Artificial Intelligence in Higher Education

Effects on Global Trust, Source Credibility, and Grading Trust

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Goal/Theory

To examine how students will assess a professor when they suspect a professor is using AI in their email interactions.

Expectancy Violations Theory (Burgoon, 2015)

Hypotheses

H1: Professors suspected of using artificial intelligence in grading-related email communication will be perceived as having lower **global trust** than professors not suspected of AI use.

H2: Professors suspected of using artificial intelligence in grading-related email communication will be perceived as having lower **source credibility** than professors not suspected of using artificial intelligence.

H3: Professors suspected of using artificial intelligence in grading-related email communication will be perceived as having lower **grading trust** than professors not suspected of using artificial intelligence.

Demographics

N = 61

Females = 39.3%, Males = 60.7%

Methods

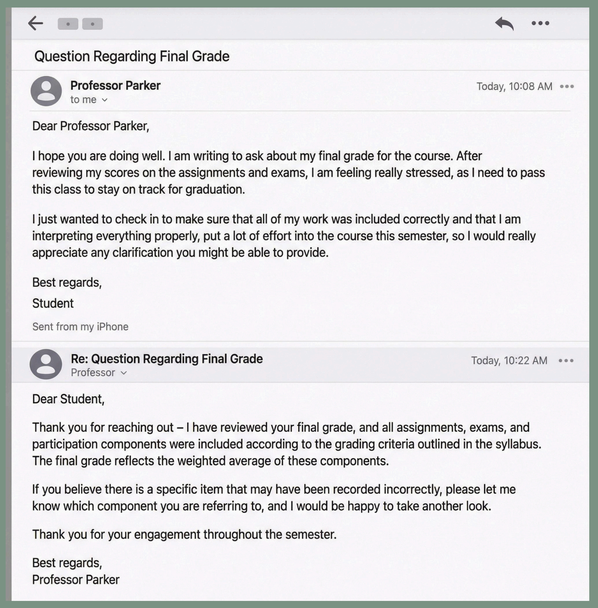
This study utilized a posttest-only experimental design to manipulate the use of AI (absent or suspicion of presence) that participants read in an email exchange between student and professor.

Sixty-one volunteer participants were recruited from a large Western University.

Participants were recruited using both convenience and volunteer sampling techniques.

Participants were then randomly assigned to read one of two possible email chains of a hypothetical exchange between student and professor. Depending on the condition, participants either read an email where it appears the email was written solely by the professor (n = 31) or suspicion that AI was used in creating the professor's response email (n = 28).

Material



Question Regarding Final Grade

Professor Parker to me — Today, 10:08 AM

Dear Professor Parker,

I hope you are doing well. I am writing to ask about my final grade for the course. After reviewing my scores on the assignments and exams, I am feeling really stressed, as I need to pass this class to stay on track for graduation.

I just wanted to check in to make sure that all of my work was included correctly and that I am interpreting everything properly, put a lot of effort into the course this semester, so I would really appreciate any clarification you might be able to provide.

Best regards,
Student

Sent from my iPhone

Re: Question Regarding Final Grade — Professor — Today, 10:22 AM

Dear Student,

Thank you for reaching out – I have reviewed your final grade, and all assignments, exams, and participation components were included according to the grading criteria outlined in the syllabus. The final grade reflects the weighted average of these components.

If you believe there is a specific item that may have been recorded incorrectly, please let me know which component you are referring to, and I would be happy to take another look.

Thank you for your engagement throughout the semester.

Best regards,
Professor Parker

Measures

Global Trust. This study adapted a three-item Likert scale ranging from 1-7 (strongly disagree to strongly agree). Statements included phrases such as, "*I would feel confident relying on this professor to make important academic decisions.*" and "*I believe this professor is honest and transparent in their communication with students.*" The reliability for this scale was acceptable (α = .89, M = 4.71).

Source Credibility. This study adapted a three-item Likert scale ranging from 1-7 (strongly disagree to strongly agree). Statements included phrases such as, "*the professor appears knowledgeable about course policies and grading procedures.*" and "*I believe the professor is qualified to evaluate student work and assign grades.*" The reliability for this scale was acceptable (α = .78, M = 4.67)

Grading Trust. This study adapted a three-item Likert scale ranging from 1-7 (strongly disagree to strongly agree, see Appendix B). Statements included phrases such as, "*I am confident the professor reviewed my grade carefully.*" and "*I trust that the professor applied grading policies consistently.*" The reliability for this scale was acceptable (α = .88, M = 4.23).

Results

Hypothesis 1: An independent sample t-test examined the level of global trust of the no-AI group compared to the AI-suspected group. The results found that the no-AI group scored higher in global trust **(M = 5.10, SD = 1.06)** than the AI-suspected group **(M = 4.24, SD = 1.09)**. This difference was statistically significant, **t(61) = 3.14, p = .001**. As such, hypothesis 1 was supported.

Hypothesis 2: An independent sample t-test examined the level of source credibility (expertise) of the no-AI group compared to the AI-suspected group. The results found that the no-AI group scored higher in source credibility **(M = 5.10, SD = 0.88)** than the AI-suspected group **(M = 4.17, SD = 0.82)**. This difference was statistically significant, **t(61) = 4.25, p < .001.** Therefore, hypothesis 2 was supported.

Hypothesis 3: An independent sample t-test examined the level of grading trust of the no-AI group compared to the AI-suspected group. The results found that the no-AI group scored higher in grading trust **(M = 4.59, SD = 1.18)** than the AI-suspected group **(M = 3.88, SD = 1.09)**. This difference was statistically significant, **t(61) = 2.41, p = .009.** Therefore, hypothesis 3 was supported.

Future Research

While these findings suggest that AI suspicion negatively influences student perceptions, an important question that can be further researched is: Is it the use of AI itself that reduces trust or credibility, or is it the lack of transparency surrounding its use by a professor?

Future research can examine the role of transparency in AI-assisted academic communication. Rather than looking solely at suspected AI use, studies could compare multiple conditions, like explicitly disclosed AI use vs. fully human communication.