



# The Influence of Agricultural Courses and Clubs on Utah Cooperative Extension Educator's Agricultural Literacy Proficiency

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## INTRODUCTION

The National Agricultural Literacy Outcomes (NALO) Framework guided this study to assess agricultural knowledge of Utah Cooperative Extension professionals and volunteers. NALO themes are benchmarks for agricultural literacy and used by the Judd-Murray Agricultural Literacy Instrument (JMALI), which can summatively evaluate adults. Utah Cooperative Extension is a primary stakeholder in agricultural literacy efforts. Their employees and volunteers contribute because:

- Extension professionals and volunteers are knowledgeable change agents at the community level.
- They convey up-to-date research on agricultural issues
- They attract continued support from key advocates

The study was conducted because prior evaluation with this validated assessment does not exist and the AAEE National Research Agenda states that agricultural education should be at the forefront in career competency for extension educators.

## INSTRUMENT DETAILS

The JMALI is 15 questions. There are three questions for each of the five NALO themes:

- Agriculture and the Environment
- Plants and Animals for Food, Fiber & Energy
- Food, Health & Lifestyle
- Science, Technology, Engineering & Mathematics
- Culture, Society, Economy & Geography

The "sliding scale" score is meant to offer a baseline of information about a participant's content knowledge of agriculture. It is not comprehensive. There are three levels of proficiency.

### Participants at:

- **Exposure** answered  $\leq 7$  correct questions
- **Factually literate**  $\geq 8-11$  correct questions
- **Applicable proficiency**  $\geq 12$  correct questions

