

PERCEPTIONS OF DISTRICT CURRICULUM ADMINISTRATORS REGARDING K-12 ENGINEERING EDUCATION

PURPOSE: This exploratory study will reveal the perceptions of school district curriculum administrators regarding K-12 engineering education to identify areas to support district implementation of engineering education.

METHODS: The Engineering Education Survey –

- Modified refined Design, Engineering, and Technology Survey
- 46-question ordinal bi-polar closed ended (five-point Likert scale)
- Online via e-mail (Qualtrics®)

RESEARCH POPULATION & SAMPLE:

Curriculum administrators contacted: 260

- Fifty-seven (57) started
- Forty-three (43) completed the survey

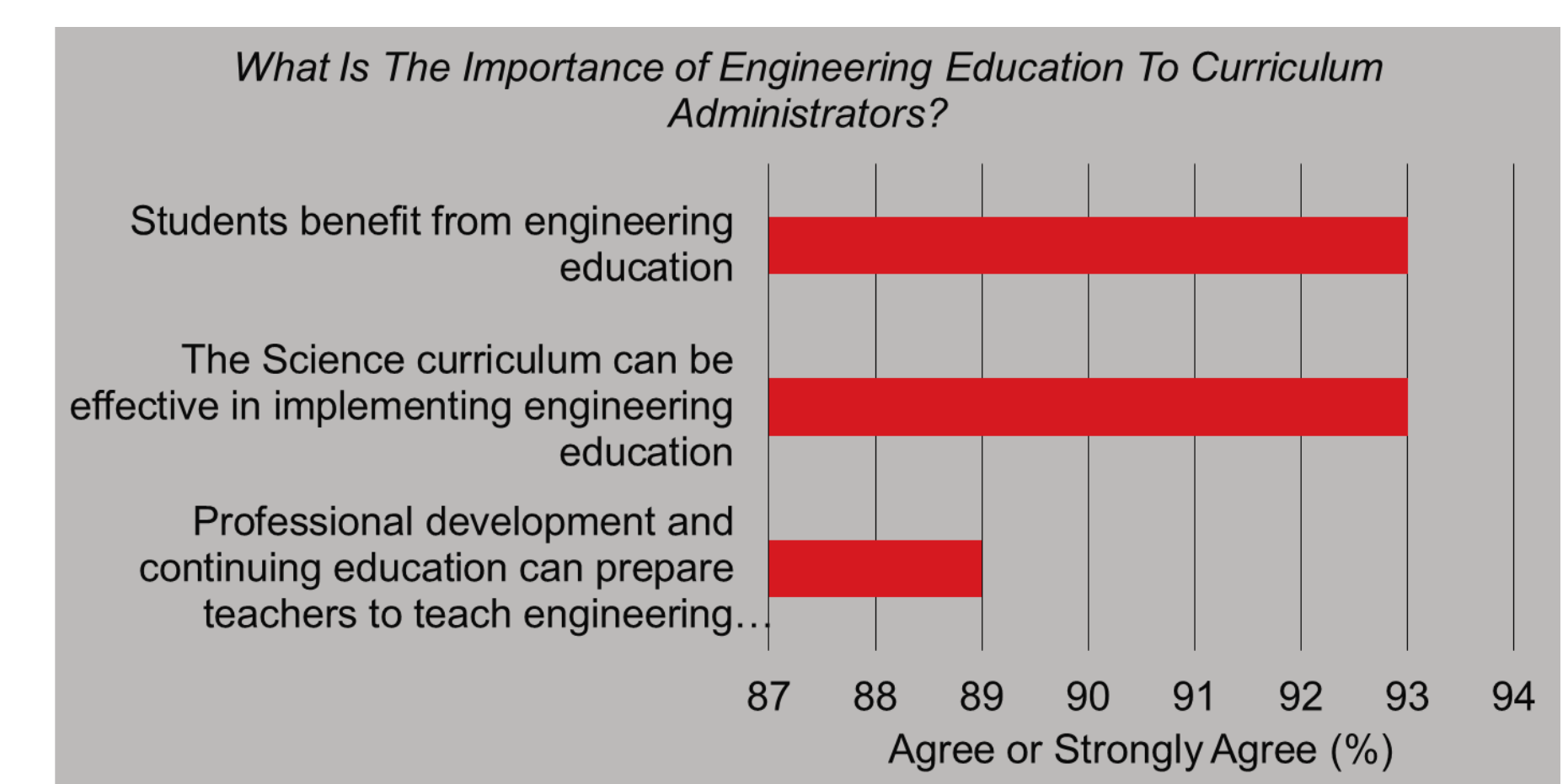
Curriculum Level	N	%
K-5	7	16.3
5-8	3	7.0
9-12	1	2.3
K-8	1	2.3
5-12	3	7.0
K-12	28	65.1

	State Population Density		Survey Participants	
	N (1,920,076)	%	N	%
West	154,406	8.0	7	16.3
Central	256,933	13.4	8	18.6
East	1,508,737	78.6	28	65.1

RESEARCH: What are the perceptions of school district curriculum administrators regarding K-12 engineering education?

