



Human relationships reaching out to AI: Personality and relationship choice



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Abstract

While people around the world have quickly incorporated AI into daily life, the impacts of interacting with it are not fully understood. The purpose of this study is to determine the correlations among in-person relationship quality, personal intelligence (the ability to understand personality), and companionate AI use. Three hundred and twenty-four psychology students at the University of New Hampshire were surveyed online using SONA. Use of AI as a companion was associated with lower personal intelligence and poorer human relationships; higher AI use was also associated with lower in conscientiousness and open-mindedness. These results suggest that increased companionate AI use may be associated with decreased social well-being.

Introduction Background

The use of artificial intelligence (AI) has increased rapidly since the release of GPT 2.0 in late 2022; GPT was the first large language model with generative capacities and represented a dramatic step forward in human-like interactions (Schöbel et al., 2024). While the world has quickly embraced and adopted AI for many purposes, there is emerging research on the negative impacts of AI. Perhaps, for example, AI diminishes peoples' human relationship skills (Mayer, 2025); conversely, maybe people who already lack such skill will be more likely to use AI. One measure of such skill is a person's degree of personal intelligence—the capacity to understand personality in oneself and other people.

Research has shown that, upon excessive use of AI, some people view themselves through a digital loop progressively distorting their relationship expectations, and experience greater emotional dependency on AI (Richet, 2025). This study examines whether people with higher AI use for companionship and socializing exhibit lower satisfaction and perceived quality of their human relationships.

Exploration in How People Interact with AI in their Relationships

This study uses lifespace data. Lifespace data is a broad category that encompasses biographical, situational, and behavioral reports (e.g., Mayer & Bryan, 2024) rather than more subjective self-judgments, to assess AI usage. The first analysis will see if reports of AI use reflect a single dimension (i.e., the quantity of use) or multiple dimensions or factors of AI. In addition, two hypotheses will be tested.

Hypotheses

- The more that participants use companionate AI, the more unhappy they will be with their in-person relationships.
- Participants with higher levels of companionate AI, will exhibit lower scores of personal intelligence.

Post-hoc Explorations

A comparison to the Big Five personality traits will shed further light on AI use and relationships.

Methods

Participants

- Sample of N = 346, N = 324 after screening, drawn from the UNH participant pool. Everyone was awarded SONA credit for participation.
- Data was collected in December 2025 via online survey.

Measures

- Measures of AI use, relationships, personal intelligence, and the Big Five were employed.
- **Companionate AI use** was measured using the social and emotional questions from an AI Usage Scale (Francis & Martin, 2024), along with several internally developed questions about social and emotional AI use. This was a lifespace scale in which participants responded to questions like "How many times in the last day did you talk to AI about your feelings" in increments of time.
- **The Friendship Network Satisfaction Scale** is used to measure people's contentedness in friendships (Kaufman et al., 2021). Participants responded to how much they agreed to questions like "I spend a lot of time socializing with my friends."
- **The Interpersonal Relationship Quality Lifespace Scale** (Bryan 2023) tests external measures of people's relationships, with questions like "How many hours in the past week have you spent playing a sport with a friend" with all the response options being different amounts of time.
- **The TOPI Brief-20** is a test of personal intelligence designed to measure how well people understand personality (Mayer et al., 2017). For example, one question participants saw was "A person is witty, comical, and amusing. Most likely, he could also be described as" with the choices of hilarious, neurotic, intelligent, and handsome.
- **The BFI-2-XS** measures the Big Five personality domains of extraversion, agreeableness, conscientiousness, negative emotionality, and open-mindedness (Soto & John, 2017). Participants responded with how much they agreed to questions like "I am full of energy"

Procedure

- Participants completed a 105-question online survey comprised of the scales above.

Results

Preliminary Analyses

Table 1 (to the right) indicates the means, standard deviations, and reliabilities of the central measures. We next examined the measurement aspects of the lifespace scale: Did it assess one general aspect of AI use, or are there different kinds of companionate AI use. An oblique (oblimin) exploratory factor analysis indicated that there were two different kinds of AI companionate use. The results of the analysis, fixed at 2 factors, is in Table 2 (below). Paraphrases of the items used on the scale can be found in the first column of Table 2. Higher numbers in the Factor 1 column indicate stronger relations with the factor. The first factor appeared to reflect simple conversations with AI such as "discuss one's day". The second factor reflected a person's assignment of a specific role to the AI, such as that of a therapist.

