

# Artificial Intelligence Uses and Loneliness: Examining the Relationship Between Artificial Intelligence Usage Patterns, Need to Belong and Loneliness

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## ABSTRACT

Investigating the relationships between motivations for using AI tools and socialization dynamics is gaining increasing importance in AI-human interaction research. The potential opportunities and benefits that artificial intelligence tools can provide in relation to social needs and socialization dynamics attract the attention of researchers and practitioners in various behavioral fields. This study aimed to examine the relationship between motivations for using artificial intelligence tools and social characteristics. For this purpose, motivations for using AI tools, general attitudes towards AI, need for belonging, and loneliness levels were measured in a questionnaire form including 249 participants. The relationships between social interaction, identity, conformity, productivity and information motivations for using AI tools and the need to belong, loneliness and attitudes towards artificial intelligence were examined and the results showed that these motivations are positively predicted by positive attitudes towards artificial intelligence and the need to belong. The findings are discussed within the framework of the relevant literature.

**Keywords:** AI using motivations, Attitudes toward AI, Need to belong, Loneliness

## INTRODUCTION

Technological advances have led to comprehensive and radical changes in the daily life habits of modern societies. As one of the important components of these changes, artificial intelligence tools respond to the needs of users with a wide range of functions such as accessing information, solving problems, providing entertainment and even emotional support (Sethi & Jain, 2024; Yıldız Durak et al., 2025). The proliferation of large language models like ChatGPT has led to a significant interest in AI chatbots from both individuals and institutions (Durak & Onan, 2024). Artificial intelligence tools have gained a social function as well as functions such as access to information and daily life support.

Social needs and related negative experiences such as loneliness and isolation are gaining increasing attention worldwide (Xinyuan Lu & Wan Guo, 2025). Although the widespread use of the internet and social media provides communication opportunities between individuals, it does

not necessarily indicate an increase in emotional intimacy and deep social interactions (Besse & Whitaker, 2022; Bruehlman-Senecal et al., 2020). In this context, interacting with chatbots designed to communicate through text or voice-based natural language (Allouch M. et al., 2021) draws attention as a rapidly growing new social trend (Brandtzaeg et al., 2022). In cases where intervention programs are insufficient due to high costs and access constraints (Shah et al., 2021), the opportunities offered by artificial intelligence-based technologies emerge (Thangavel et al., 2022). AI technologies are becoming prevalent in interventions to reduce loneliness, these systems utilize methods of machine learning, natural language processing, and affective computing to mimic conversational interactions, provide emotional support, and create a sense of companionship (Jones et al., 2021; Kim & Choudhury, 2021).

The literature shows that initial studies on the relationships between AI and socialization dynamics have been conducted generally with older adults, and results indicate interventions that combine AI-assisted companionship with physical or cognitive activities and involve longer duration, and frequent interactions may show promise in alleviating (Yang et al., 2025). It has been observed that AI-based interaction tools are perceived as a factor that supports social connection, and psychological well-being, and are associated with a decrease in loneliness levels, especially in older age groups (Syed, 2024). Another study found that while AI improves communication efficiency and accessibility, it falls short in reflecting the depth of human empathy and relational intimacy (Ojo & Afolaranmi, 2024). Voice assistants are evaluated to have a potential to alleviate feelings of loneliness in older adults (Martinez et al., 2025). Another study showed that social robots have the potential to reduce loneliness, enhance interpersonal communication, improve mood, and reduce stress (Zöllick et al., 2022).

Research also points to the importance of different motivations in the use of artificial intelligence tools. In a study examining the motivations associated with the use of AI assistants, 5 key motivations (social interaction, personal identity, fitness, life efficiency, and knowledge) were identified (Choi & Drumwright, 2021). It has been found that, for people who report feeling lonely, satisfaction with using and long-term willingness to use AI assistants increase especially when privacy concerns are reduced (Choi & Choi, 2023). Studies indicate that social interaction may be important as well as functionality in the use of artificial intelligence tools. There is a growing emphasis on the need to focus on the relationship between use of AI tools and social needs. One of the main motivations of human behavior is defined as socialization (Baumeister & Leary, 1995) Within this context, it is important to investigate the behavioral processes related with meeting social needs as well as the daily search for information and functionality in the use of artificial intelligence tools.

