Catherine King
cking2@cs.cmu.edu

Dr. Kathleen M. Carley
kathleen.carley@cs.cmu.edu

Leveraging Media Literacy Training to Promote Social Corrections

What is media literacy?

- Enhances critical assessment of digital media[1]
- Includes tips[2], training sessions[3], and fake news games[4]
- Has been shown to be effective in many cases

Can it be utilized to counter misinformation?

- Most work studies media literacy's impact on knowledge, beliefs, behaviors[1]
  - Many studies examine truth discernment[2,5]
  - Some explore effects on negative behaviors (e.g., sharing misinformation or participating in risky or antisocial behavior) [6]
  - No studies on improving willingness and ability to counter misinformation

Research Questions

1. Does targeted training increase the likelihood of countering misinformation?
2. What factors affect willingness to engage in interventions like social corrections?

Methods: Experiment Overview

- Ran experiment testing the effectiveness of a countering training session
  - Project OMEN (Operational Mastery of the Information Environment) [7]
  - 23 government analyst participants: 19 men, 4 women
- Experimental design:
  - Pre- and post-training survey quizzes to assess effectiveness
  - Surveys showed participants realistic misinformation posts
  - What, if anything, would the participants do if they saw this post? Would their answer change depending on who posted it or the platform?

Countering Training Session

- Adapted from King's previous countering work[8]
  1. Why people should counter misinformation
  2. Common logical fallacies and how to spot them
  3. Most effective individual intervention types

Possible Responses to Seeing Misinformation

Response	Effort Level
Ignore the post	No effort
Report the post	Low effort
Report the user	Low effort
Block the user	Low effort
Unfollow or unfriend the user	Low effort
Privately message the user	High effort
Comment a correction on the post	High effort
Create a separate post with the correct information	High effort
Other	-

References

[1] Jeong et al. 2012. "Media Literacy Interventions: A Meta-Analytic Review." *The Journal of Communication*
[2] Guess et al. 2020. "A digital media literacy intervention increases discernment between mainstream and false news in the United States and India." *PNAS*.
[3] McGrew. 2020. "Learning to evaluate: An intervention in civic online reasoning." *Computers & Education*.
[4] Basol et al. 2020. "Good News about Bad News: Gamified Inoculation Boosts Confidence and Cognitive Immunity Against Fake News." *Journal of Cognition*.
[5] Lees et al. 2023. "The Spot the Troll Quiz game increases accuracy in discerning between real and inauthentic social media accounts." *PNAS Nexus*.
[6] Austin et al. 2005. "Evaluation of an American Legacy Foundation/Washington State Department of health media literacy pilot study." *Health Communication*
[7] King, Lepird, Carley. 2021. "Project OMEN: Designing a Training Game to Fight Misinformation on Social Media." CMU Tech Report
[8] King, 2024. "Thesis Proposal: Effective and Practical Strategies for Combatting Misinformation." CMU.

NOTE: The CMU IRB approved this study, "STUDY2023_00000429"

Results: Overall Willingness to Counter Increased

Max Effort Level	Pre-Training	Post-Training
No effort	30.4% (7)	34.8% (8)
Low effort	65.2% (15)	39.1% (9)
High effort	4.3% (1)	26.1% (6)