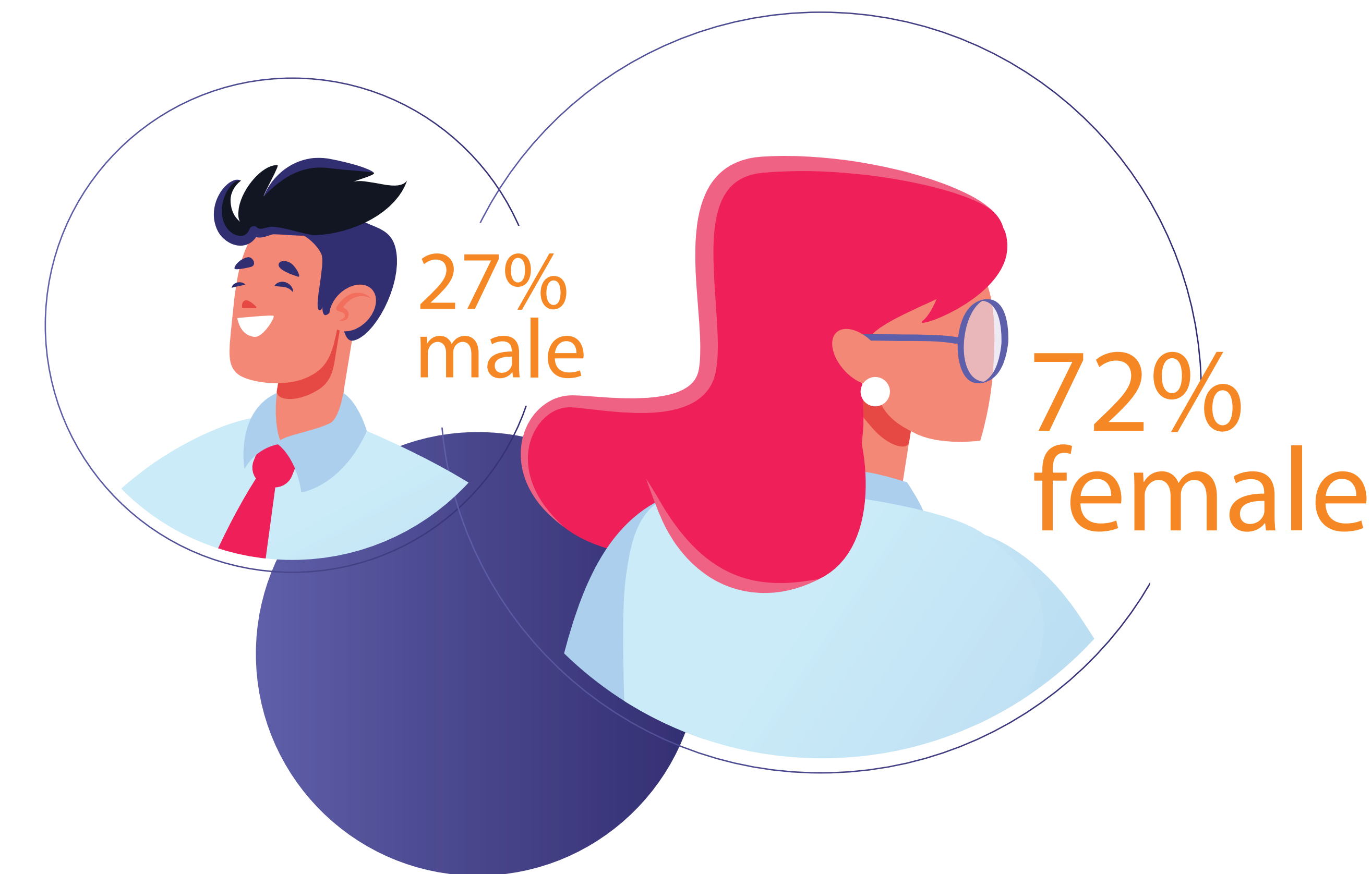
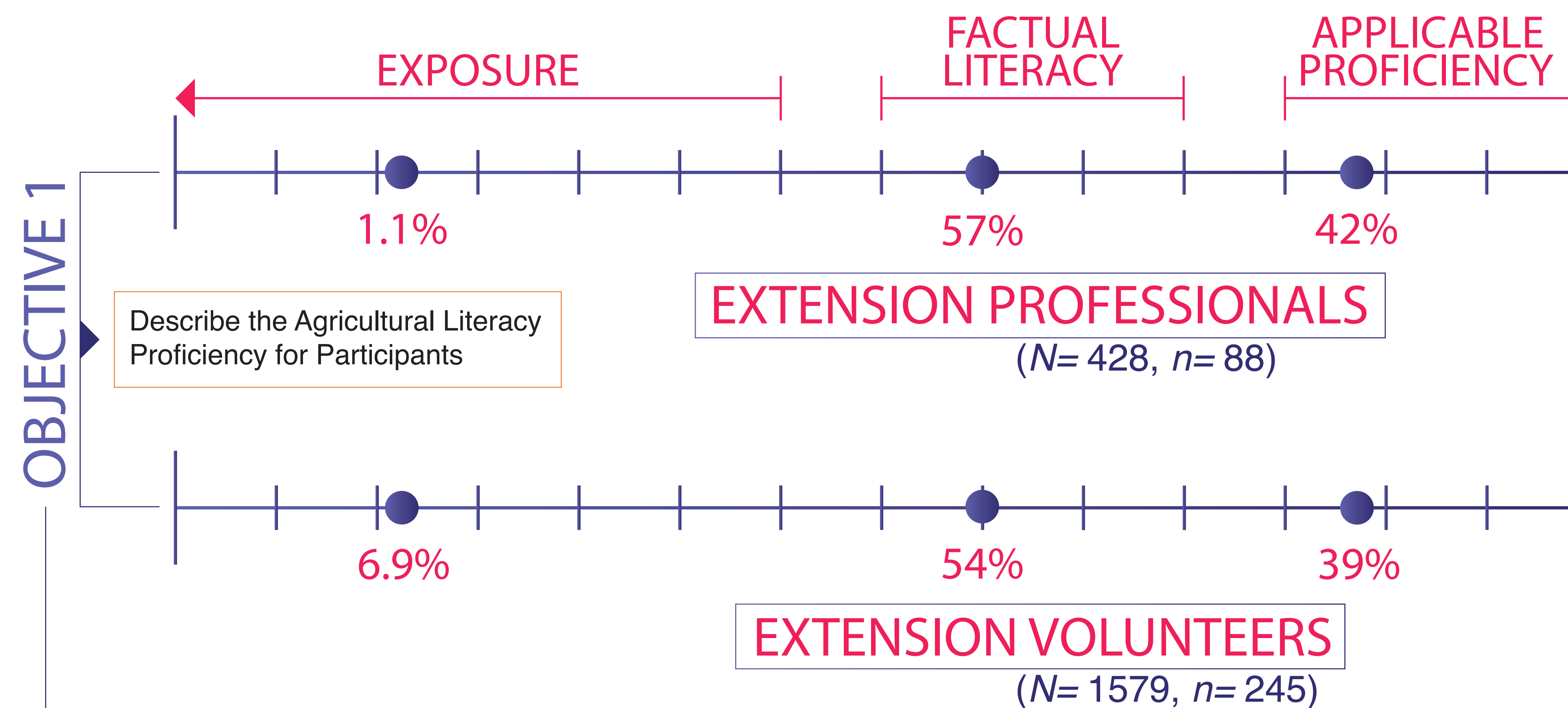
The multistate research presented in this poster was partially funded by a 2021 USU Extension Grant.