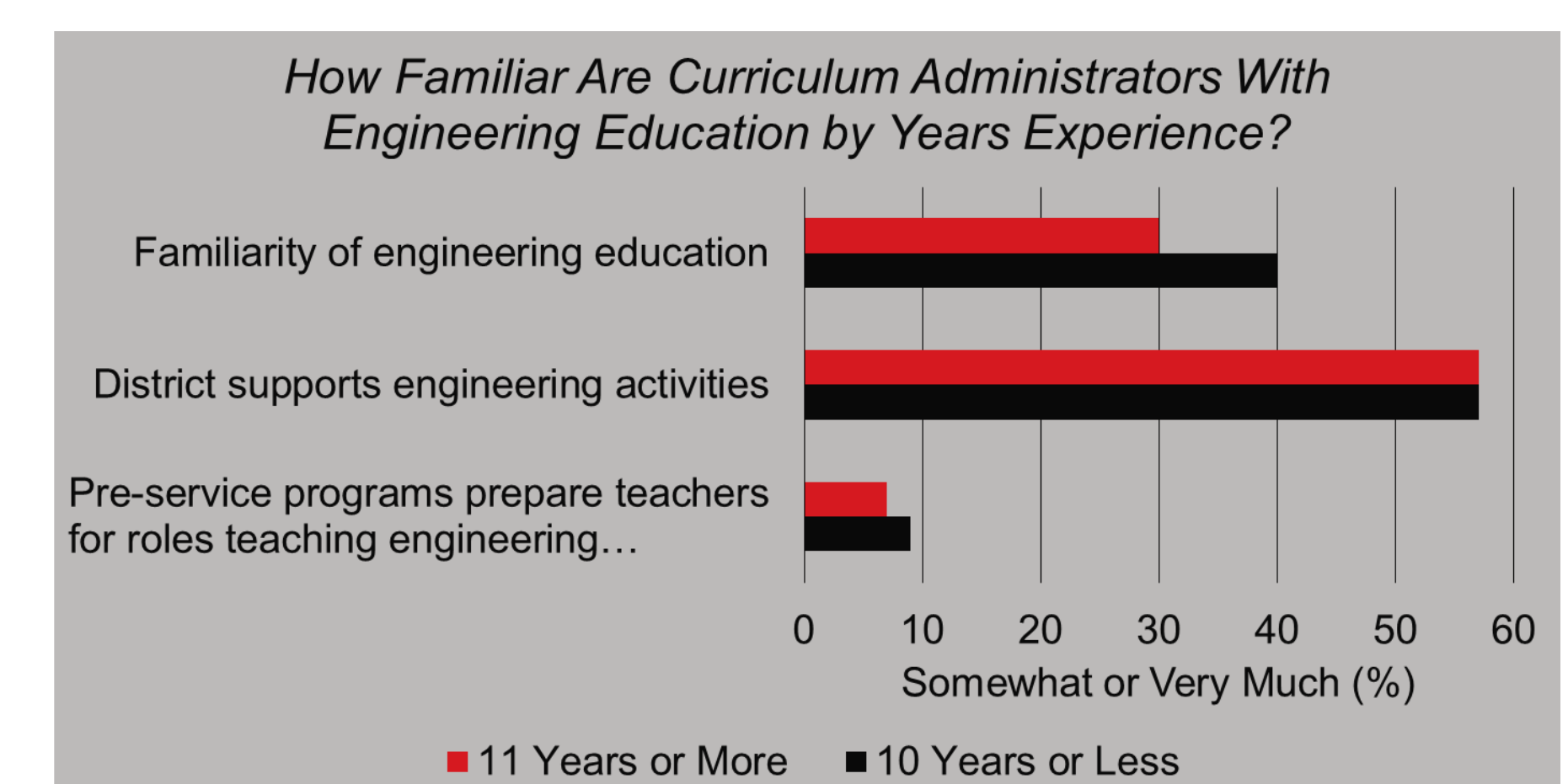
Sub-Research Question 1: What is the importance of engineering education to curriculum administrators?

