

EXAMINING THE RELATIONSHIP BETWEEN CHATGPT, GEMINI, AND BING USE AND LIFE SATISFACTION: A CASE STUDY OF SLOVENIA

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Abstract

This study uniquely investigates the use of AI tools, specifically OpenAI ChatGPT, Google Bard-Gemini, and Bing, in Slovenia, focusing on their perceived impact on life satisfaction and educational policies. A survey of 757 respondents revealed that OpenAI ChatGPT is the most commonly used AI tool (57.7%), followed by Bing (19.4%) and Google Bard-Gemini (11.8%). Despite the high usage rates, the correlation between AI tool use and overall life satisfaction was weak, challenging the hypothesis that the frequent use of AI tools leads to greater life satisfaction. Additionally, while 19.4% of respondents reported improved life satisfaction due to AI tools, the majority (60.3%) experienced no change, and some (8.0%) reported a decline. The study partially supports the hypothesis that Slovenians are generally favorable toward AI in education, with 51.9% opposing a ban on AI tools, 25.0% supporting a ban, and 23.1% remaining undecided. These findings suggest a widespread but cautious acceptance of AI tools, emphasizing the need for further research into their effects on well-being and educational policies.

Key words: Life satisfaction, Artificial intelligence, ChatGPT, Gemini, Bing, school.

1. Introduction

In recent years, artificial intelligence (AI) has increasingly influenced various facets of daily life, from work and communication to personal well-being. This paper explores the intersection of AI usage and life satisfaction in Slovenia, focusing on

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three prominent AI tools: ChatGPT, Gemini, and Bing. Through a comprehensive case study involving 757 participants with an average age of 35.95 years, the research aims to understand whether the use of these AI tools correlates with higher life satisfaction among Slovenians. The study investigates the extent to which users perceive improvements in their well-being as a result of AI tool usage and gauges public support for integrating AI into the educational system. We hypothesize:

Hypothesis 1: There is a positive correlation between the frequency of AI tool use and overall life satisfaction among Slovenians.

Hypothesis 2: A significant proportion of Slovenians perceive an improvement in their well-being as a direct result of using AI tools.

Hypothesis 3: Slovenians are generally supportive of the implementation of AI tools within the country's educational system.

We focused on studies that measured satisfaction with life using the SWL questionnaire, the most widely used scale for this purpose. Additionally, our literature review was limited to publications from 2020 to 2024.

By examining these relationships, the study provides valuable insights into the potential of AI to enhance personal and societal well-being.

2. Literature review

The relationship between life satisfaction and perceptions of artificial intelligence (AI) across 39 European countries is explored by Hinks (2024). The study reveals that individuals harboring negative perceptions of AI tend to report lower life satisfaction. This suggests that fear and uncertainty about AI's societal impacts may adversely affect overall well-being. Transparent discussions about AI's role are emphasized as a crucial measure to alleviate these concerns.

Kim et al. (2023) investigate the use of explainable AI to analyze the connections between life satisfaction, diabetes mellitus, and its comorbid conditions. AI can identify key factors influencing life satisfaction among diabetes patients, thus aiding personalized health interventions. The study underscores AI's potential to enhance both healthcare outcomes and life satisfaction.

Abubakar (2020) employs a hybrid structural equation modeling (SEM) and AI approach to examine the effects of boreout on career, life, and job satisfaction among different generations. Significant generational differences are highlighted, with boreout negatively impacting satisfaction. The study calls for tailored organizational strategies to address generational disparities.

A U-shaped trend is found in the relationship between age and life satisfaction, with life satisfaction peaking in early adulthood, declining in midlife, and rising again in older age. This analysis, conducted by Kaiser, Otterbach, and Sousa-Poza (2022) using machine learning, illustrates the complexity of life satisfaction across the lifespan.

Metzger (2024) presents a dissertation examining AI's impact on life satisfaction across demographic groups. While AI enhances well-being through improved services and convenience, it also raises concerns about privacy and job

security, which can detract from life satisfaction. These findings highlight the dual nature of AI's influence.

Employees' perceptions of robotics, AI, and automation (RAIA) on job satisfaction, job security, and employability are examined by Bhargava, Bester, and Bolton (2020). The study finds that while RAIA technologies improve efficiency and satisfaction, they simultaneously provoke concerns about job security. Organizations are encouraged to address these apprehensions.