- More participants said they would use higher-effort actions after the training
- This increase came from people already engaging in low-effort actions
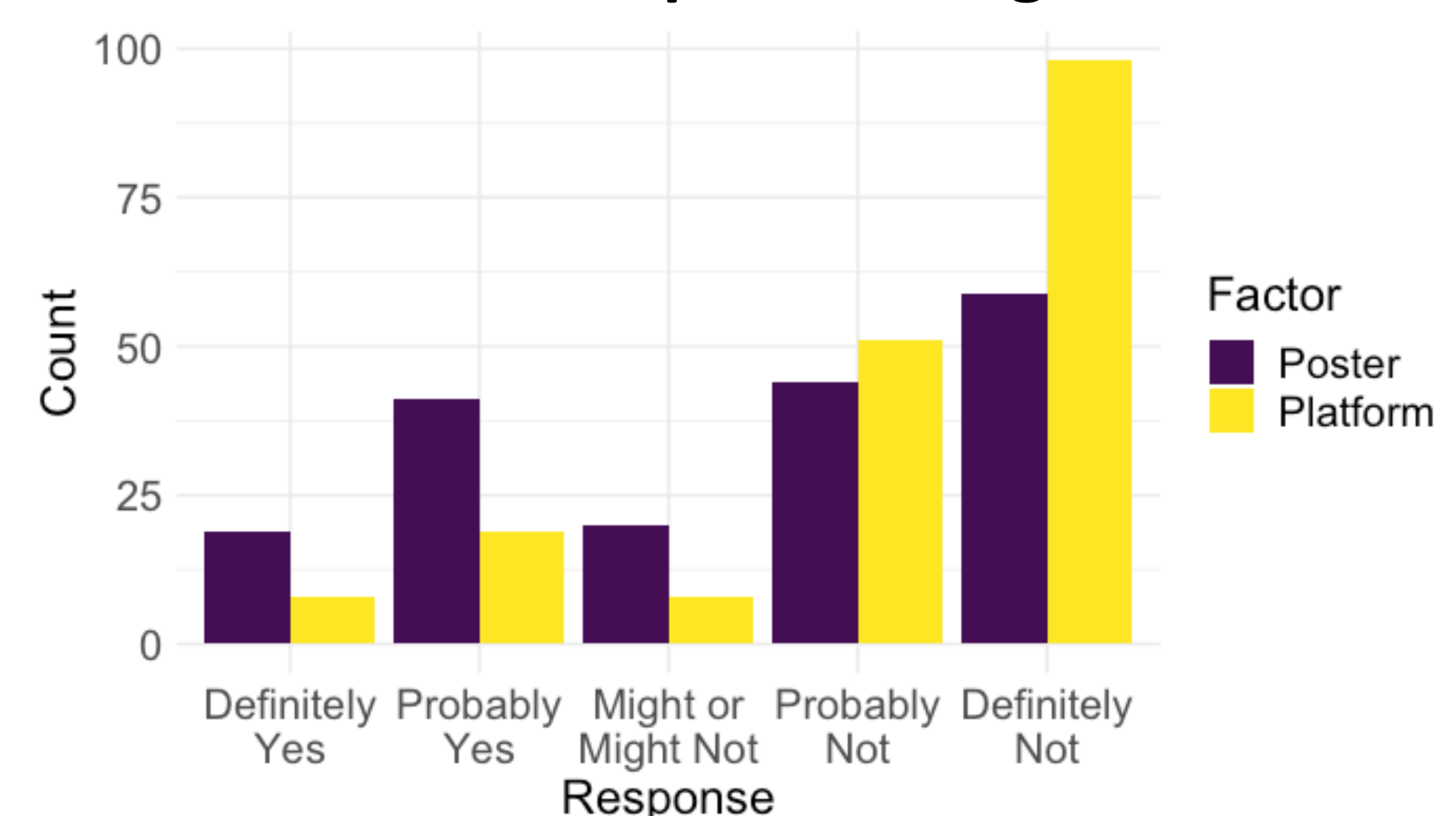
Poster and Platform Impact Willingness to Counter

Fig 1. This figure shows the number of times participants said their answer would change depending on the poster or platform over all posts

