Changing Beliefs About Correlations in Atypical Scatterplots

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CCS Concepts: • **Computer systems organization** → **Embedded systems**; *Redundancy*; Robotics; • **Networks** → Network reliability.

Additional Key Words and Phrases: belief change, correlation perception, scatterplot, crowdsourced

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1 INTRODUCTION

2 RELATED WORK

3 PRE-STUDY: INVESTIGATING BELIEFS ABOUT RELATEDNESS STATEMENTS

3.1 Introduction

Due to previous evidence suggesting effects of prior belief strength and topic emotionality on the propensity for belief change, we first aim to build a picture of people's thoughts and feelings along these dimensions in our population of interest. With the intention of testing the potential for changes in beliefs about correlations displayed in scatterplots depicting weak and strong correlations, and those whose topics were both strong and neutral in emotional valence, we began by using ChatGPT4 [2] to generate 100 correlation statements using the following prompt:

"Generate 100 statements that describe the correlation between two variables, such as :
"X is associated with a higher level of Y" or
"As X increases, Y increases".
Try to match all the statements on plausibility and emotionality."

The full list of these statements can be found in the supplementary materials. Note that we cite our use of ChatGPT according to the AI Code of Conduct developed by Iliada Eleftheriou and Ajmal Mubarik and the University of Manchester [1].

3.2 Method

3.2.1 Participants.

3.2.2 Design.

3.2.3 Procedure.

3.3 Results

3.4 Discussion

4 MAIN STUDY: POTENTIAL FOR BELIEF CHANGE USING ATYPICAL SCATTERPLOTS

4.1 Introduction

4.2 Method

4.2.1 Participants.

4.2.2 Design.

4.2.3 Procedure.

REFERENCES

[1] Iliada Eleftheriou and Ajmal Mubarik. 2023. AI Code of Conduct. https://www.iliada-eleftheriou.com/AICodeOfConduct/#how-to-cite-and-reference-chatgpt.

[2] version 4. 2024. ChatGPT. OpenAI.