



A Study on the Relational Use of Artificial Intelligence, Psychological Well-being, and Rumination among Young Adults

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Abstract: In the modern era, human-AI interactions have been shifted from functional to relational use. The relational use of AI has a significant effect on an individual's psychological, mental, and cognitive functioning. The present study aims to understand the relationship between Relational AI usage, Psychological Well-being, and Rumination among Young adults. For this purpose, a sample of 102 young adults in the age range of 18-25 was taken. Standardized measures were administered to measure Relational AI usage, Psychological Well-being, and Rumination. The results revealed a significant negative relationship between Relational AI Usage and Psychological Well-being, as well as a significant positive relationship between Relational AI Usage and Rumination. The findings suggested that young adults should be guided towards authentic human relationships and structured therapeutic AI models to protect mental well-being, rather than relying on unstructured AI models.

Keywords: *AI Use, Relational Use of AI, Artificial Intelligence, Psychological Well-being, Rumination, Young Adults*

1. Introduction

Since the inception of AI, its applications have grown, and people have relied on it for practical purposes. In recent times, AI has become subtly woven into our everyday lives, from drafting letters and programming to creating social plans and deciphering complex subjects. However, many people in present times rely on AI for emotional and relational purposes. Relational Use of AI can be defined as the application of AI systems to connect with people in an emotionally competent manner. It uses artificial intelligence (AI) that can identify, react to,

and mimic emotional expressions, enabling automated systems to have conversations with humans. Nevertheless, the question is whether we must rely on AI for social purposes.

In recent times, an increasing number of users discuss stress, loneliness, anxiety, loss, life events, and trauma with AI. According to the Youth Pulse Study by YKA and YLAC (Nishant, 2025), “57% of young Indians use AI emotionally. More than half of respondents have used AI for emotional support for talking to it when stressed, lonely, or needing advice.” As a result of the increased relational usage of AI, a gap has emerged between human-to-human interpersonal relationships, which significantly affects mental health as well. A study by YKA and YLAC (Nishant, 2025) revealed that “42% say they're less likely to talk to friends or family after using AI, and 67% of AI users worry about social isolation; 58% fear privacy risks. Even as they use it, young Indians remain wary of AI's potential to increase isolation or misuse their personal data.”

This brings up important questions about psychological well-being. AI might, on the one hand, serve as a conveniently accessible, nonjudgmental companion that minimizes temporary distress and aids users in practicing coping mechanisms. However, a greater dependence on AI for emotional labour could change social behaviours, replace interpersonal relationships, and interfere with maladaptive cognitive processes like rumination, which is a recurring, passive focus on distressing symptoms and their potential causes and effects.

A study by Moore et al. (2025) revealed that LLMs respond negligently and inappropriately to the mental-health-related prompts, raising serious concerns regarding the safety and reliability of AI chatbots in emotional contexts. However, a study by Fitzpatrick et al. (2017) found that fully automated conversational agents delivering Cognitive behavioural therapy may reduce the symptoms of depression and anxiety. This demonstrates that while therapeutic conversational AI can benefit individuals, excessive usage of standard AI can negatively impact psychological health.

Although substantial research has explored the therapeutic AI models or general problematic use of Conversational AI agents, this integrative study focuses on distinguishing between frequency and relational use of AI and investigating relational use of AI and its impact on psychological well-being and rumination among young adults.

2. Review Of Literature

Relational Use of AI

According to Croes and Antheunis (2021), The Relational Use is defined as “humans treating technologies as social beings and developing personal relationships with them.” De

Graaf et al. (2018) defined relational use as “considering devices to be social actors, where users can form attachments and bonds with the device, exceeding its functional purpose and becoming a social companion.”

A cross-sectional study conducted by Maglo (2025) examined the effect of the relational and functional use of Artificial Intelligence (AI) chatbots on users' basic psychological needs, hedonic and eudaimonic well-being, and perceived social support among 417 college students. The findings indicated that while relational use of AI chatbots predicted relatedness, functional use of AI was significantly associated with autonomy and competence. Moreover, Hedonic well-being was enhanced through the relational use, meanwhile eudaimonic well-being was predicted by both uses, yet the functional use had a significantly greater impact on eudaimonic well-being.