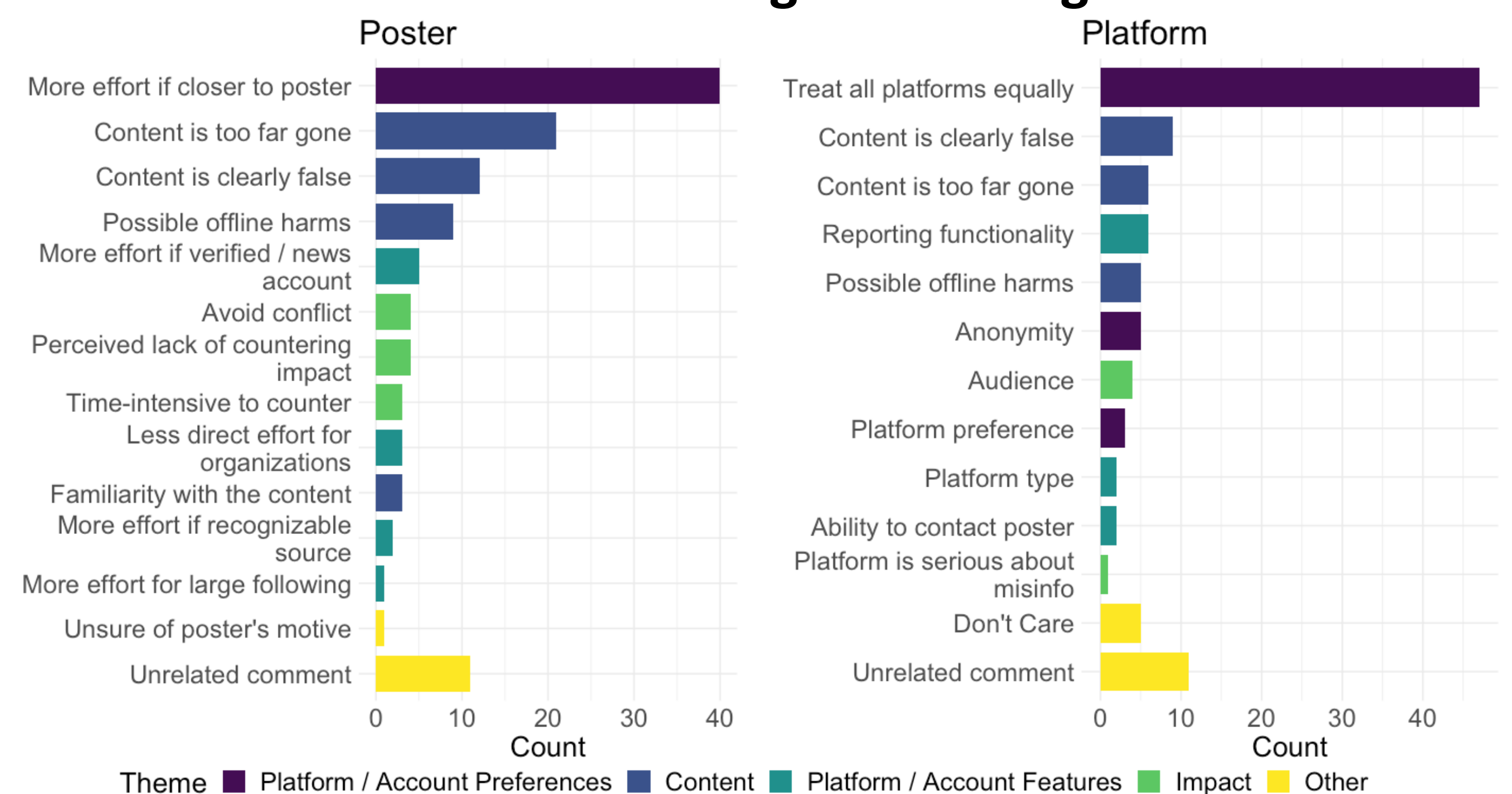## Other Factors Affecting Countering Actions

Fig 2. This figure shows the number of times a specific theme was mentioned in the text responses over all posts in both the pre- and post-training survey

Discussion and Conclusions

1. The training was effective at increasing willingness to counter misinformation among motivated government analysts
2. The poster was a more important factor than the platform
3. The most mentioned themes when deciding whether to counter were:
   - **Closeness** - Putting in more effort for closer contacts and
   - **Content** - Putting in more effort for more dangerous or overtly false content

Understanding the factors behind these decisions can help us design better interventions and platforms in the future

S3D
Software and Societal Systems Department

Carnegie Mellon University