Table 2. Pattern Matrix for Factor Analysis of AI Use Items (N = 324)

Item	Factor	
	Conversational Exchanges	Role-Based Interactions
I talked to AI about my day	.80	-.03
I asked AI a question instead of a person	.66	.21
I talked to AI about my feelings	.87	.00
I asked AI for perspective	.96	-.11
I vented to AI	.85	.03
I asked AI for communication advice	.86	.02
I sought AI for advice on an interpersonal conflict	.92	-.02
I asked AI for advice on making friends	.65	-.07
I gave AI personality traits	-.08	.84
I told AI a story from my life	.39	.50
I told AI something that happened to me	.38	.47
I used AI to help me understand my emotions	.47	.45
I used AI to understand someone else's feelings	.65	.17
I had a conversation with AI as if it were a friend	-.02	.91
I used AI like a therapist or mentor	.14	.72
I asked AI a question instead of a person in a social setting	.31	.51
I had a conversation with AI as if it were a romantic partner	-.10	.79

(Results continue in the next column).

Discussion

The purpose of this study was to see if there is an interaction among companionate AI use and measures of a person's personality traits and their relationship quality. In a preliminary analysis, we developed a scale of AI use that indicated there were two types of AI companionate use: One that emphasized conversational exchanges, and the other reflecting interacting with AI as specific characters like a therapist (role-based interactions). The main analyses indicated that participants who used more companionate AI overall exhibited lower quality relationships on a lifespace scale, as well as poorer self- and other understanding on an ability test of personal intelligence. This is consistent with findings that online social relationships can reduce the quality of existing in-person social connections (Valkenburg & Peter, 2007). Although online relationships are appealing due to their convenience, the absence of things like eye contact and unpredictability that one finds in everyday human relationships make it harder for people to develop essential skills like empathy (Turkle 2015).

An unexpected finding was that higher AI scores correlated with lower Interpersonal Relationship Quality Lifespace scores but not Friendship Satisfaction scores. This could be because satisfaction reflects the overall affective valence of a person—happy people are more satisfied with their life and relationships—and lifespace scales demonstrate expressions of personality beyond affective experience and reflect more observable, objective measures of behavior and biography over time. This was reflected by the correlation of $r = -.23^{***}$ between negative emotionality on the Big Five and the Friendship Satisfaction Score.

Limitations

The study was conducted with UNH students and may reflect self-selection of those who participated. In addition, generalization to more diverse samples may yield somewhat different results.

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Table 1. Descriptive Statistics (N = 324)

	Mean	Standard Deviation	Reliability (α)
AI Lifespace Measures			
Conversational Exchanges	11.25	3.81	.94
Specific Role Interactions	8.80	2.63	.90
Overall Companionate	18.93	5.68	.95
In Person Relationship Measures			
Friendship Satisfaction	84.00	13.57	.94
Interpersonal Relationship Quality Lifespace Score	125.43	11.26	.77
Test of Personal Intelligence			
TOPI Brief-20	52.36	3.77	.75
Big Five Inventory			
Extraversion	9.76	1.44	.66
Agreeableness	10.56	1.59	.52
Conscientiousness	10.98	1.79	.47
Negative Emotionality	10.20	1.61	.71
Open-Mindedness	9.72	1.64	.47

(Results—continued from the previous column).

Tests of Hypotheses. Table 3 shows the relations between AI use and the measures of interest. As you can see from the Overall Use column, the more AI use, the lower relational quality $r = -.23^{***}$ and personal intelligence $r = -.14^{**}$.

Table 3. Relationship and Personality Measures vs Companionate AI Use (N = 324)

	Conversational Exchanges	Specific Role Interactions	Overall Companionate AI Use
In Person Relationship Measures			
Friendship Satisfaction Score	.00	-.08	-.03
Interpersonal Relationship Quality Lifespace Score	-.23***	-.19***	-.23***
Test of Personal Intelligence			
TOPI Brief-20	-.16**	-.10*	-.14**
Big Five Inventory			
Extraversion	-.01	.01	.00
Agreeableness	-.07	-.04	-.06
Conscientiousness	-.13**	-.06	-.11**
Negative Emotionality	-.03	.05	.00
Open-Mindedness	-.12**	-.03	-.09

*p < .1 **p < .05 ***p < .001

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Note

The top left image was produced using Claude AI.