

Purpose and Research Question

Context: Student engagement in co-curricular experiences has received considerable attention:

- Involvement is related to college retention and graduation
- Unclear how involvement is different for diverse student populations (e.g. students from different academic fields)

Research Question: *What outcomes are produced when engineering undergraduates are involved in co-curricular experiences?*

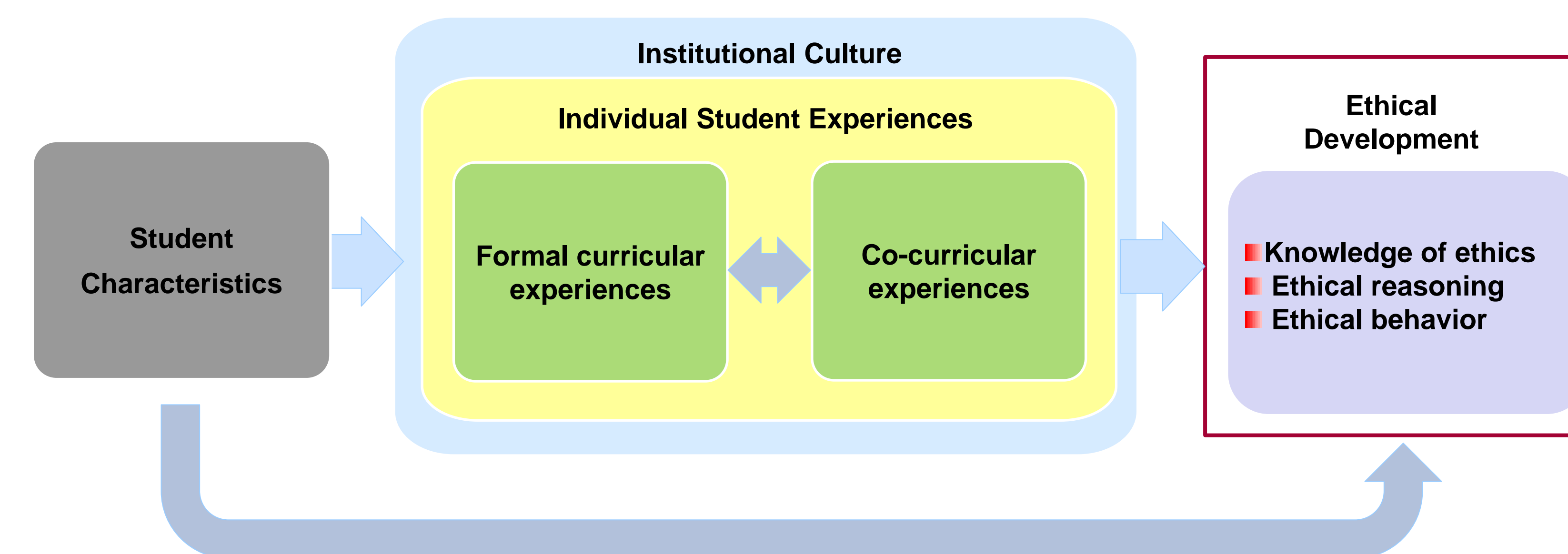
Methodology

- Interviews were transcribed verbatim
- **Grounded Theory** was the qualitative technique used to understand the phenomenon from the data
- **Open Coding** identified possible explanations at each school
- **Axial Coding** grouped related codes across the four schools
- **Emergent categories and themes** were created