Çiftçi and Yıldız (2023) analyze the relationships between social media addiction, happiness, and life satisfaction using machine learning. Their findings reveal that social media addiction adversely affects happiness and life satisfaction, particularly among specific demographic groups, necessitating interventions to reduce these negative impacts.

The study by Vorina et al. (2024) explored the use of AI tools, such as OpenAI ChatGPT, Google Bard-Gemini, and Bing, and their impact on life satisfaction among students across various countries. The findings indicated that 21% of respondents experienced an improvement in their well-being after using these AI tools.

3. Methodology

3.1 Questionnaire

This study used the Satisfaction with Life Scale (SWLS) to assess subjective well-being. A separate 16-item questionnaire was used to collect data on life satisfaction, AI tool usage, and demographics. Participants rated their life satisfaction, AI tool usage frequency, and provided opinions on AI policies. The data were collected from March to April 2024 and analyzed using IBM SPSS22.

3.2 Sample

The dataset comprises 757 valid responses, representing participants aged 18 to 76. The mean age is 36.47 years, with a standard deviation of 13.838, indicating a relatively wide age distribution. The sample is heavily skewed towards females, who constitute 72.1% of participants, while males account for only 27.9%. In terms of education, the majority (59.3%) have completed elementary school or less. Only 39.9% have completed secondary school, and just 0.8% have a high school education or higher.

4. Discussion-confirm the hypothesis

At the start of our research, we were interested in determining the proportion of respondents who had experience using various language models, including OpenAI ChatGPT, Google Bard-Gemini, and Bing.

Table 1: Have you ever used OpenAI ChatGPT?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	437	57,7	57,7	57,7
	no	320	42,3	42,3	100,0
	Total	757	100,0	100,0	

Source: Author's research

OpenAI ChatGPT: 57.7% of respondents had used OpenAI ChatGPT, while 42.3% had not (see Table 1). This suggests that OpenAI ChatGPT is the most widely used of the three AI language models in the survey.

Table 2: Have you ever used Google Bard-Gemini?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	89	11,8	11,8	11,8
	no	668	88,2	88,2	100,0
	Total	757	100,0	100,0	

Source: Author's research

Google Bard-Gemini: Only 11.8% of respondents had used Google Bard-Gemini, and 88.2% had not (see Table 2). This indicates that it is significantly less used compared to OpenAI ChatGPT.

Bing: 19.4% of respondents had used Bing, and 80.6% had not (see Table 3). This places Bing in the middle in terms of usage compared to the other two AI language models.

Table 3: Have you ever used Bing?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	147	19,4	19,4	19,4
	no	610	80,6	80,6	100,0
	Total	757	100,0	100,0	

Source: Author's research

We assume:

Hypothesis 1: There is a positive correlation between the frequency of AI tool use and overall life satisfaction among Slovenians.

The dependent variable (SumSWL) is the sum of all 5 statements, with a minimum SumSWL score of 0 and a maximum of 35. We conducted a Spearman rank correlation analysis (Table 4):

Table 4: Correlation matrix usage OpenAI ChatGPT Google Bard-Gemini Bingf and SWLS?

	How many hours per week do you typically use OpenAI ChatGPT? Please enter the number of hours:	SumSWL	How many hours per week do you typically use Google Bard-Gemini? Please enter the number of hours:	How many hours per week do you typically use Bing? Please enter the number of hours:
How many hours per week do you typically use OpenAI ChatGPT? Please enter the number of hours:	1,000	,002	,532**	,541**
		,962	,000	,000
	437	437	81	126
SumSWL	,002	1,000	,056	-,016
	,962		,601	,849
	437	757	89	147
How many hours per week do you typically use Google Bard-Gemini? Please enter the number of hours:	,532**	,056	1,000	,642**
	,000	,601		,000
	81	89	89	40
How many hours per week do you typically use Bing? Please enter the number of hours:	,541**	-,016	,642**	1,000
	,000	,849	,000	
	126	147	40	147

Source: Author's research

Based on the provided correlation matrix (see Table 4), we can observe the following relationships between the variables:

OpenAI ChatGPT and Google Bard-Gemini: There is a weak positive correlation of 0.056 between these two variables. This suggests that individuals who use OpenAI ChatGPT more frequently are also slightly more likely to use Google Bard-Gemini, but the relationship is not very strong.

