

Exploring Bidirectional Influences Between Social AI Interaction and Human Relationships

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Introduction

- Advancements in large language models (LLMs), such as ChatGPT, allow AI to engage in nuanced conversations, provide emotional support, and simulate various roles, addressing human needs like belonging (Baumeister & Leary, 1995).
- The current loneliness epidemic and the trend of online socialization highlight the importance of understanding the impact of social AI interactions on human connections (Twenge et al., 2019).
- In our longitudinal study, we hypothesize that AI usage will be associated with decreases in depression, loneliness, and attachment anxiety.

Methodology

Longitudinal Design

- Data was collected from FSU undergraduates participating for class extra credit
- N = 26, expected N = 200

Baseline survey:

- Loneliness: UCLA Loneliness Scale (Russell, 1996). 4-point scale.
- Anxious/avoidant attachment style: Adult Attachment Questionnaire (Simpson et al., 1992). 7-point scale.
- Depression: CES-D Scale (Radloff, 1977). 4-point scale. Items are summed and range from 0 – 60.

21 Daily surveys:

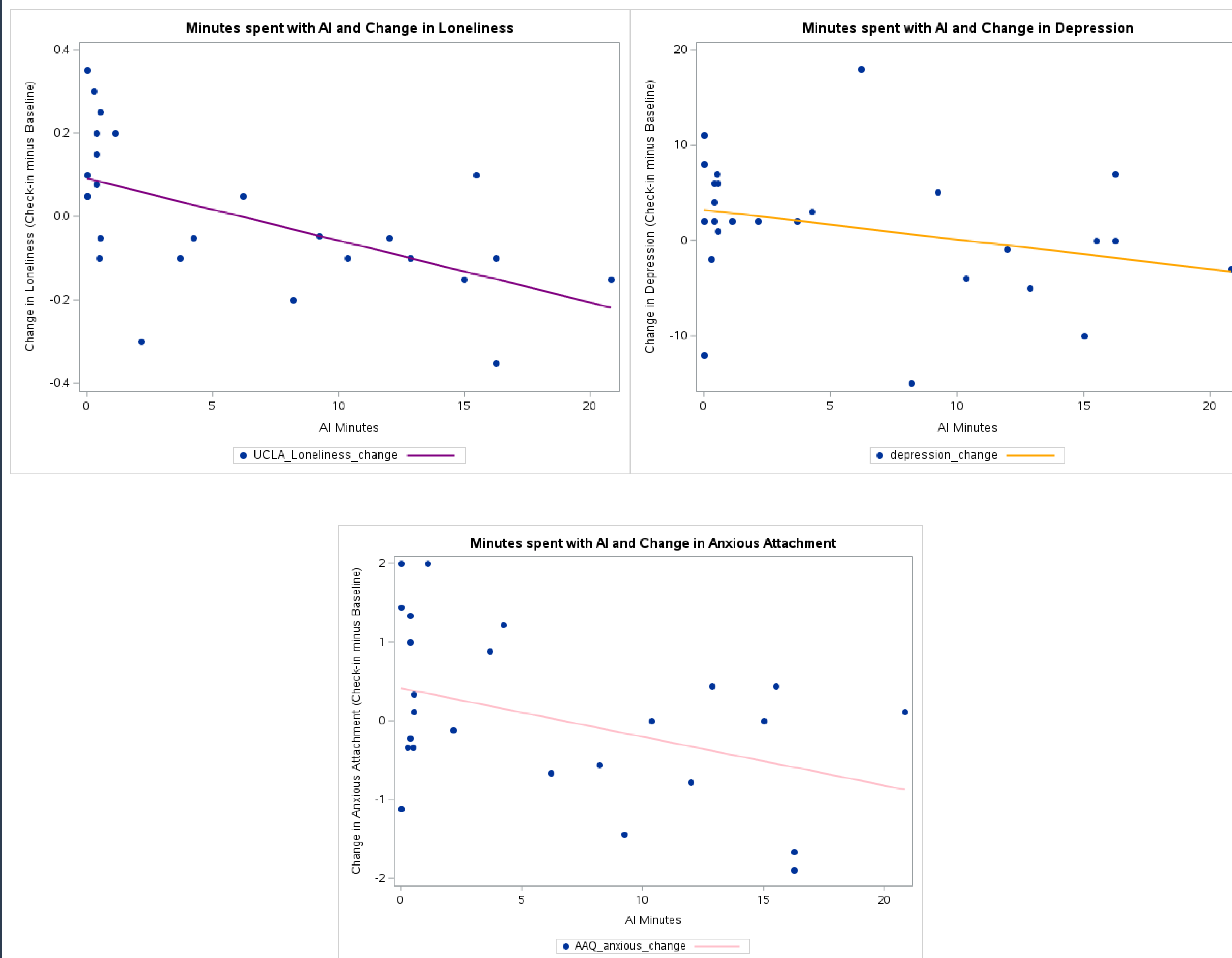
- Track how much time they have spent with AI as well as humans, including close others.

Check-in Survey:

- Same measures as baseline.
- Conducted 3 weeks after the Baseline survey

Data collection is in progress!

Results



- Change in loneliness/depression/attachment anxiety was calculated by Check-in Score minus Baseline Score. Values above zero represent increases in these variables across the study.
- Note: Main effects of depression, attachment anxiety, and loneliness were not statistically significant. These results are preliminary.
- Time spent with AI, controlling for time spent with humans, was significantly associated with a decrease in loneliness, $B = -.02$, $SE = 0.004$, $p < .001$.
- Time spent with AI, controlling for time spent with humans, was not significantly associated with a change in depression, $B = -.032$, $SE = 0.22$, $p = 0.156$.
- Time spent with AI, controlling for time spent with humans, was significantly associated with a decrease in attachment anxiety, $B = -.07$, $SE = 0.03$, $p = .022$.

Discussion

- Generally, AI chatbots respond positively to issues users bring them. This might encourage users to have regular positive interactions that comfort them, making them feel less lonely.
- As AI has become more prevalent in society, speaking with them about more personal topics and issues has become more socially acceptable. The mere act of typing something and immediately getting a response acknowledging what was said might be similarly satisfying compared to a human exchange.
- AI chats can be more discerning, lacking judgment or dismissal one might get from human interaction. An AI is also at the beck and call when someone wants to talk.
- There is a degree of anonymity when speaking to an AI.

Future Directions

- Having subjects use the AI more frequently.
- Having other demographics use AI (e.g. older people).
- Not having just a chat-based AI (e.g., a voice/avatar AI)
- Analyzing other variables and factors such as:
 - General anxiety
 - Reasons people use AI

References



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