- Process and design of solutions
- Preparation for workforce or post-secondary education
- EDP for science and math inquiry
- Authentic experiences



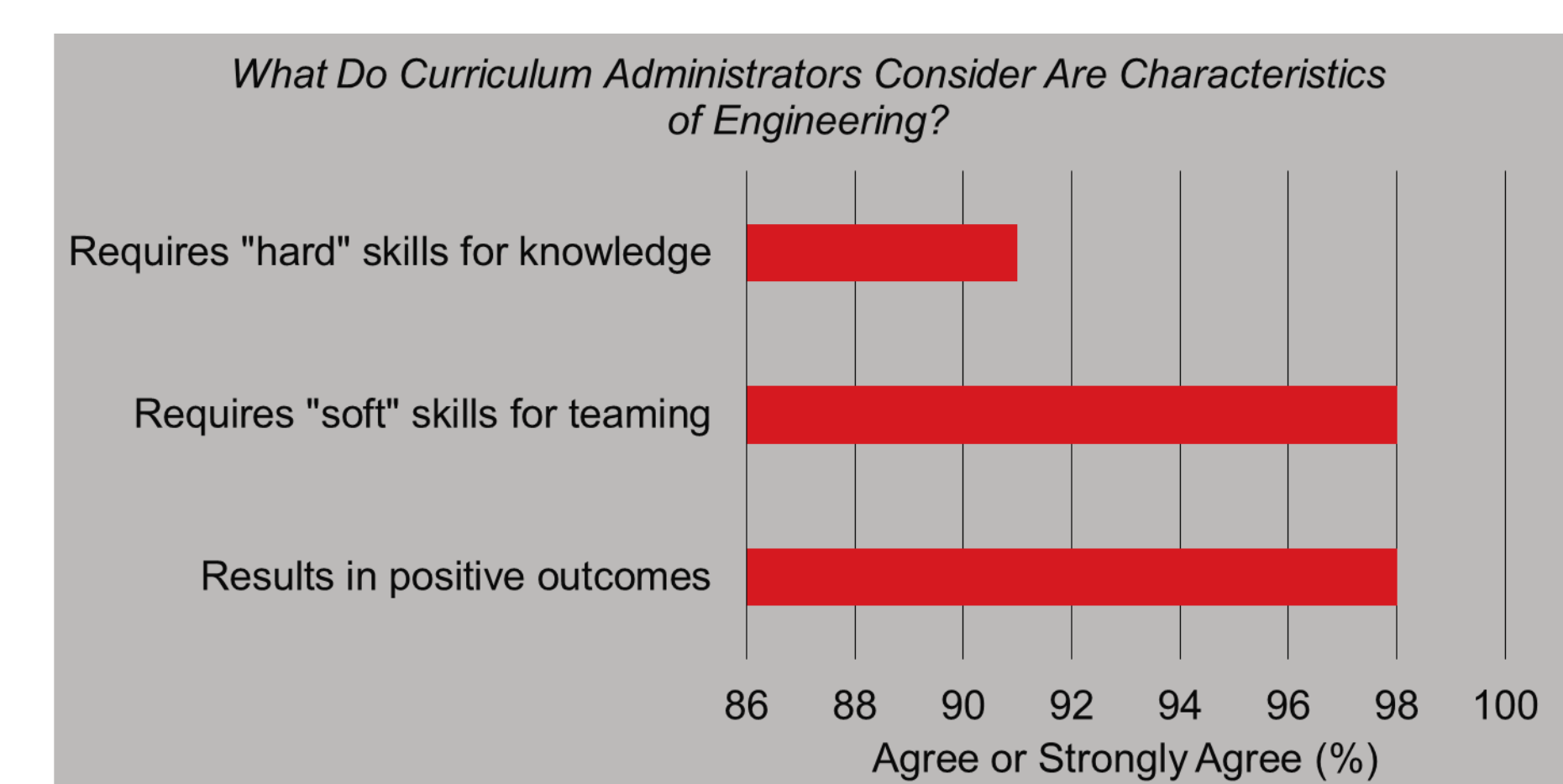
Sub-Research Question 2: How familiar are curriculum administrators with engineering education?