This study aims to examine the relationship between the motivations for the use of artificial intelligence tools and the characteristics of socialization. For this purpose, a relational study design was planned to examine the relationships between attitudes towards artificial intelligence tools, motivations for using artificial intelligence tools, the need to belong and

loneliness levels. As a result of the study, it is aimed to determine the degree to which the motivations for using artificial intelligence tools can be predicted by the need to belong, the level of loneliness and attitudes towards artificial intelligence tools.

## **METHOD**

### **Study Design and Variables**

A relational design was conducted to examine the predictive relationships between the AI usage motivations, attitudes towards AI, loneliness and need to belong. The motivations for using AI tools were measured as five sub-dimensions (social interaction, personal identity, conformity, life efficiency, and information). Attitudes towards artificial intelligence were included in the study through two dimensions, positive and negative. Psychological characteristics related to social needs were included in the design as loneliness level and need for belonging levels.

Compliance with ethical principles was ensured at all stages of the study. Ethical approval of the study was granted by Fenerbahçe University Social and Humanities Research Ethics Committee with the 02.02.2026 - 2026/2-3 numbered decision.

### **Sample, Procedure and Analysis**

A total of 249 participants, 178 women (71.5%) and 71 men (28.5%) over the age of 18, were included in the study on a voluntary basis. Participants were included in the study by availability sampling method. Participants answered survey questions through printed forms (111 respondents) and online forms (138 respondents). Informed consent was obtained from the participants at the beginning of the study. Data collection was through January 2026. SPSS 31 program was used for the analysis of the data. Correlation and regression analyses were applied as well as distribution analyses and descriptive analyses.

## **Measures**

### **General Attitudes Toward AI Scale**

The scale, developed by Schepman and Rodway (2020), was adapted to Turkish by Kaya et al. (2022). It consists of 20 items rated as 5-point Likert scale. For the Positive Attitudes Towards AI dimension, the lowest score is 12 and the highest score is 60 and for the Negative Attitudes Towards AI dimension, the lowest score is 8 and the highest score is 40. Cronbach-Alpha values for the sub-scales were found to be .82 for positive and .84 for negative attitudes dimensions.

### **UCLA Loneliness Scale**

The UCLA Loneliness Scale, developed by Russell, Peplau and Ferguson (1980), measures the loneliness levels of individuals. The scale consists

of 20 items and is answered with a 4-point Likert type rating. The total score ranges from 20–80, with higher scores indicating a higher level of loneliness. The scale was adapted into Turkish by Demir (1989). The internal consistency coefficient of the Turkish form was reported as .96 and the test-retest reliability was reported as .94.

### **Need to Belong Scale**

The Need to Belong Scale is a 10-item one-dimensional scale developed by Leary et al. (2013) to measure the level of need to belong. The scale is of 5-point Likert type. The Cronbach's alpha of the scale was found to be .87. The psychometric properties of the Turkish form of the scale were examined by Kavaklı and Temel (2025). The internal consistency of the scale was found to be .83.

### **Motivations for Using AI Assistants Scale**

Motivations for Using Artificial Intelligence Assistants Scale was developed by Choi and Drumwright (2021) to measure motivations for using artificial intelligence over 5 sub-dimensions. The scale includes 23 items and items are evaluated on a 7-point Likert type scale. Cronbach-Alpha values for the sub-dimensions were found to be .90 for social interaction, .89 for personal identity, .87 for conformity, .84 for life efficiency and .82 for the information dimension. The scale has been translated into Turkish by researchers.

## **RESULTS**

### **Sociodemographic Characteristics of the Sample**

178 females (71.5%) and 71 males (28.5%) adults participated in the study. The mean age of the participants was 26.79 years (sd = 10.33). The mean age of the female participants was 26.16 (sd = 10.42) and 28.35 (sd = 9.97) for male participants.

### **Reliability Coefficients and Distribution Statistics for the Scales**

Cronbach's alpha values in this study were calculated as .91 for social interaction, .84 for identity, .87 for conformity, .89 for efficiency and .83 for information subscales of Motivations for Using Artificial Intelligence Assistants Scale. The values for subscales of Attitude Towards Artificial Intelligence Scale were calculated as .89 for positive and .85 for negative attitude. Cronbach alpha value for Need to Belong Scale is .80 and .89 for Loneliness scale. Centrality and deviation values are presented in Table 1.

