Enablers, Barriers, and Precursors to the Development of Systems Thinking in Engineers
Heidi Davidz
Advisor: Professor Deborah Nightingale

Motivation
- Increasing interest in systems thinking
- Data needed on systems thinking development

Field Studies
- Work in multiple aerospace companies
- Interview expert panelists on how each company develops systems thinking
- Administer survey, personality test, and interview to compare characteristics and development histories of:
  1. Senior systems engineers
  2. Junior systems engineers
  3. Senior technical specialists

Methodology
1. Literature review
2. Pilot interviews
3. Field studies on systems thinking development
4. Identify enablers, barriers, & precursors

Anticipated Results
- Quantitative comparisons of the three subject groups
- Information of how companies currently develop and assess systems thinking
- Analysis of enablers, barriers, and precursors to the development of systems thinking in engineers

How do senior systems engineers develop?
- Innate traits
- Job rotations
- Training classes
- Systems work roles
- University programs

Which methods are most effective in developing systems thinkers?