Another study was conducted to understand emotional attachment to Artificial Intelligence using Sternberg's triangular theory of love on 526 university students in Hanoi, Vietnam. The results showed that students showed moderate levels of passion, commitment, and intimacy towards AI (Tran et al., 2025).

A two-way longitudinal study conducted by Xu and Li (2022) aimed to investigate the reciprocal interactions between functional use and relational use of Artificial Intelligence (AI) voice assistants, as well as the mediating role of privacy concerns and self-disclosure. The study revealed that relational use was solidified through self-disclosure, later enhancing the functional use. However, functional use does not contribute to relational use.

Psychological Well-being

Diener et al. (2010) defined psychological well-being as “a subjective evaluation of one's life that is categorized by affirmative emotions, engagement, and meaning.” According to Ryff (1989), Psychological well-being is defined as “an individual's overall mental and emotional health, encompassing aspects like life satisfaction, emotional resilience, and the ability to cope with stress.”

Velastegui, Garcés, and Pérez (2023) conducted a systematic review to evaluate the effect of Artificial Intelligence (AI) on the psychological well-being of university students by analysing several empirical studies published between 2015 and 2023. The findings revealed that some AI systems offered personalized support, enhancing learning and mental health, however, some AI systems caused stress and anxiety owing to information overload and limited human interaction.

Another study conducted by Zhang et al. (2025) investigated the association between human-AI companions' interaction and users' psychological well-being. The sample included

1,131 users, and the findings revealed that individuals with limited social networks are more likely to engage in Human-AI interactions, however, Human-AI interactions contribute to lower psychological well-being.

Another study was conducted to examine the association between psychological well-being and rumination among engineering university students. A sample of 131 university students enrolled in virtual learning was taken, which revealed that there was a significant negative relationship between psychological well-being and rumination (Cordero, 2025).

Rumination

According to Nolen Hoeksema (1991), Rumination is defined as “recurrently and passively concentrating on distress symptoms, as well as their potential causes and effects, without actively changing anything.” Sansone (2012) defined rumination as “a form of perseverative cognition that focuses on negative content, generally past and present, and results in emotional distress.”

Chandwani et al. (2025) conducted a study on the relationship and impact of rumination on emotional intelligence and quality of life among young adults. A sample of 290 individuals was gathered, which revealed that rumination has a negative impact on quality of life, whereas emotional intelligence has a positive impact on quality of life.

Hu, Mao, and Kim (2023) examined 516 users of conversational AI to test whether social anxiety predicts problematic AI use through loneliness and rumination. They found a serial mediation: social anxiety leads to loneliness, then rumination, which in turn leads to more excessive/ problematic AI interaction.

A study was conducted to examine the impact of conversational and animation features of a mental health app virtual agent on depressive Symptoms and user experience among 209 college students. The results found that there is a significant decrease in the symptoms of depression, stress, and rumination after follow-up as compared to the baseline (Six, 2025).

3. Purpose

The purpose of the study is to examine the relationship among Relational Use of Artificial Intelligence, Psychological Well-being, and Rumination among young adults.

4. Hypothesis

H1: There will be a significant negative relationship between Relational AI Usage and Psychological Well-being.

H2: Relational AI Usage will have a positive relationship with Rumination.

H3: There will be no difference between the results of Males and Females in terms of measured variables.

5. Method

5.1 Sample

A total sample of (N = 102), comprising (Males = 51 and Females = 51), aged 18-25, was collected via convenience sampling from the city of Jalandhar.

5.2 Measures

Psychological Well-being Short Form Scale: The Psychological Well-being Scale was employed to assess the psychological well-being of the study sample. The scale was developed by Ryff et al. (2010). The scale consists of 18 items, and the rating scale includes Strongly Agree (1), Somewhat Agree (2), A Little Agree (3), Neither Agree nor Disagree (4), A Little Disagree (5), Somewhat Disagree (6), Strongly Disagree (7). The scale has 6 sub-scales, namely the Autonomy, the Environmental Mastery, the Personal Growth, the Positive Relations with Others, the Purpose in Life, and the Self-Acceptance.

Relational Use of AI Scale: Relational AI Usage Scale was used to assess participants' engagement with the relational application of AI in the study sample. The items on the scale were originally developed by Xu and Li (2022) and later modified by Bridget Maglo. The present study employed this adapted version. The scale consists of 7 items, and the rating scale includes Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5).