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## DIGGING DEEPER

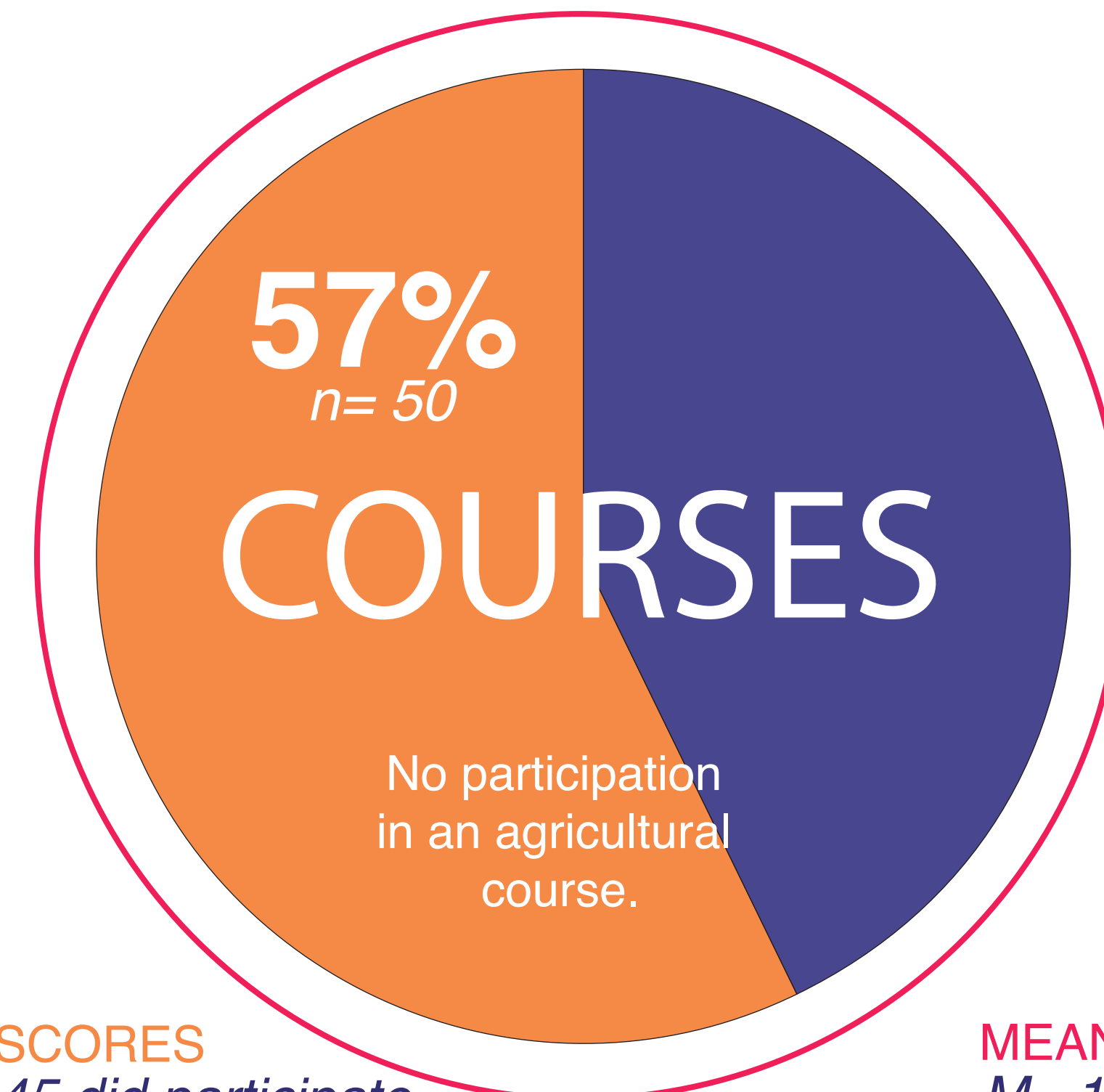
Individuals choose to participate in agricultural clubs, as opposed to courses that may be required. This ability to choose to participate may offer a more meaningful and memorable experience, thus improving their overall agricultural knowledge.