- Pedagogical Content Knowledge
- Summer professional development
- Extant assessments
- SLED, EDCOR, TESS



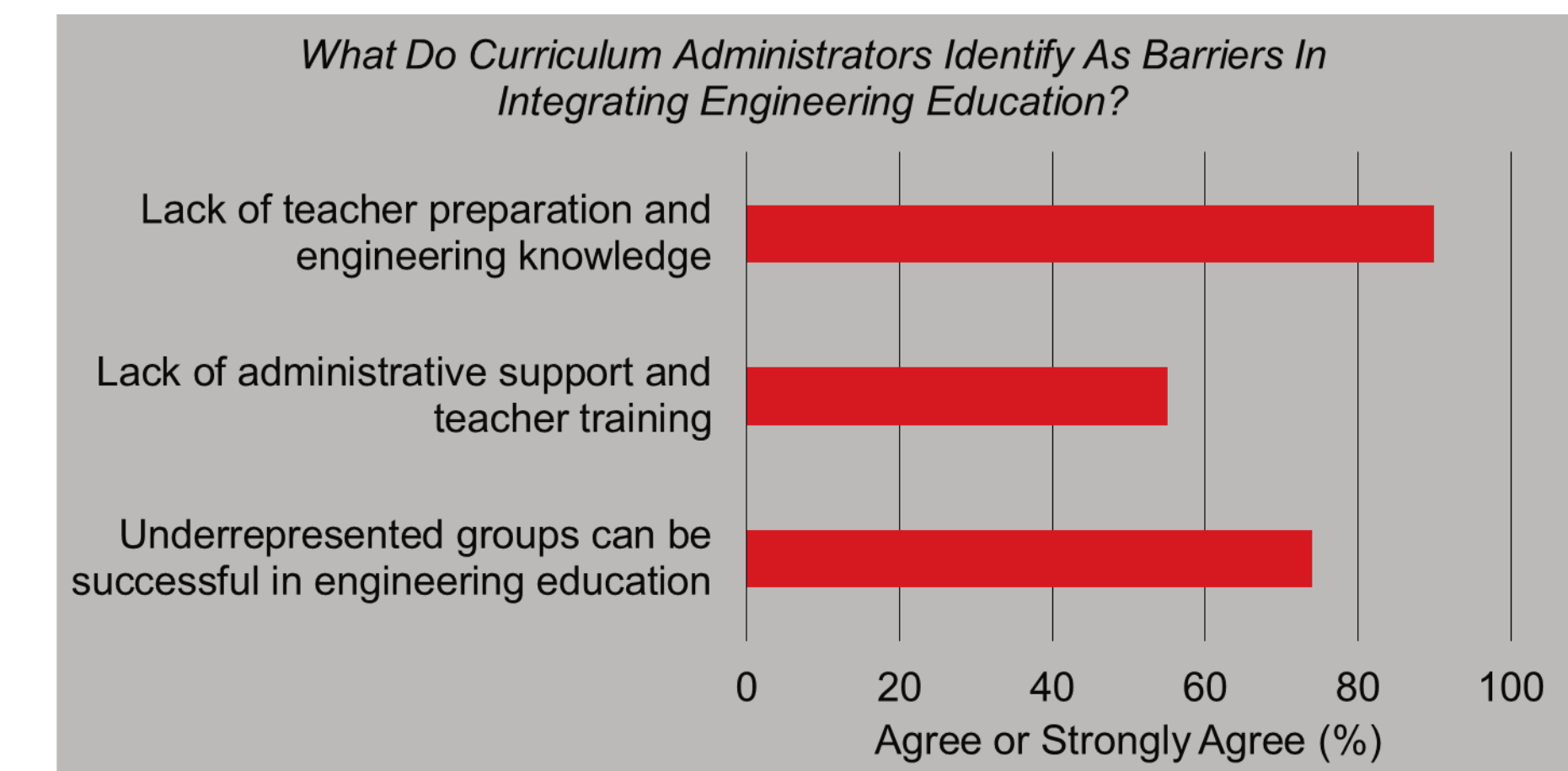
Sub-Research Question 3: What do curriculum administrators consider are characteristics of engineering?

- Problem-solving
- Teaming
- Good salaries



Sub-Research Question 4: What do curriculum administrators identify as barriers in integrating engineering education?

- Teacher preparation
- Professional development
- Best practices identification/application
- Appropriate materials/Sufficient financial resources



CONCLUSIONS: This study identified curriculum administrators' need for support for the appropriate, effective implementation of engineering education at the start of the teacher education process and in the teacher's professional educational experience. This can be achieved by assessing and revising extant Science courses in teacher education programs, and developing grant-funded engineering education certificate programs.