Ruminative Response Short Form Scale (RRS-10): The Ruminative Response Scale was employed to measure rumination of the sample for the study. The scale was developed by Treynor et al. (2003). The scale consists of 10 items, and the rating scale includes Almost Never (1), Sometimes (2), Often (3), and Almost Always (4). The scale has 2 subdimensions, identified as Brooding and Reflection.

5.3 Procedure

The study was conducted by collecting responses from participants using Google Forms. Informed consent was obtained from all participants before they began the survey. Each participant was informed about the purpose of the study and thanked for their cooperation. Standardised measures were administered to the participants.

6. Analysis Of Result

6.1 Results

Table 1: Mean, N, and Standard deviation

	Sex	Rumination total	Brooding	Reflection	Psychological well-being	Autonomy	Environmental Mastery	Personal growth	Positive relations with others	Purpose in life	The self-acceptance	Relational use of AI	Frequency Use Of AI
N	Female	52	52	52	52	52	52	52	52	52	52	52	52
	Male	50	50	50	50	50	50	50	50	50	50	50	50
Mean	Female	25.9	13.2	12.7	82.4	13.6	13.0	15.7	12.1	13.7	14.3	19.1	2.96
	Male	24.1	12.3	11.8	85.2	14.5	13.5	15.7	12.7	14.0	14.8	19.9	3.46
SD	Female	5.87	3.33	3.39	16.5	4.26	3.54	3.95	4.52	3.33	3.85	7.58	2.17
	Male	6.53	3.45	3.76	19.8	4.85	3.70	4.79	4.18	3.38	4.21	7.45	2.02

Table 2: Correlation between Psychological well-being, Relational Use of AI & Rumination

	Brooding	Reflection	Autonomy	Environmental Mastery	Personal Growth	Positive relation with others	Purpose in life	The Self-acceptance	Rumination total	Psychological well-being	Relational use of AI	Frequency use of AI
Brooding	-											
Reflection	0.596***	-										

Autonomy	- 0.418***	-0.362***	-									
Environmental Mastery	- 0.461***	-0.332***	0.603***	-								
Personal Growth	- 0.415***	-0.366***	0.591***	0.584***	-							
Positive relations with others	- 0.436***	-0.331***	0.497***	0.492***	0.564***	-						
Purpose in life	-0.184	-0.092	0.338***	0.241*	0.430***	0.284**	-					
The Self- acceptance	- 0.521***	-0.360***	0.417***	0.586***	0.516***	0.537***	0.273**	-				
Rumination total	0.887***	0.899***	-0.436***	-0.442***	- 0.437***	- 0.428***	-0.153	-0.491***	-			
Psychological well-being	- 0.549***	-0.420***	0.785***	0.781***	0.832***	0.768***	0.548***	0.744***	-0.541***	-		
Relational use of Ai	0.499***	0.454***	-0.485***	-0.423***	- 0.401***	-0.272**	-0.296*	-0.460***	0.533***	-0.523***	-	
Frequency use of AI	0.338***	0.216*	-0.261**	-0.238*	-0.275**	-0.235*	-0.126	-0.419***	0.308**	-0.351***	0.376***	-

Table 3: Independent Samples T-Test				
		Statistic	df	p
Rumination total	Student's t	1.48376	100	0.141
Brooding	Student's t	1.41894	100	0.159
Reflection	Student's t	1.23115	100	0.221
Psychological well-being	Student's t	-0.75831	100	0.450
Autonomy	Student's t	-0.93574	100	0.352
Environmental Mastery	Student's t	-0.61535	100	0.540
Personal growth	Student's t	-0.00886	100	0.993
Positive relations with others	Student's t	-0.79104	100	0.431
Purpose in life	Student's t	-0.43494	100	0.665
The self-acceptance	Student's t	-0.59043	100	0.556
Relational use of AI	Student's t	-0.52632	100	0.600
Frequency Use Of AI	Student's t	-1.19929	100	0.233