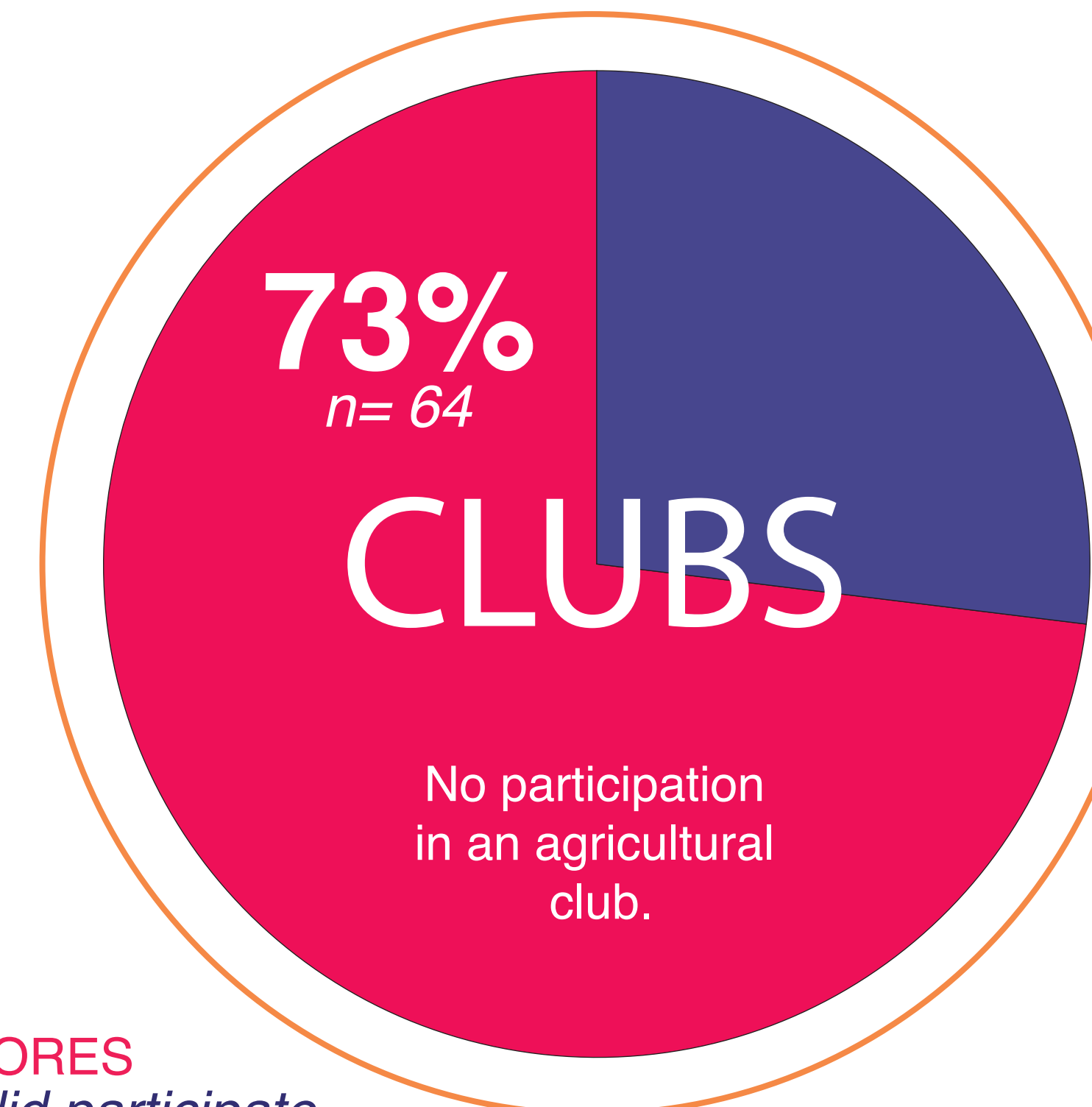
## OBJECTIVE 2

Determine if Participation in Agricultural Courses or Clubs (i.e., FFA) in Secondary or Post-Secondary Education Influenced the Agricultural Literacy Score

