

MOTIVATION

This project aims to understand the difference between students that intern and don't intern.

Internships [7]

- strengthen students' commitment to CS
- promote professional growth
- encourage students' to explore CS careers

&

Internships Play a Role in Full Time Employment [8]

52% Intern / **38%** No-Intern

However, only 52.1% students pursue an internship before they graduate [8].

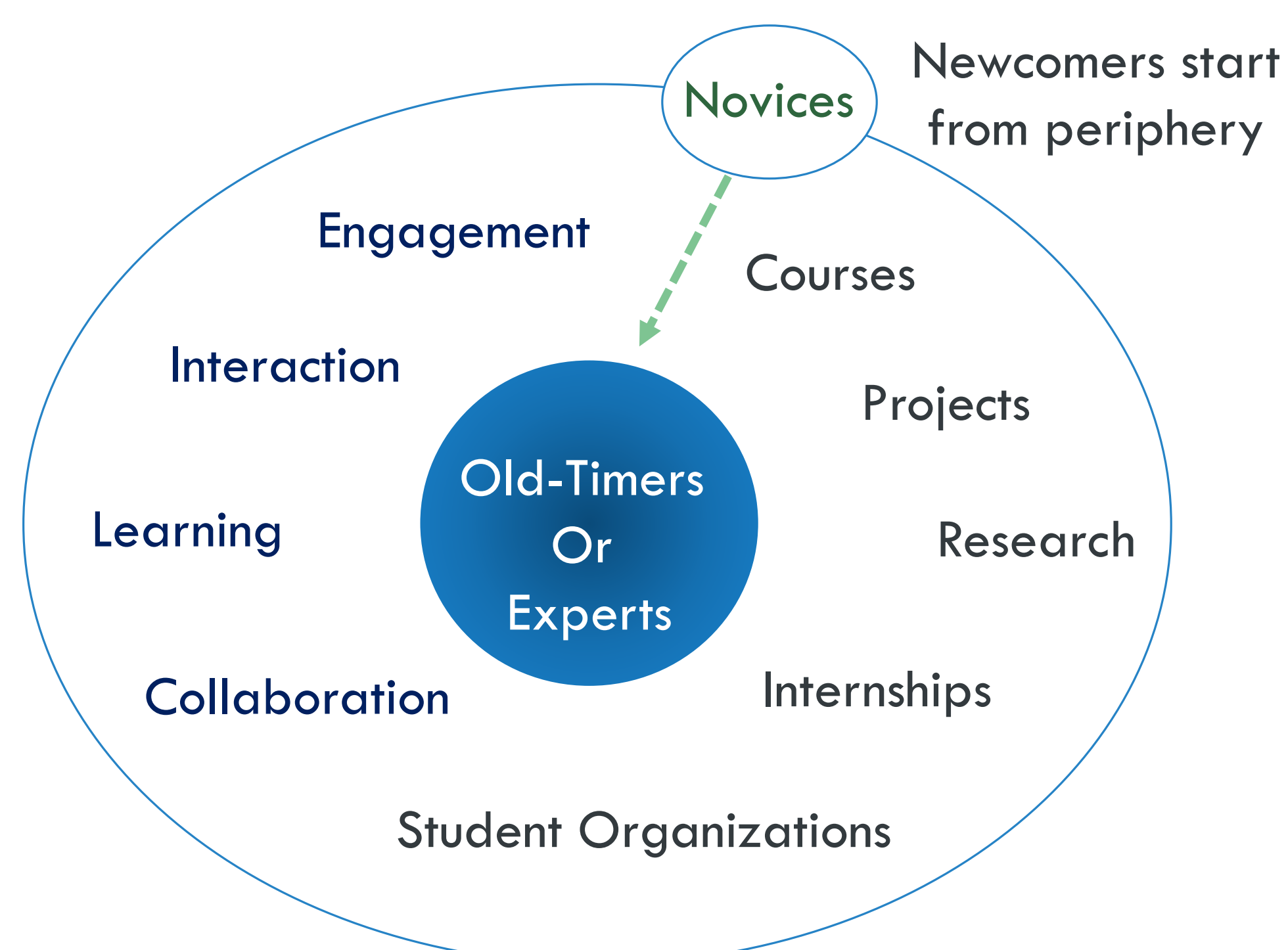
PREVIOUS WORK IN PROFESSIONAL DEVELOPMENT IN CS EDUCATION LITERATURE

- Project Based Courses (Dean et. al.) [3]
- Capstone Projects (Parker) [9]
- Research (Alvarado and Spring) [1]
- Experience in internship programs developed through industry-academia partnerships (Fryling et. al.) [5]
- Industry internship experiences (Kapoor) [7]

THEORETICAL BACKGROUND

Lave & Wenger's Communities of Practice

Communities of Practice help students become technically competent and gain a sense of belongingness [12].



