

# Motivation in Agriculture Science

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## INTRODUCTION

The objective of this study sought to determine which factors motivate high school agriculture science students to learn science.

## METHODS

- Science Motivation Questionnaire II (SMQ II)
- Focuses on high school students in Texas enrolled in agriculture education and members of the National FFA Organization

The researchers found that males had higher scores in *self-efficacy*, while female had higher scores related to *grade motivation*.

When looking at ethnicity we found that in all three ethnicities represented the lowest scores were found to be related to *self-determination*.

When looking at grade level we found that juniors and seniors had higher scores in *career motivation*.



### Objective 1

- Describe demographic characteristics of students that participated in the Texas State FFA Agriculture mechanics CDE

### Objective 2

- Measure possible factors that motivated students that participated in the Texas State FFA Agriculture Mechanics CDE

### Objective 3

- Determine if any relationships exist between students' motivation, ethnicity, biological sex, and grade level

Table 1

Construct Scores by Biological Sex

	Male (n = 67)			Female (n = 6)		
	M	Mode	SD	M	Mode	SD
Self-Efficacy	3.74	3	0.85	3.50	4	0.60
Career Motivation	3.73	4	0.94	3.83	3	1.08
Grade Motivation	3.71	5	1.02	4.00	4	0.59
Intrinsic Motivation	3.48	3	0.78	3.53	3	0.84
Self-Determination	3.19	3	0.95	3.03	2	0.92

Note. Response options ranged from 1 (Never) to 5 (Always)



Table 2

Construct Scores by Ethnicity

	Hispanic (n = 3)			Biracial (n = 9)			White (n = 59)		
	M	Mode	SD	M	Mode	SD	M	Mode	SD
Grade Motivation	3.93	3	1.17	3.71	3	0.92	3.80	5	0.96
Intrinsic Motivation	3.66	4	0.57	3.38	3	0.90	3.54	3	0.73
Self-Efficacy	3.40	2	1.11	4.07	5	0.76	3.73	4	0.76
Career Motivation	2.86	3	0.31	3.84	3	0.93	3.81	5	0.94
Self-Determination	2.80	2	1.11	3.29	2	1.14	3.22	3	0.89

Table 3

Construct Mean Scores by Grade Level

	Freshman (n = 4)			Sophomore (n = 14)			Junior (n = 24)			Senior (n = 31)		
	M	Mode	SD	M	Mode	SD	M	Mode	SD	M	Mode	SD
SE	4.40	4	0.43	3.81	4	1.05	3.48	3	0.71	3.77	3	0.81
GM	4.25	3	0.66	3.90	5	1.34	3.65	3	0.80	3.68	5	0.99
CM	4.10	5	1.43	3.69	3	1.03	3.52	4	0.71	3.90	5	1.00
SD	4.05	3	0.72	3.41	3	1.04	2.89	3	0.74	3.18	3	0.99
IM	3.85	3	0.62	3.40	3	0.99	3.35	3	0.74	3.57	4	0.72

Note. SE = Self-Efficacy, GM = Grade Motivation, CM = Career Motivation, SD = Self-Determination, and IM = Intrinsic Motivation.



## RECOMMENDATIONS

Recommendations for teaching can include shared planning, and teaching, when possible, between agriculture and STEM teachers that can lead to lessons that mutually reinforce each other, providing context to the STEM content and providing STEM skills to the agricultural courses.