

IOWA STATE UNIVERSITY

School of Education

# A Systematic Review of the Intersections of Engineering Identity and Financial Need Literature

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# Engineering Identity & Students with Financial Need

- Need high-quality, diverse engineering workforce; all socio-economic levels access and complete engineering degrees.
- Students from low-socioeconomic backgrounds and students with financial need may experience difficulty seeing themselves as engineers.
- Little research has connected the concepts of engineering identity and financial need.

# Purpose

- Part of a Larger National Science Foundation Grant
  - SSTEM - Collaborative Research: ECSEL Scholarship Program (Electrical, Computer, and Software Engineers as Leaders) (#1565130)
- Systematic Review
- Engineering Identity, Financial Need



# Systematic Literature Review Process

- Filters
  - Peer-reviewed
  - 2000-present
- Databases
  - Compendex
  - EBSCOhost
  - PsychINFO
- n=11 articles relevant to Engineering Identity and students with Financial need

# Overview of the Findings

Multitude of different frameworks used to examine engineering identity and financial need

Majority of studies employed mixed methods

Studies investigated a variety of engineering disciplinary contexts

Literature focus limited

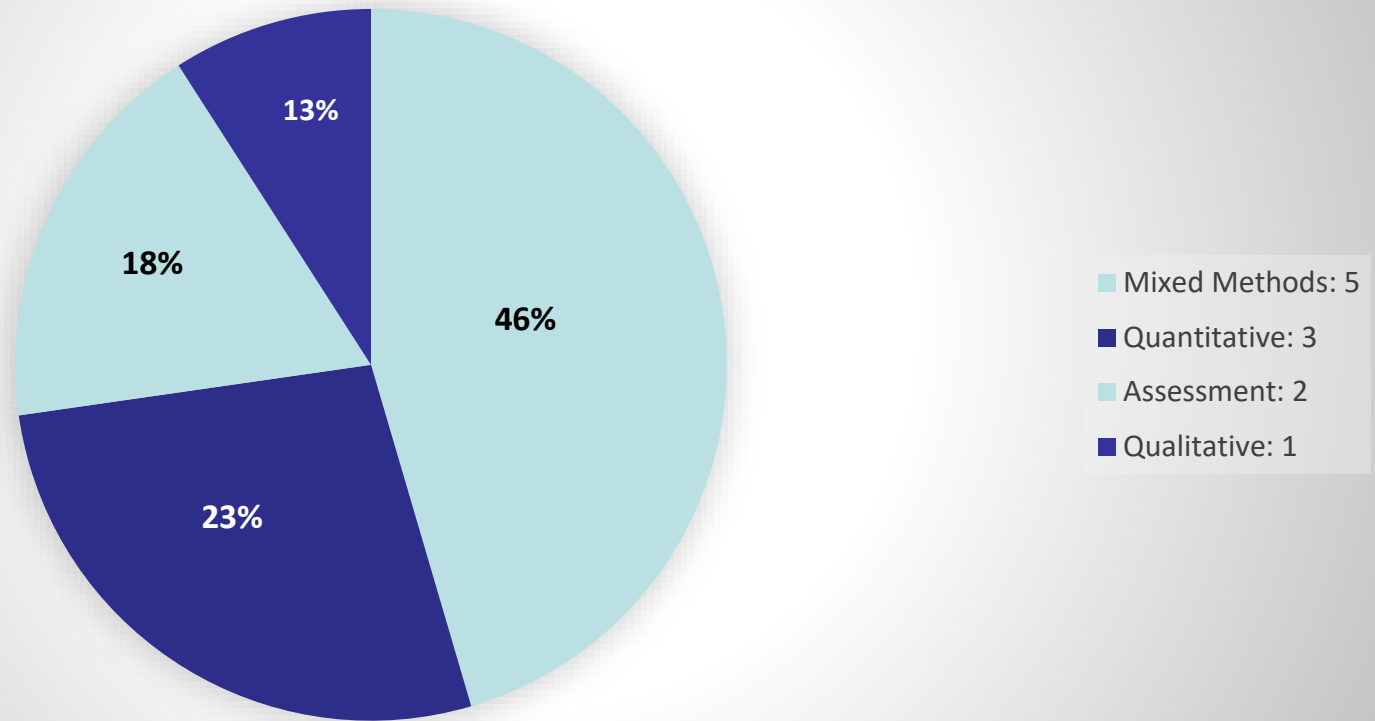
# Multitude of different frameworks used to examine engineering identity and financial need