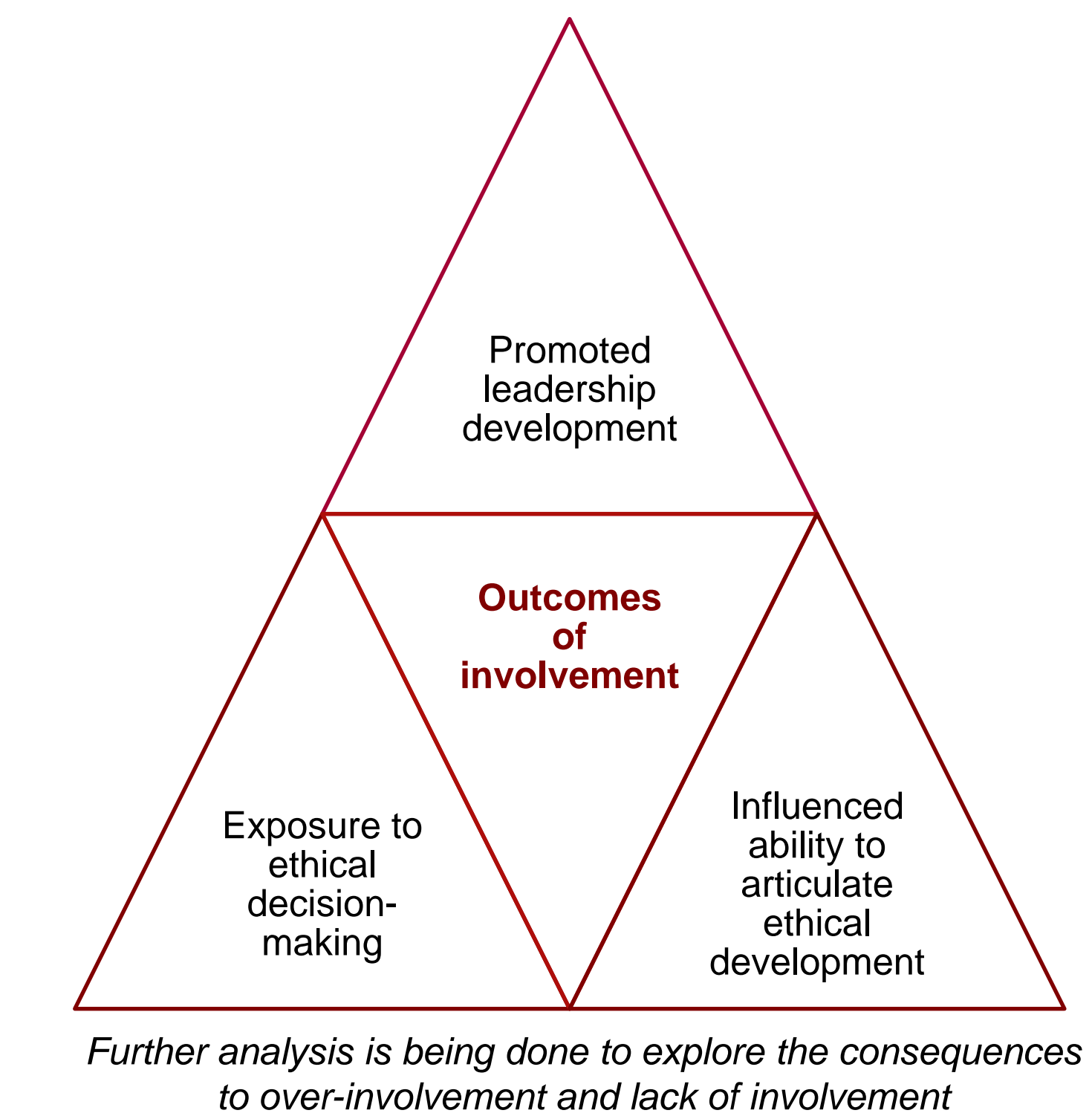
Participant Demographics

- Number of participants
 - 23 students, 31 faculty
- **Gender**
 - Males – 20 students; 19 faculty
 - Females – 12 students; 6 faculty
- **Race** - majority of focus group participants were White, with a small number of Asians and Hispanics comprising the faculty focus group participants
- **Tenure** – 12 faculty members were tenured

Our Conceptual Model of Students' Engineering Ethical Development



Research Findings



Student Populations

- Common student characteristics
 - Described as hard-working, focused, and high-achieving
- Different student characteristics
 - Students at some institutions were extremely involved in co-curricular experiences, students at other institutions were not

Themes

- Involvement promoted leadership development
 - Students modeled positive behavior to student peers
 - Students recognized their strengths and weaknesses
- Involvement exposed students to ethical decision-making
 - Students felt empowered to address unethical behaviors exhibited by peers
 - Students discussed ethics more frequently in co-curricular experiences than in the classroom
- Involvement influenced students' abilities to articulate ethical development
 - Students described ethical development as personal growth
 - Students described a process used to make decisions

Participant Quotes

Our students really do nothing but school, uh, you know, are not involved in extracurricular activities in any meaningful way, do not have big lives outside of school, they just do this. (Faculty member, University 1)

I learned about it [leadership] from my fraternity...at University 3...We have regional leadership academies, leadership institutes over the summer that you go on and you learn how to better use your skills to become a better leader or what are some of the characteristics that you wanna build upon, where your weaknesses and strengths are and how you could use it...what your abilities are to be the most ideal leader for yourself and, then, the big thing is, you know, leadership can be learned. (Student, University 3)

I feel like there is that atmosphere where it's like...when people cheat they're not only like cheating themselves of the material, they're like cheating other students and like since you are so close to everyone, like there is just like this sense of obligation where you shouldn't do that. (Student, University 2)

I think a lot of it is just personal growth...Every single time that I take a test and I could look at someone's paper...I don't, like, yay, me. And so like that, to me, is like me doing ethical behavior...I think part of it is just me getting older and having more opportunities to do something unethical and not taking them. (Student, University 2)