Table 4: Group Descriptives						
	Group	N	Mean	Median	SD	SE
Rumination total	Female	52	25.92	25.00	5.87	0.814
	Male	50	24.10	23.00	6.53	0.924
Brooding	Female	52	13.21	13.00	3.33	0.461
	Male	50	12.26	11.50	3.45	0.487
Reflection	Female	52	12.71	12.50	3.39	0.470
	Male	50	11.84	12.00	3.76	0.532
Psychological well-being	Female	52	82.42	84.00	16.55	2.294
	Male	50	85.16	91.00	19.82	2.803
Autonomy	Female	52	13.62	14.00	4.26	0.591
	Male	50	14.46	16.00	4.85	0.685
Environmental Mastery	Female	52	13.04	13.00	3.54	0.491
	Male	50	13.48	14.00	3.70	0.524
Personal growth	Female	52	15.69	15.00	3.95	0.548

	Male	50	15.70	17.00	4.79	0.678
Positive relations with others	Female	52	12.06	11.00	4.52	0.626
	Male	50	12.74	13.00	4.18	0.591
Purpose in life	Female	52	13.73	14.00	3.33	0.462
	Male	50	14.02	14.00	3.38	0.479
The self-acceptance	Female	52	14.29	15.00	3.85	0.534
	Male	50	14.76	15.00	4.21	0.596
Relational use of AI	Female	52	19.10	19.50	7.58	1.052
	Male	50	19.88	18.00	7.45	1.054
Frequency Use Of AI	Female	52	2.96	2.50	2.17	0.301
	Male	50	3.46	4.00	2.02	0.286

The analyses revealed several correlations among the variables. Relational use of AI had a strong positive correlation with Rumination ($r=0.53$, $p<.001$), Reflection ($r=0.45$, $p<.001$), and Brooding ($r=0.49$, $p<.001$). At the same time, Relational use of AI had a significant negative correlation with Psychological Well-being ($r=0.52$, $p<.001$), Self-Acceptance ($r=0.46$, $p<.001$), Purpose in life ($r=0.29$, $p<.01$), Positive Relations with Others ($r=0.27$, $p<.01$), Personal Growth ($r=0.40$, $p<.001$), Environmental Mastery ($r=0.42$, $p<.001$), and Autonomy ($r=0.48$, $p<.001$). The frequency of AI use is significantly and positively correlated with Reflection ($r=0.21$, $p<.05$), Brooding ($r=0.33$, $p<.001$), Rumination total ($r=0.30$, $p<.01$), and Relational use of AI ($r=0.37$, $p<.001$). The frequency of AI use is significantly and negatively correlated with psychological well-being ($r=0.35$, $p<.001$). This includes significant negative correlations with its components: Autonomy ($r=0.26$, $p<.01$), Environmental Mastery ($r=0.238$, $p<.05$), Personal growth ($r=0.27$, $p<.01$), Positive relations with others ($r=0.23$, $p<.05$), and Self-acceptance ($r=0.41$, $p<.001$).

Psychological Well-being was strongly positively correlated with Self-Acceptance ($r=0.74$, $p<.001$), Purpose in life ($r=0.54$, $p<.001$), Positive Relations with Others ($r=0.76$, $p<.001$), Personal Growth ($r=0.83$, $p<.001$), Environmental Mastery ($r=0.78$, $p<.001$), and Autonomy ($r=0.78$, $p<.001$). It was also significantly negatively correlated with Rumination ($r=0.54$, $p<.001$), Reflection ($r=0.42$, $p<.001$), and Brooding ($r=0.54$, $p<.001$). Rumination had a strong positive correlation with Brooding ($r=0.88$, $p<.001$) and Reflection ($r=0.89$, $p<.001$). However, it was significantly negatively correlated with Autonomy ($r=0.43$, $p<.001$),

Environmental Mastery ($r=0.44$, $p<.001$), Personal Growth ($r=0.43$, $p<.001$), Positive Relations with Others ($r=0.42$, $p<.001$), and Self-Acceptance ($r=0.49$, $p<.001$).