PROFESSIONALS

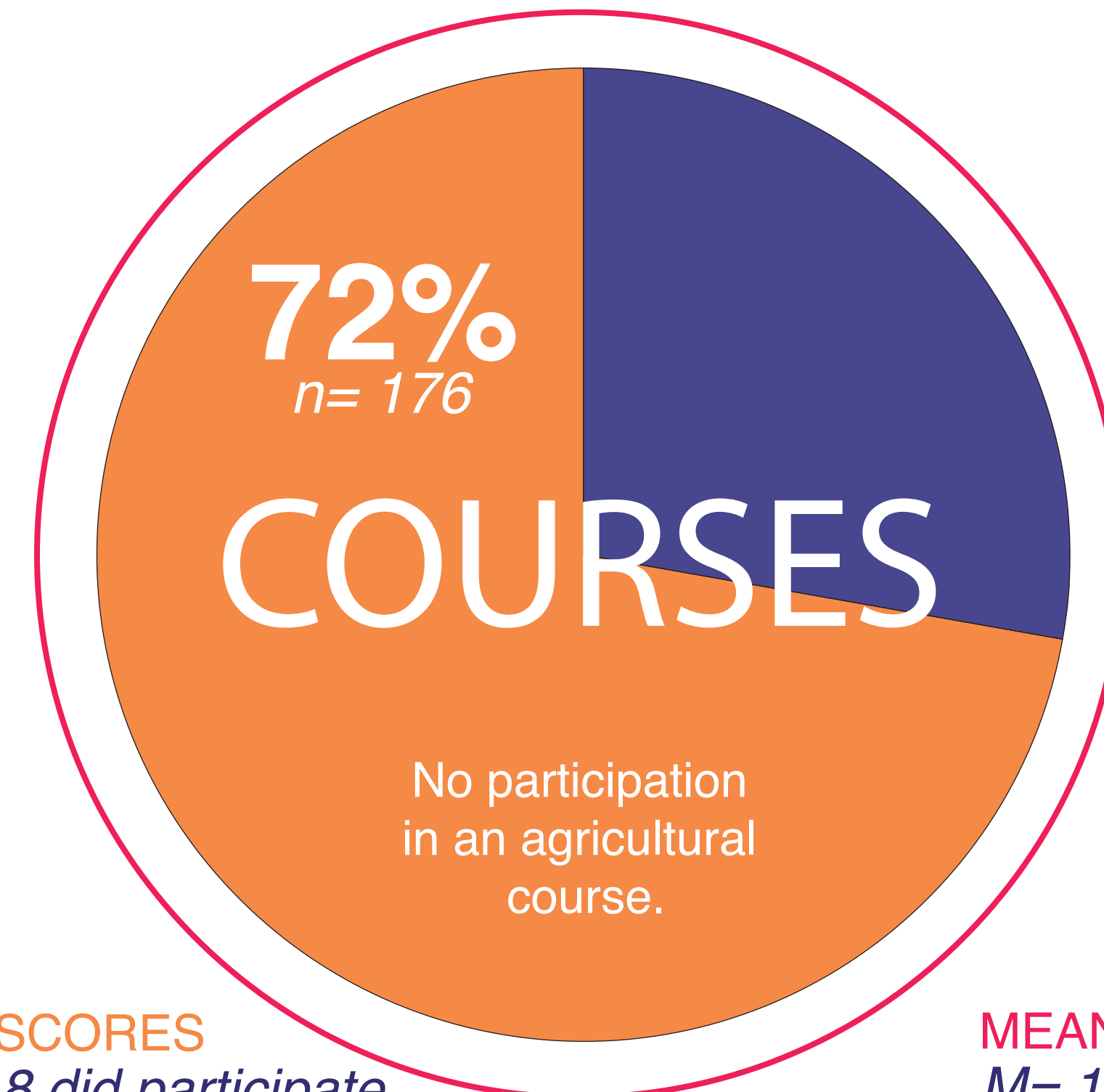


MEAN SCORES  
 M= 11.45 did participate  
 M= 11.0 did not participate  
 Independent sample t-test:  
 $t(86) = 1.43, p = .08$ , no significant effect