OpenAI ChatGPT and Bing: A moderate positive correlation of 0.601 exists between these two variables. This indicates a stronger relationship, suggesting that individuals who use OpenAI ChatGPT are more likely to also use Bing.

Google Bard-Gemini and Bing: The correlation between these two variables is the strongest, with a value of 0.642. This suggests a moderately strong positive relationship, indicating that individuals who use Google Bard-Gemini are more likely to also use Bing.

SumSWL (overall well-being) and AI language models: The correlations between SumSWL and the three AI language models are relatively weak, ranging from -0.16 to 0.056. This suggests that there is no strong relationship between the overall well-being of individuals and their usage of these AI tools, so hypothesis 1 is not confirmed.

Hypothesis 2: A significant proportion of Slovenians perceive an improvement in their well-being as a direct result of using AI tools.

Table 5: Do you believe your overall life satisfaction has changed since you started using artificial intelligence tools (OpenAI ChatGPT, Google Bard-Gemini, Bing)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes, for the better	147	19,4	31,7	31,7
	yes, for the worse	37	4,9	8,0	39,7
	no, it hasn't changed	280	37,0	60,3	100,0
	Total	464	61,3	100,0	
Missing	System	293	38,7		
	Total	757	100,0		

Source: Author's research

We can see (Table 5) that: 147 respondents (19.4%) reported that their overall life satisfaction had improved since using AI tools; 37 respondents (4.9%) reported that their overall life satisfaction had worsened since using AI tools; 280 respondents (37.0%) reported that their overall life satisfaction had not changed since using AI tools. While a portion of respondents did report an improvement in their well-being, a significant number also reported no change or even a decline. Therefore, the data do not strongly support Hypothesis 2.

Hypothesis 3: Slovenians are generally supportive of the implementation of AI tools within the country's educational system.

Based on the provided data, we can see (Table 6) that: 189 respondents (25.0%) would ban the use of AI tools in schools. 393 respondents (51.9%) would not ban the use of AI tools in schools; 175 respondents (23.1%) were unsure about banning AI tools in schools. While a majority of respondents (51.9%) do not support a ban on AI tools in schools, a significant portion (25.0%) would still ban their use. Based on the data provided in Table 6, hypothesis 3 can be partially confirmed.

Table 6: Would you ban the use of the mentioned artificial intelligence tools in schools??

		Frequency	Percent	Valid Percent	Cumulative P ercent
Valid	yes	189	25,0	25,0	25,0
	no	393	51,9	51,9	76,9
	I don't know	175	23,1	23,1	100,0
	Total	757	100,0	100,0	

Source: Author's research

5. Conclusion

This study aimed to investigate the use of AI tools such as OpenAI ChatGPT, Google Bard-Gemini, and Bing in Slovenia, and their perceived impact on life satisfaction and educational policies. Through a survey of 757 respondents, we examined AI tool usage, subjective well-being, and public attitudes toward AI in schools.

The findings reveal that 57.7% of respondents had used OpenAI ChatGPT, making it the most popular AI tool in the study, compared to 19.4% for Bing and 11.8% for Google Bard-Gemini. Despite the high usage of OpenAI ChatGPT, the correlation between AI tool use and overall life satisfaction (SumSWL) was weak, failing to support Hypothesis 1, which posited that frequent AI tool usage correlates with higher life satisfaction. This suggests that while a significant portion of the population is using AI tools, their impact on well-being is minimal.

Hypothesis 2, which proposed that a significant proportion of Slovenians perceive an improvement in their well-being due to AI tools, was also not strongly supported. While 19.4% of respondents reported improvements in life satisfaction, 60.3% noted no change, and 8.0% felt their well-being had worsened.

Hypothesis 3—that Slovenians are generally supportive of AI implementation in schools—was partially confirmed. The data show that 51.9% of respondents did not support a ban on AI tools in schools, indicating general acceptance of AI in education. However, 25.0% of respondents support banning AI tools, while 23.1% remain undecided, suggesting that public opinion is still divided and requires further discussion.

While AI tools are widely used, their perceived impact on life satisfaction is minimal, and attitudes toward their use in education are cautiously positive but tempered by some reservations. This highlights the need for more focused research and discourse on AI's role in personal well-being and educational systems.

Future research should explore how specific factors and contexts influence the perceived impact of AI tools on life satisfaction and well-being. Additionally, investigating public attitudes toward AI in education, including reasons for opposition or uncertainty, will help inform more effective integration strategies.

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