Internships

provide access to

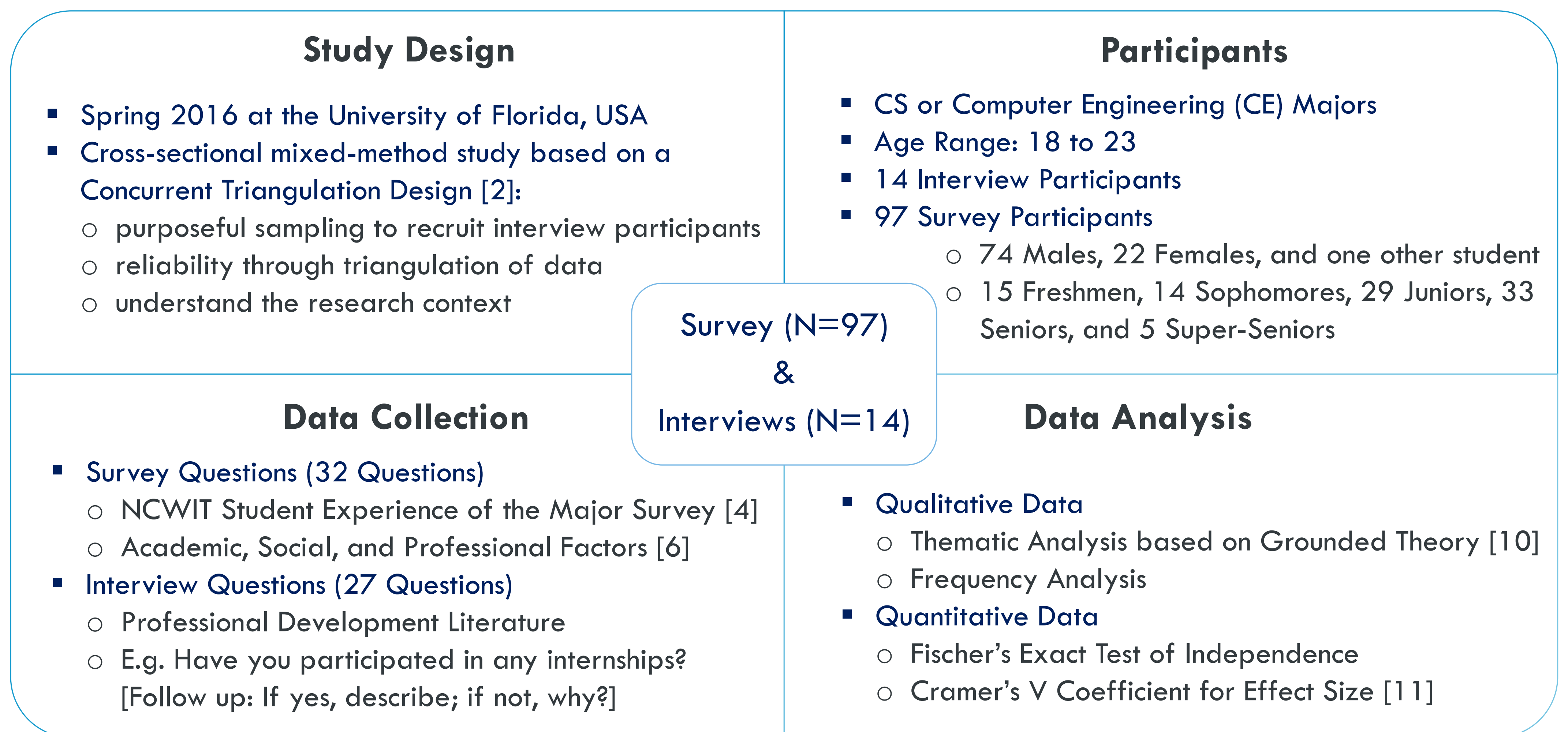
Computing Communities of Practice

REFERENCES

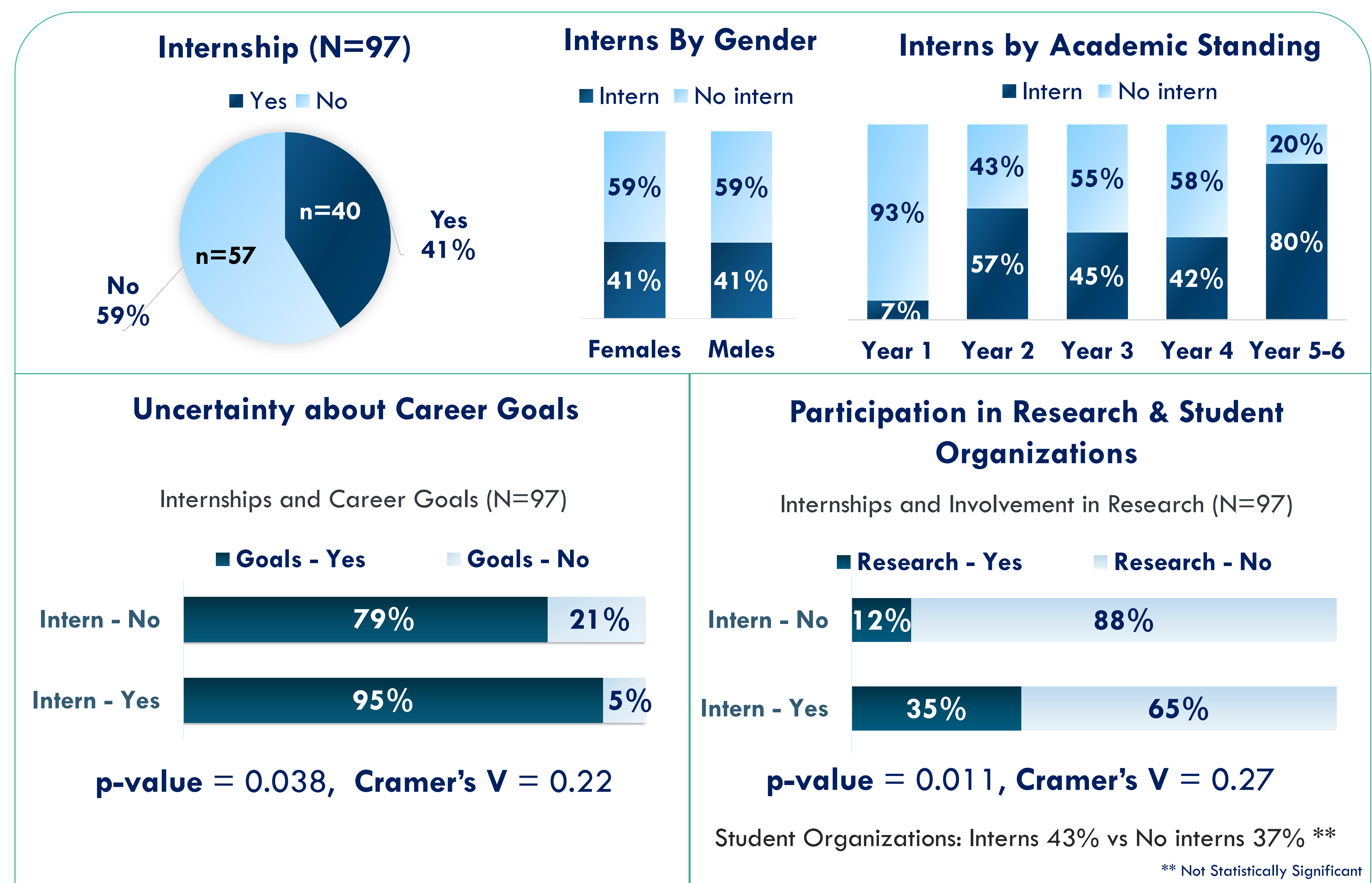
- Alvarado, C. and Spring, N. 2018. Successfully Engaging Early Undergraduates in CS Research. Proceedings of the 49th ACM Technical Symposium on Computer Science Education - SIGCSE '18 (New York, USA), 1050-1050.
- Creswell, J. 2017. Research design: Qualitative, quantitative, and mixed methods approaches.
- Dean, C., Lynch, T.D. and Rammath, R. 2011. Student perspectives on learning through developing software for the real world. 2011 Frontiers in Education Conference (FIE) (Oct. 2011).
- Student Experience of the Major (SEM): https://www.ncwit.org/sites/default/files/resources/sem_survey_in_a_box_0.pdf. Accessed: 2018-01-21.
- Fryling, M., Egan, M., Flatland, R.Y., Vandenberg, S. and Small, S. 2018. Catch 'em Early: Internship and Assistantship CS Mentoring Programs for Underclassmen. Proceedings of the 49th ACM Technical Symposium on Computer Science Education - SIGCSE '18 (New York, New York, USA, 2018), 658-663.