**Table 1:** Distribution statistics of motivations for using AI assistants, general attitudes toward artificial intelligence, need to belong and loneliness scales.

Scale	Subscales	N	Mean	SD	Min	Max	Skewness	Kurtosis
General Attitudes toward AI	Positive Attitude	249	42.37	8.76	12	60	-0.655	0.982
	Negative Attitude	249	23.96	6.26	8	40	0.243	0.022
Motivations for Using AI Assistants	Social Interaction	249	3.62	1.59	1	7	0.003	-.795
	Personal Identity	249	3.06	1.38	1	7	0.626	0.134
	Conformity	249	3.62	1.59	1	7	-0.121	-0.961
	Life Efficiency	249	5.13	1.5	1	7	-1.166	1.032
Need to Belong	Information	249	5.02	1.41	1	7	-1.013	0.919
	Need to belong	249	30.28	7.02	13	49	.000	-0.011
Lon.	Loneliness	249	35.31	10.1	20	74	0.722	0.196

### Correlations With Motivations for Using AI Assistants

Pearson correlation analyses showed statistically significant relationships between the sub-dimensions of the Motivations for Using AI scale and attitudes towards AI, need to belong, level of loneliness, and age. Results showed high correlations between motivations for using AI subscales and positive attitudes toward AI and need to belong scores. For these scores the correlation coefficient values ranged between  $r > .21$  and  $r < .67$ . Correlation coefficients between motivations for using AI assistants and attitudes towards AI, need to belong and loneliness scales are presented in Table 2.

**Table 2:** Correlations between motivations for using AI assistants and general attitudes toward artificial intelligence, need to belong, loneliness scales.

Variables	N	Positive Attitude	Negative Attitude	Need to Belong	Loneliness	Age
Social Interaction	249	.45***	-.07	.30***	.15*	-.27***
Personal Identity	249	.51***	-.03	.33***	.18**	-.13*
Conformity	249	.35***	.04	.40***	.04	-.01
Life Efficiency	249	.67***	-.26***	.21***	-.08	-.02
Information	249	.52***	-.22***	.26***	-.11	.01

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Regressions on Motivations for Using AI Assistants

As a result of a series of multiple linear regression analyses carried out to examine the level of predictability of motivations for using artificial intelligence tools by the variables used in the study. Results showed that the positive attitude towards AI was a strong positive predictor on all motivation dimensions. Additionally, another positively strong predictor in

all motivation dimensions was the need to belong. Loneliness level has a predictive role in identity and knowledge dimensions. Finally, the age variable has a negative predictive power in the dimensions of social interaction and identity motivation. Results are shown in Table 3–7.

**Table 3:** Multiple linear regression analysis results on the predictive roles of attitudes toward AI, need to belong, loneliness and age on social interaction scores.

Variable	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>t</i>	<i>p</i>
Constant	-.72	.74		-.96	.336
Positive Attitude	.08	.01	.43	7.65	<.001
Negative Attitude	.01	.01	.04	.78	.435
Need to Belong	.04	.01	.18	3.22	.001
Loneliness	.01	.01	.10	1.80	.074
Age	-.04	.01	-.25	-4.65	<.001

Model stats:  $F(5, 243) = 23.83, p < .001, R^2 = .33, \text{Adjusted } R^2 = .31$

**Table 4:** Multiple linear regression analysis results on the predictive roles of attitudes toward AI, need to belong, loneliness and age on personal identity scores.

Variable	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>t</i>	<i>p</i>
Constant	-2.25	.63		-3.58	<.001
Positive Attitude	.08	.01	.50	9.07	<.001
Negative Attitude	.02	.01	.10	1.80	.072
Need to Belong	.04	.01	.20	3.65	<.001
Loneliness	.02	.01	.14	2.58	.010
Age	-.01	.01	-.10	-1.98	.049

Model stats:  $F(5, 243) = 27.03, p < .001, R^2 = .36, \text{Adjusted } R^2 = .34$

**Table 5:** Multiple linear regression analysis results on the predictive roles of attitudes toward AI, need to belong, loneliness and age on conformity scores.