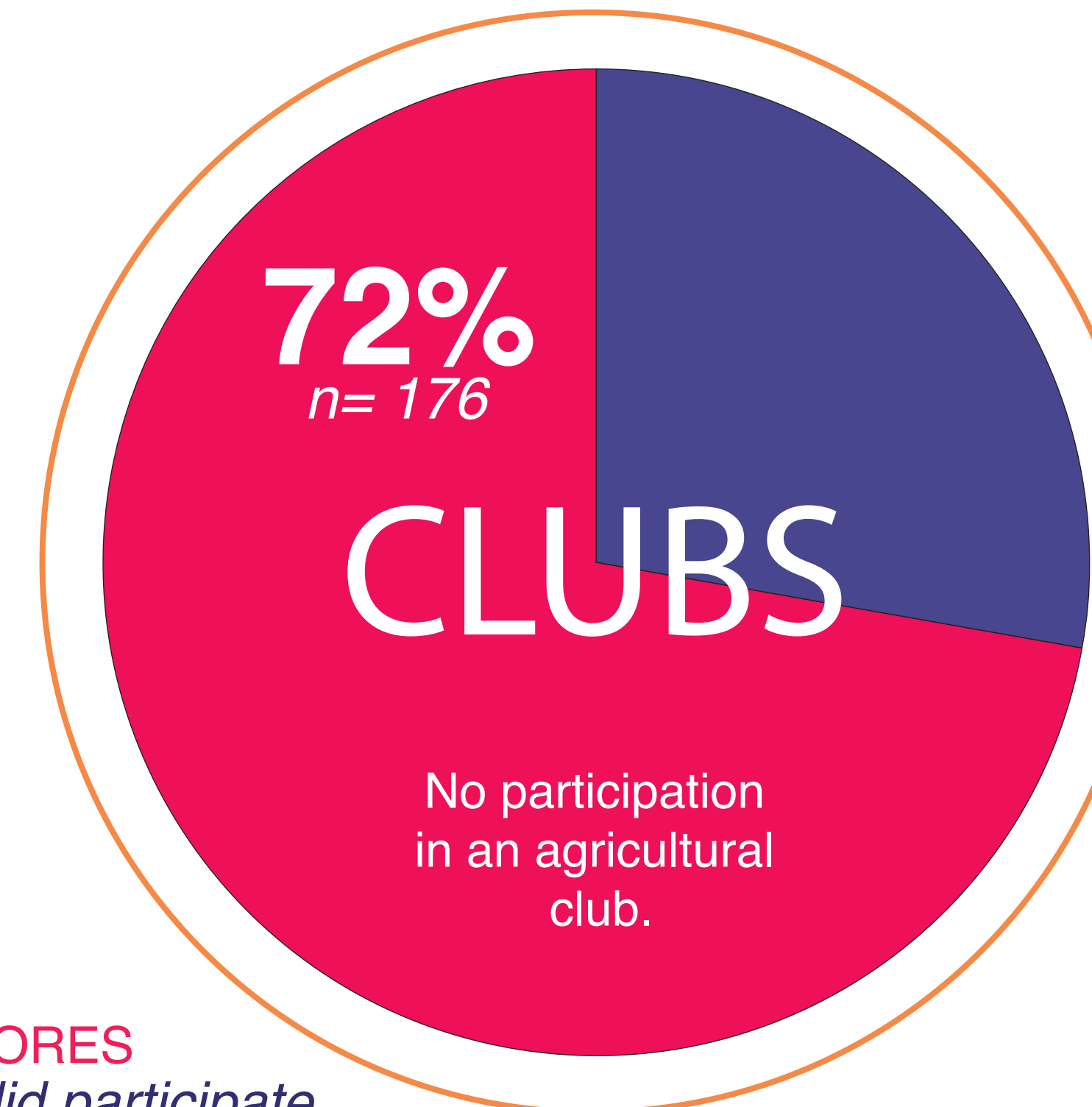


MEAN SCORES  
 M= 11.0 did participate  
 M= 11.2 did not participate  
 Independent sample t-test:  
 $t(86) = .59, p = .28$ , no significant effect

VOLUNTEERS



MEAN SCORES  
 M= 10.8 did participate  
 M= 10.7 did not participate  
 Independent sample t-test:  
 $t(234) = .41, p = .34$ , no significant effect



MEAN SCORES  
 M= 11.1 did participate  
 M= 10.6 did not participate  
 Independent sample t-test:  
 $t(234) = 1.8, p = .04$ , no significant effect

## METHODOLOGY

There were two populations for this quantitative study.

**Group 1:** Professionals (P), which included faculty and other employees (i.e., program coordinators). A total of 428 employees were surveyed, with a response rate of 21% (n = 88).

**Group 2:** Consisted of primary volunteers (V); individuals who repeatedly participated as either program leaders/instructors. A total of 1,579 volunteers, with a response rate of 16% (n = 245) participated. Recruitment involved incentives and contact lists from administrators. Participants were primarily White/Caucasian females (72% female, 27% male, 1% non-conforming).

The JMALI (Judd-Murray et al., 2019) and a demographic questionnaire were administered via Qualtrics using Dillman's (2000) practices for data collection. Proficiency scores were determined by the total correct answers out of fifteen questions.

poster design by erin.wadsworth@arsenian.com | erin.anderson@uconn.edu

CONCLUSIONS & RECOMMENDATIONS

- Utah's nonformal extension educators will be early-career females, literate in agriculture, but not educated through formal agricultural education programs or clubs
- Hands-on and social aspects of club experiences may improve agricultural literacy
- Extension educators have a "working" knowledge of agriculture
- Professional development should scaffold to more complex topics like precision agriculture, climate change, or animal welfare regulation
- Future research should identify where educators and volunteers have gained their information about agriculture

## SIGNIFICANT FINDING

Most professionals and volunteers were agriculturally literate despite not participating in formal agricultural education or clubs. Although the mean scores were slightly higher for those that had participated, they were not significant.

*"Obtaining data on the literacy of our professionals and volunteers affords administration the information to build professional development programs that move the needle forward. We don't need to start from square one, but we need to build on the foundational knowledge. Administration and higher education should take note that the Extension workforce and volunteer base will no longer be mainly constructed of white males. It's exciting to recruit and build pathways for a more diverse future."*

**Dave Francis,**  
Statewide Extension Youth Development Director, 2022