- Kapoor, A. and Gardner-McCune, C. 2018. Considerations for switching: exploring factors behind CS students' desire to leave a CS major. In Proceedings of the 23rd Annual ACM Conference on Innovation and Technology in Computer Science Education (ITICSE 2018). ACM, New York, NY, USA, 290-295. DOI: <https://doi.org/10.1145/3197091.3197113>
- Kapoor, A. and Gardner-McCune, C. 2018. Understanding Professional Identities and Goals of Computer Science Undergraduate Students. Proceedings of the 49th ACM Technical Symposium on Computer Science Education - SIGCSE '18 (New York, New York, USA, 2018), 191-196.
- National Association of Colleges and Employers. 2014. The Class of 2014 Student Survey Report. Retrieved August 31, 2018, from www.naceweb.org
- Parker, R. 2018. Developing Software Engineers. Proceedings of the 49th ACM Technical Symposium on Computer Science Education - SIGCSE '18 (New York, New York, USA, 2018), 276-276.
- Strauss, A. and Corbin, J. 2008. Basics of Qualitative Research: Techniques and procedures for developing grounded theory. DOI: <https://doi.org/10.4135/9781452230153>
- Cohen, Jacob, 1988, Statistical power and analysis for the behavioral sciences (2nd ed.), Hillsdale, N.J., Lawrence Erlbaum Associates, Inc
- Wenger, E. 1998. Communities of Practice: Learning, Meaning, and Identity. Cambridge university press. DOI: <https://doi.org/10.1017/CBO9780511803932>

METHODS

Research Question: How do CS undergraduate students who have interned at one or more companies differ from those who have not interned?



FINDINGS



Internships: Application Process and Preparation (Interviews, N=14)

Students who interned were:

- intentionally preparing for interviews
- involved in professional development activities

"Well, I attend a lot of professional development workshops, put on like through the department, like WICSE hosts a lot of different ones where they bring in companies that do resume critiques and mock interviews, so I've done those to make sure I'm prepared for interviews, and they really help."

- A Sophomore Female

Students who did not intern were:

- not actively preparing
- unsuccessful in the interviews
- lacked confidence to apply for internships
- self-evaluated themselves as inexperienced

"I guess I didn't really try for an internship until a couple of semesters ago, and I got a few interviews, and I didn't make any of them. And then this last semester I was applying for full-time jobs, so that was a little different."

- A Senior Male