Self-Acceptance had a significant negative correlation with Brooding ($r=0.52$, $p<.001$) and Reflection ($r=0.36$, $p<.001$). It was also significantly positively correlated with Autonomy ($r=0.41$, $p<.001$), Environmental Mastery ($r=0.58$, $p<.001$), Personal Growth ($r=0.51$, $p<.001$), Positive Relations with Others ($r=0.53$, $p<.001$), and Purpose in life ($r=0.27$, $p<.01$). Purpose in life showed a significant positive correlation with Autonomy ($r=0.33$, $p<.001$), Environmental Mastery ($r=0.24$, $p<.05$), Personal Growth ($r=0.43$, $p<.001$), and Positive Relations with Others ($r=0.28$, $p<.01$). Positive Relations with Others had a significant negative correlation with Brooding ($r=0.43$, $p<.001$) and Reflection ($r=0.33$, $p<.001$). It was also significantly positively correlated with Autonomy ($r=0.49$, $p<.001$), Environmental Mastery ($r=0.49$, $p<.001$), and Personal Growth ($r=0.564$, $p<.001$). Personal Growth had a significant negative correlation with Brooding ($r=0.41$, $p<.001$) and Reflection ($r=0.36$, $p<.001$). It was also significantly positively correlated with Autonomy ($r=0.59$, $p<.001$) and Environmental Mastery ($r=0.58$, $p<.001$). Environmental Mastery had a significant negative correlation with Brooding ($r=0.46$, $p<.001$) and Reflection ($r=0.33$, $p<.001$). It was also significantly positively correlated with Autonomy ($r=0.60$, $p<.001$). Autonomy had a significant negative correlation with Brooding ($r=0.41$, $p<.001$) and Reflection ($r=0.36$, $p<.001$). Reflection had a significant positive correlation with Brooding ($r=0.59$, $p<.001$).

The findings suggested there is no significant difference in the scores of males and females, implying that the psychological effects of AI use might be comparable for men and women.

7. Discussion of Results

The primary purpose of the study was to analyse the relationship among the relational use of AI, psychological well-being, and rumination. The results indicate a strong positive relationship between the relational use of AI and rumination ($r = 0.53$, $p < .001$), suggesting that higher relational use of AI is associated with higher levels of rumination. Furthermore, there was a significant negative correlation between relational use of AI and psychological well-being ($r=0.52$, $p<.001$), indicating that an increase in relational use of AI leads to lower psychological well-being. However, the independent T-test results revealed that there is no significant difference in the scores of males and females.

The findings confirm our hypothesis that relational use of AI will have a significant negative relationship with psychological well-being, and there will be a significant positive

relationship between relational AI usage and rumination. The findings also confirm that there is no significant difference in the results of males and females.

The present results are consistent with Hajek et al.'s (2025) work that deals with examining the relationship among AI usage involving personal conversations, loneliness, and perceived social isolation among 3270 individuals in Germany in the age group of 18-74. The findings suggested that individuals using AI for personal conversations once a week reported poorer social disconnectedness outcomes as compared to individuals who do not use AI for personal conversations. This consistency across diverse cultural contexts supports the idea that relational AI engagements may cause psychological dangers.

Certain limitations of this study could be addressed in future research. For example, the results of this study could not show causal inference among the variables, even though the study used correlation to determine significant associations among the variables. Moreover, future research should also use long-term studies to find out whether relational use of AI leads to poorer psychological well-being or if there are other contributing factors to psychological well-being, such as childhood trauma, parenting styles, or any type of abuse. Future researchers can potentially take a larger sample across different regions in order to maximize the generalizability of the results and to perform more complex and advanced analyses. Future studies can also distinguish between the impact of unstructured AI and organized therapeutic AI models on psychological well-being and rumination.

8. Conclusion

The present study aimed to understand the relationship between Relational AI usage, Psychological Well-being, and Rumination among young adults. For this purpose, a sample of 102 young adults in the age range of 18-25 was taken. Standardized measures were administered to measure Relational AI usage, Psychological Well-being, and Rumination. The results revealed a significant negative relationship between Relational AI Usage and Psychological Well-being, as well as a significant positive relationship between Relational AI Usage and Rumination.

The findings suggested that to reduce the harm associated with relational use, young adults should be encouraged to place importance on real-world relationships, and there should be open communication among their peers and parents to foster support and reduce overreliance on Artificial Intelligence. Young adults should seek therapy from professional mental health therapists to help them navigate their serious concerns, which can enhance their psychological well-being and reduce rumination through healthy coping mechanisms.

Moreover, there is a need to promote balanced AI usage and develop structured and therapeutic AI models to protect mental health, rather than relying on unstructured AI tools.

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