Ecological Engineering		0	0	0	0	0	0	0	
k.	Industrial Engineering		0	0	0	0	0	0	0	
١.	Information Technology		0	0	0	0	0	0	0	
m.	Materials Engineering / Material Science and Engineering		0	0	0	0	0	0	0	
n.	Mechanical Engineering		0	0	0	0	0	0	0	
о.	Multidisciplinary / Interdisciplinary Engineering		0	0	0	0	0	0	0	
p.	Nuclear Engineering		0	0	0	0	0	0	0	
q.	Other STEM-related Degree		0	0	0	0	0	0	0	
r.	Other non-STEM-related Degree		0	0	0	0	0	0	0	

17. How do you describe your disability / ability status? We are interested in this identification regardless of whether you typically request accommodations for this disability. (Mark all that apply)

- O A sensory impairment (vision or hearing)
- O A learning disability (e.g., ADHD, dyslexia)
- A learning disability (e.g., ADHD, dysiexia)
 A long-term medical illness (e.g., epilepsy, cystic
 A temporary impairment due to illness or injury fibrosis)
- O A mobility impairment
- O A mental health disorder
 - (e.g., broken ankle, surgery)
- O A disability or impairment not listed above
- O I do not identify with a disability or impairment

Please print your specific disability/ability statuses in the space below. Examples of statuses include: Anxiety, Bipolar Disorder, Auditory Processing Disorder, Blindness, Colorblindness, Dyslexia, PTSD, Use of a mobility aid (e.g., wheelchair), etc. Note, you may report more than one.

Disability Status(es)

18. With which racial and ethnic group(s) do you identify? (Mark all that apply)

0	American Indian or Alaska Native	0	Asian	0	Black or African American
0	Hispanic, Latino, or Spanish origin	0	Middle Eastern or North African		Native Hawaiian or Other Pacific Islander
0	White	0	Another race or ethnicity not listed	abov	e

Please print your specific ethnicities in the space below. Examples of ethnicities include (for example): German, Korean, Midwesterner (American), Mexican American, Navajo Nation, Samoan, Puerto Rican, Southerner (American), Chinese, etc. Note, you may report more than one group.

Ethnicity(s)



	19. How do you describe	you	r gender identity? <i>(Mark a</i>	all th	at apply)		
0	Female	0	Male	0	Genderqueer	0	Agender
0	Transgender	0	Cisgender	0	A gender not listed		
	20. How do you describe	you	r sexual identity? <i>(Mark a</i>	ll tha	at apply)		
0	Heterosexual / straight		O Homosexual / gay	/ les	bian O Bisexual		O Asexual
0	A sexuality not listed						
Par	21. How would your pare	ent(s) / guardian(s) describe th	eir g	ender identities? <i>(Mark a</i>	all tha	at apply)
0	Female	0	Male	0	Gendergueer	0	Agender
0	Transgender	0	Cisgender	0	A gender not listed		
Par	ent / Guardian # 2						
0	Female	0	Male	0	Genderqueer	0	Agender
0	Transgender	0	Cisgender	0	A gender not listed		

22. What was the highest level of education for your parent(s) / guardian(s)?

	Less than high school diploma	High school diploma / GED	Some college or associate / trade degree	Bachelor's degree	Master's degree or higher	Don't know
Parent / Guardian #1	0	0	0	0	0	0
Parent / Guardian # 2	0	0	0	0	0	0

23. Would you describe the occupation of any of your family members as any of the following professions? *(Mark all that apply)*

	Parent / Guardian #1	Parent / Guardian # 2	Siblings	Other Relatives
Engineering	0	0	0	0
Other STEM	0	0	0	0
Non-STEM	0	0	0	0

24. Which category best fits you and your parent(s)' or guardian(s)' background?

	Born in United States					
	Yes	No				
Me	0	0				
Parent / Guardian #1	0	0				
Parent / Guardian # 2	0	0				

25. We may contact some students to ask follow-up questions. All communications will be confidential and your email will NOT be disclosed to any third party.

Your email address: _____

You have reached the end of the survey. It is our goal that many educators will benefit from the insights you have provided! Thank you for your time.