Variable	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>t</i>	<i>p</i>
Constant	-1.74	.79		-2.21	.028
Positive Attitude	.06	.01	.31	5.25	<.001
Negative Attitude	.03	.01	.11	1.88	.061
Need to Belong	.08	.01	.34	5.78	<.001
Loneliness	-.01	.01	-.02	-.34	.732
Age	.01	.01	.01	.27	.785

Model stats:  $F(5, 243) = 15.98, p < .001, R^2 = .25, \text{Adjusted } R^2 = .23$

**Table 6:** Multiple linear regression analysis results on the predictive roles of attitudes toward AI, need to belong, loneliness and age on life efficiency scores.

Variable	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>t</i>	<i>p</i>
Constant	.87	.62		1.40	.164
Positive Attitude	.11	.01	.62	12.35	<.001
Negative Attitude	-.02	.01	-.07	-1.44	.152
Need to Belong	.02	.01	.11	2.18	.030
Loneliness	-.01	.01	-.09	-1.82	.070
Age	-.01	.01	-.02	-.51	.611

Model stats:  $F(5, 243) = 42.3, p < .001, R^2 = .46, \text{Adjusted } R^2 = .45$

**Table 7:** Multiple linear regression analysis results on the predictive roles of attitudes toward AI, need to belong, loneliness and age on information scores.

Variable	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>t</i>	<i>p</i>
Constant	1.75	.66		2.65	.009
Positive Attitude	.07	.01	.46	8.10	<.001
Negative Attitude	-.02	.01	-.08	-1.40	.161
Need to Belong	.04	.01	.20	3.54	<.001
Loneliness	-.02	.01	-.13	-2.45	.015
Age	.01	.01	.01	.14	.890

Model stats:  $F(5, 243) = 23.26, p < .001, R^2 = .32, \text{Adjusted } R^2 = .31$

## DISCUSSION

Results indicate that the use of artificial intelligence is not limited to functional reasons but is also closely related to social and psychological needs. One of the main findings of the study is that the need for belonging significantly predicts all sub-dimensions of motivations to use artificial intelligence tools. This result, based on Baumeister and Leary's (1995) Need to Belong theory, suggests that individuals tend to meet their needs for social bonding and acceptance not only through human relations but also through digital actors. Recent studies reveal that AI assistants can be perceived as social entities, not just systems that provide information, and that users can develop socially based interactions with these systems (Guzman & Lewis, 2020; Skjuve et al., 2021; Ta et al., 2020). The fact that the need for belonging is associated with all motivational dimensions suggests that artificial intelligence tools can be experienced as a symbolic social contact area.

The predictive role of loneliness level on identity and information motivations can be evaluated within the framework of the Social Compensation hypothesis. This hypothesis argues that individuals experiencing social anxiety or loneliness try to compensate for their loss in face-to-face communication through digital channels (Kraut et al., 2002). It can be thought that individuals who experience feelings of loneliness tend to share information more intensively with AI and build an identity through

these tools. It can be stated that the non-judgmental nature of AI assistants offers a safe interaction space for these individuals (Skjuve et al., 2021).

The negative predictive effect of age on social interaction and identity motivations indicates intergenerational perception differences. Young users, or “digital natives,” experience AI not just as a functional tool but as a natural component of life where they reflect their selves and engage in social interaction (Prensky, 2001; Seaborn et al., 2021). Studies show that young individuals are significantly more likely to adopt AI as a “social partner” than older age groups (Luger & Sellen, 2016).

The fact that positive attitudes towards AI strongly predict all motivational dimensions is consistent with Technology Acceptance Model (Davis, 1989). However, this relationship is not limited to functional benefit; it also seems to support social and identity-based motivations, with positive attitudes making AI interaction more human and safer. On the other hand, the inverse relationship between negative attitudes and efficiency and knowledge dimensions indicates that anxiety and threat perceptions about AI play a hindering role in performance-oriented areas. This situation is reflected in algorithmic insecurity and functional risk perception studies (Fast & Horvitz, 2017; Langer & König, 2018).

These findings indicate that AI tools are used not only for efficiency and knowledge acquisition but also for social bonding, identity processes, and the regulation of psychological needs. It can be thought that these systems can serve as a potential social support, especially for groups at high risk of loneliness, experiencing social exclusion and disadvantaged groups. However, experimental and longitudinal research is needed to understand the long-term psychosocial effects of interactions with artificial intelligence. Future studies will make important contributions to the literature to examine whether these interactions strengthen or impair individuals’ real-life social relationships.

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