



# SCHOOL-BASED AGRICULTURAL EDUCATION STUDENTS' AFFINITY TOWARD AND PERCEPTIONS OF WELDING SKILLS

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## INTRO & FRAMEWORK

- The U.S. Bureau of Labor Statistics predicts 45,800 annual welding job openings over the next 8 years.
- Power, structural, and technical (PST) areas are underserved in SBAE.
- Despite 23.4% of MN SBAE students being enrolled in PST courses, there is only 1 PST-centric FFA CDE.
- This study is grounded in the mastery- and performance-approach orientation of achievement goal theory (Urda & Kaplan, 2020; Wolters, 2004).
  - Mastery approach students focus on developing skills and to maximize their learning.
  - Performance approach students are driven by the chance to compete for recognition.

## PURPOSE & OBJECTIVES

### PURPOSE

The purpose of this pilot study was to evaluate SBAE students' affinity toward and perceptions of their welding skills.

### OBJECTIVES

- To measure students' identity, personal interest, self-concept of ability, and attitudes toward welding.
- To determine if there is a relationship between the scales and student achievement in welding competitions.

## METHODS

- Descriptive survey design with 43 participants (34 male, 9 female).
- Utilized 4 scales:
  - Identity
  - Personal Interest
  - Self-Concept of Ability
  - Attitudes
- At each competition, 5 winners were identified and names were removed to ensure confidentiality.
- Data evaluated using SPSS.
- One-Way ANOVAs and descriptive statistics were interpreted.

## RESULTS

### SCORES ON EACH SCALE (n = 43)

	$\mu$	$\sigma$
Identity	3.77	0.47
Personal Interest	3.97	0.52
Self-Concept of Ability	3.62	0.69
Attitudes	4.24	0.60

### SCORES BASED ON WIN STATUS (n = 43)

	Winners		Non-Winners		df	p
	$\mu$	$\sigma$	$\mu$	$\sigma$		
Identity	3.53	0.61	3.83	0.41	42	0.077
Personal Interest	3.67	0.52	4.05	0.49	42	0.045*
Self-Concept of Ability	3.48	0.63	3.66	0.71	42	0.506
Attitudes	3.95	0.64	4.32	0.57	42	0.086

## CONCLUSIONS

- Students had the most positive attitudes toward welding, with less self-concept of ability.
  - Possible desire to focus on skill development rather than winning (Ames, 1992; Dweck & Leggett, 1988; Urda, 1997).
  - Possible lack of experience, the need to build more confidence, or young age (Wolters, 2004).
- Scores were consistently higher for non-winners than for winners, with a statistical difference in personal interest between both groups.
  - Possible due to the small sample.

## RECOMMENDATIONS

### RESEARCH

- Exploring how PST experiences influence desires or career goals.
- Use a post instrument.

### PROFESSIONAL PRACTICE

- Host more PST invitational events.

## REFERENCES



Please scan the QR code to access the references and the full abstract.