

Supplemental Material

CBE—Life Sciences Education

Hanauer *et al.*

Appendix A: The PITS Survey

Project Ownership Content and Emotion

Rate the degree to which you agree or disagree with each statement

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My research will help to solve a problem in the world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My findings were important to the scientific community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I faced challenges that I managed to overcome in completing my research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was responsible for the outcomes of my research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The findings of my research project gave me a sense of personal achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had a personal reason for choosing the research project I worked on	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The research question I worked on was important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In conducting my research project, I actively sought advice and assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My research project was interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My research project was exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the table below you will find 5 different emotion words from a standardized emotion index. Think about the laboratory course you participated in and wherever relevant please indicate the extent to which each word describes your experience of that course

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
delighted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
joyful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
amazed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
surprised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
astonished	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Self-Efficacy

Rate the degree to which you agree or disagree with the following statement concerning your confidence in your abilities to function as a scientist in your area.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I am confident that I can use technical science skills (use of tools instruments and techniques)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can generate a research question to answer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can figure out what data/observations to collect and how to collect them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can create explanations for the results of the study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can use scientific literature and reports to guide my research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I can develop theories (integrate and coordinate results from multiple studies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Science Identity

Rate the degree you agree or disagree with the following statements concerning your sense of yourself as a scientist who undertakes research activities

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have a strong sense of belonging to the community of scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I derive great personal satisfaction from working on a team that is doing important research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have come to think of myself as a 'scientist'	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I belong in the field of science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The daily work of a scientist is appealing to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Scientific Community Values

Please read each description and think about how much each person is or is not like you. Check the answer that best reflects how much the person in the description is like you.

	Not like me at all	Not like me	A little like me	Somewhat like me	Like me	Very much like me
A person who thinks discussing new theories and ideas between scientists is important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person who thinks it is valuable to conduct research that builds the world's scientific knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person who thinks that scientific research can solve many of today's world challenges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person who feels discovering something new in the sciences is thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Networking

Rate the degree to which you agree or disagree with the following statements dealing with the discussion of your research

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have discussed my research in this course with my parents (or guardian)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discussed my research in this course with my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discussed my research in this course with students who are not in my class but in my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discussed my research with students who are not at my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discussed my research in this course with professors other than my course instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>