2025 AAAE Travel Award Application
Cover Sheet Biographical Information

Project Title:

Pixelating Teacher Sentiments: Exploring Algorithmic Empathy via AI Photo Elicitation in Agricultural Education

Project Personnel

Dr. Christopher A. Clemons is an Associate Professor of Agricultural Education in the Department of Curriculum and Teaching at Auburn University, College of Education, 345 Samford Avenue
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Dr. Becky Haddad is an Assistant Professor of Agricultural Education in the Department of Agricultural Leadership, Education, and Communication at The University of Nebraska, Filley Hall 143B, Lincoln, NE 68583-0947. haddad@unl.edu

Appendices

A. Letter of Support - Auburn University
B. Letter of Support - The University of Nebraska

Purpose, Goals, and Objectives

Purpose: The primary purpose of this initial step is to systematically select a robust and relevant set of textual case studies that authentically embody specific, predefined emotions and professional experiences pertinent to public school agricultural education (SBAE) teachers. These foundational case studies are integral to the broader study, which aims to develop and validate an innovative, agentic AI-driven research methodology for generating visual representations that accurately capture human sentiment and emotions described in textual case studies. The case studies will serve as the foundational stimulus material for the subsequent phases of the research.

Goals: Overarching Project Goal: The development of an agentic AI platform to predict with 80 percent accuracy capturing human emotion and sentiment for AI-based image generation to improve photo elicitation image selection. Specific and targeted goals: 1) To curate a collection of eight high-quality case study excerpts from established, peer-reviewed agricultural education journals (JAE, AAD, etc.), ensuring academic rigor and relevance. 2) This collection of images represents four critically predefined emotional themes in SBAE: work-life balance, anxiety, professional and personal choice conflict, and internal/external guilt. 3) Strategically include two distinct case studies for each emotional theme: one where the emotion is clearly and explicitly conveyed and another where the emotion is presented more vaguely or subtly, allowing for a nuanced evaluation of interpretive limits. 4) To establish the primary emotional content of each selected case study with a high degree of inter-rater reliability between researchers. 5) To prepare standardized, unbiased case study excerpts by focusing solely on the narrative content depicting the emotional scenario, removing original author analyses to prevent influencing participant interpretation.

Objectives: 1) Conduct a comprehensive review of leading agricultural education journals (specifically, *Advancements in Agricultural Education*, *Journal of Agricultural Education*, and *Southern Journal of Agricultural Education*) to identify potential case studies focusing on public school agricultural education teachers. 2) For each of the four predefined emotional themes, select one case study that exemplifies the target emotion and a second case study where the same emotion is present but conveyed in a more nuanced or ambiguous manner. 3) Implement an inter-rater reliability process (Cohen's Kappa) with at least two researchers independently coding the selected case studies to ensure consistent identification of the primary target emotion, aiming for a reliability score of > 0.8. 4) Edit the selected case studies into concise excerpts by removing the original authors' discussion, analysis, and conclusions, thereby isolating the descriptive narrative of the experience and its associated emotion.

Statement of Benefit to the Applicant

Establishing a baseline image set in this step is important, providing the essential foundation against which the AI-driven methodologies central to this project will be validated. This travel grant enables in-person collaboration between Dr. Clemons and Dr. Haddad. This collaborative engagement, directly facilitated by the grant, will support the critical research processes establishment of the baseline image set. This grant-supported collaborative effort offers direct benefits for the research team: it combines complementary expertise (e.g., in agentic AI

methodologies and deep domain knowledge of agricultural education challenges). It improves the capabilities of designing and executing mixed-methods research.

Proposed Budget
Ensuring project completion is paramount to any request for funding under consideration. To ensure appropriation of funding for successful completion, Auburn University Agriculture Education, Communications, and Leadership will share the cost to enhance any potential travel grant awarded by AAAE. *Airline Travel*: Atlanta – Kansas City, Missouri: $300.00, *Rental Car:* Kansas City – Lincoln, Nebraska: $200.00, *Hotel Accommodations*: $500.00 (Four nights) *Total request for consideration:* $1000.00

Timeline

Period	Key Activities & Milestones	Notes / Collaborative Focus
Aug 2025	Ensure IRB approval; Finalize research protocols & evaluation rubrics; Select 8 case study excerpts (with inter-rater reliability); Human-led selection of 8 baseline images.	University of Nebraska visit (5 days): Intensive collaboration on baseline image selection.
Sep 2025	Recruit and conduct photo elicitation sessions with Group 1 participants (10 Ag. Ed. Alabama teachers) using the eight human-selected baseline images. Transcribe and summarize Group 1 data.	
Oct 2025	Analyze Group 1 data to inform AI prompt development; Iteratively develop AI prompts (potentially using AI assistance); Generate 8 AI images corresponding to the case studies using an image generator.	
Nov 2025	Recruit and conduct photo-elicitation sessions with Group 2 Nebraska participants (10 new Ag. Ed. teachers) using the 8 AI-generated images. Transcribe Group 2 data.	
Dec 2025	Conduct comprehensive comparative data analysis: Group 1 responses vs. case studies; Group 2 responses vs. case studies; Group 1 vs. Group 2 responses; Evaluate AI image alignment with intended sentiment; Assess 80% agreement goal.	
Jan 2026	Finalize data interpretation and draw conclusions; Begin manuscript preparation for submission (e.g., Journal of Agricultural Education); Complete travel grant final report.	

Projected Impacts and Outcomes

Potential for New Methodology: The deliberate selection of both clear and vague case studies for each emotion is a key methodological innovation within this step. This approach is designed to rigorously test and delineate the capabilities and limitations of human participants and AI image generation in interpreting complex emotional narratives. The findings from this nuanced stimulus set will directly contribute to developing and validating a more efficient and potentially more insightful framework for photo-elicitation studies, thereby offering a novel methodological advancement to the field. *Publication of Findings:* The rigor embedded in this case study selection phase—utilizing peer-reviewed sources, ensuring relevance to agricultural education teachers, establishing inter-rater reliability for emotional content, and the innovative precise/vague pairing significantly strengthens the overall study. This enhances the potential for producing high-quality, impactful findings suitable for publication. We project that the results of this study will be targeted for publication in the *Journal of Agricultural Education.*

Appendices

May 30, 2025

Dear Members of the AAAE Travel Grant Committee,

I am writing to support Dr. Clemons's application for the AAAE Travel Grant. As Department Chair of Curriculum and Teaching, I am familiar with his research interests and approach.

Dr. Clemons proposed project, titled Pixelating Teacher Sentiments: Exploring Algorithmic Empathy via AI Photo Elicitation in Agricultural Education," addresses an important area of inquiry concerning the use of agentic AI-driven methodologies to refine photo-elicitation techniques in agricultural education research. The study aims to develop and validate an approach for generating visual representations that accurately capturing human sentiment from textual case studies relevant to public school agricultural education (SBAE) teachers.

The AAAE Travel Grant will support a key phase of this research: an in-person collaboration between Dr. Clemons and Dr. Haddad at the University of Nebraska. This collaborative work, which combines Dr. Clemons experience in AI application/research methodology and Dr. Haddad's expertise in qualitative design and analysis, is essential for executing this comparative study. Such collaboration can enhance the capabilities of the research team in designing and carrying out this mixed-methods research.

The Department of Curriculum and Teaching at Auburn University supports Dr. Clemons's research. We have committed to share in the costs of this travel through his allocated professional development funds, as detailed in the proposal's budget, reflecting our support for this research initiative.

Sincerely,

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