## Compendex

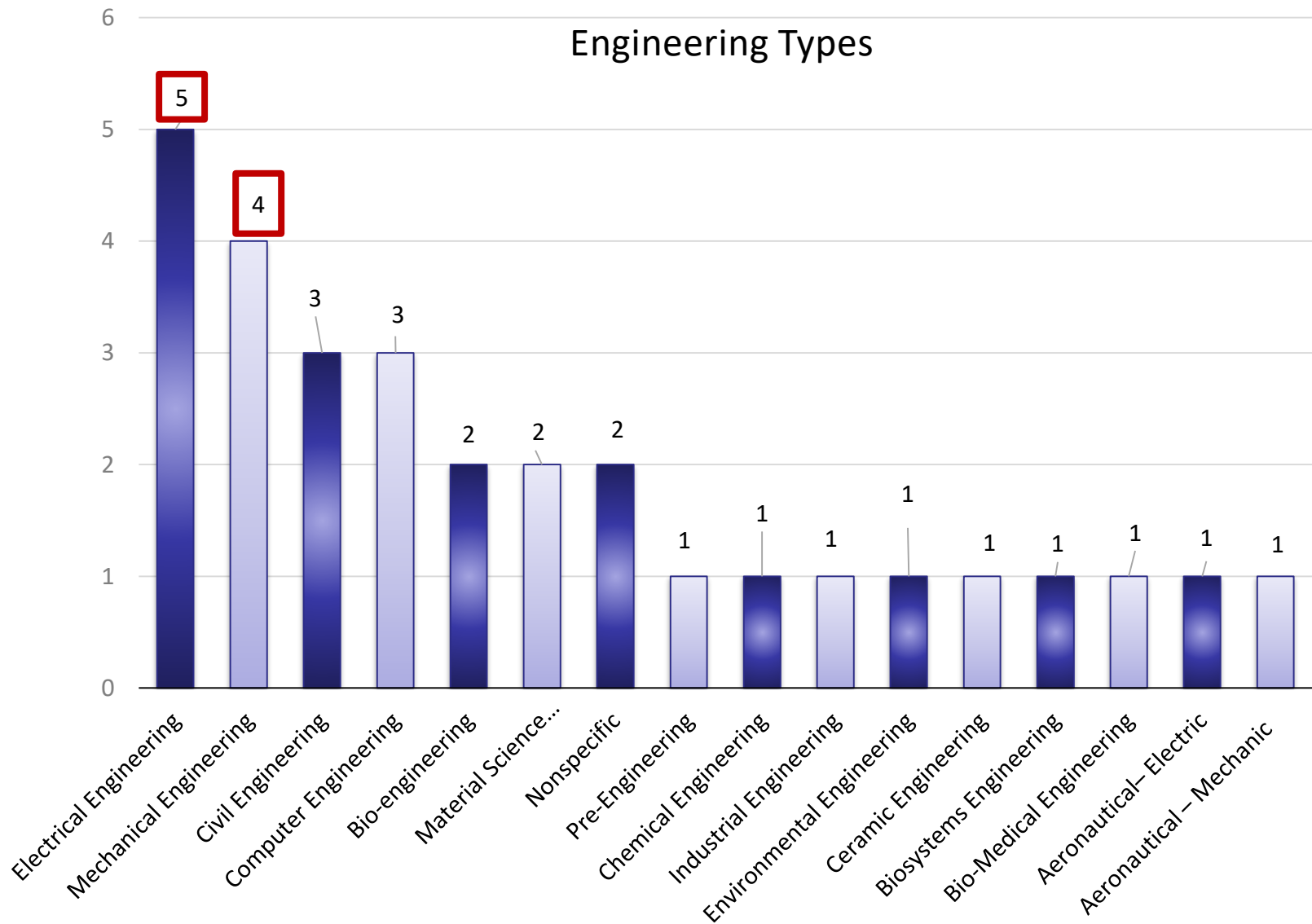
- Critical Pedagogy
- Cultural capital
- Feminist Theory
- Intersectionality
- Motivation Theory (3)
- Social Capital
- Student Development Theory (2)
- Value co-creation theory

# Majority of studies employed mixed methods

## Compendex

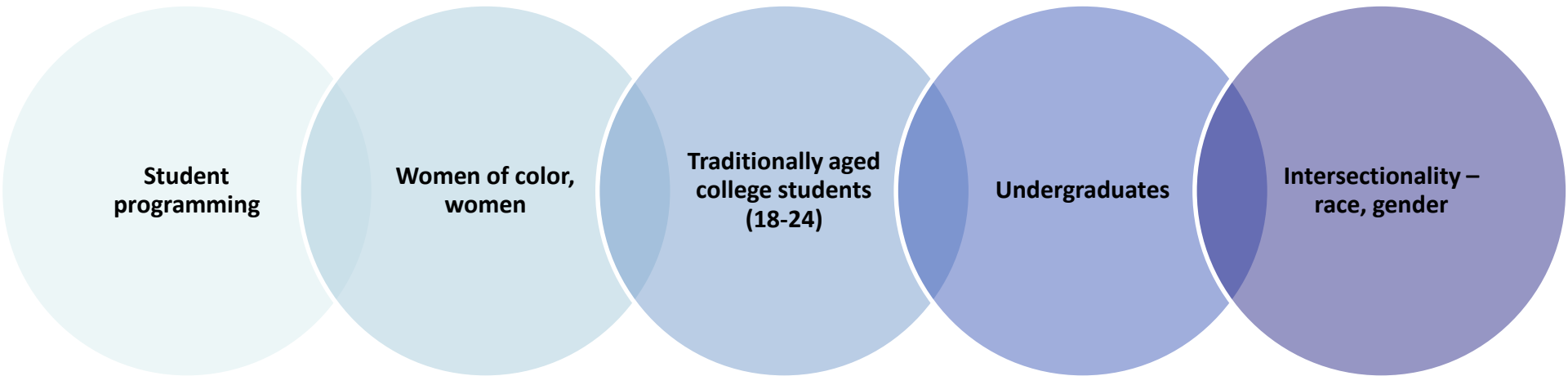


# Studies investigated a variety of engineering contexts





# Topical Slide



# Implications: Future Research

Engineering  
identity models  
+ finance

Creative mixed  
methods; qual

Pre-  
engineering;  
subdisciplines

Settings and  
populations

# Implications: Policy & Practice

Considering  
identity and  
financial need

Engineering as an  
identity process

Contextualizing  
by sub-discipline

Understanding  
factors of identity  
for students with  
financial need

# QUESTIONS?

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