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PERCEPTIONS OF YOUNG PEOPLE ABOUT THE ROLE OF ARTIFICIAL INTELLIGENCE IN SPIRITUAL AND MORAL DEVELOPMENT

Abstract: The aim of this exploratory quantitative study was to examine young people's perceptions of the role of artificial intelligence in spiritual and moral development. The research included 121 students from the Technical Faculty "Mihajlo Pupin" in Zrenjanin and The Serbian Orthodox Church Academy for Arts and Conservation in Belgrade, thus the study relied on a convenience sample. The study analyzed how students assess the role of AI in their spiritual and moral development. Data were collected through an online Likert-type questionnaire encompassing eight domains: AI use and perception, digital literacy, emotional attitudes toward AI, spirituality, values, empathic concern, and moral attitudes. The instrument demonstrated high reliability (Cronbach's α = .950). Descriptive, correlational, and regression methods and techniques, as well as exploratory factor analysis, were used in the analysis. The results indicate that respondents perceive AI as only slightly to moderately stimulating for their spiritual and moral development. It may be concluded that AI plays a limited and secondary role in the spiritual and moral development of young people, while this process is more strongly shaped by religious practice, family influence, and traditional sources of spirituality. Limitations relate to the sample size and structure, as well as the use of self-report measures, while future research may include broader samples and combined methodological approaches.

Keywords: AI, artificial intelligence, spiritual development, moral development, youth

1. Introduction

Artificial intelligence (AI) represents a particularly important and contemporary means of education and upbringing in the 21st century. Through its adequate application in everyday life and teaching, AI can have a significant impact on the spiritual and moral development of young people. AI, as part of information and communication technologies, may also be connected to the spiritual and moral development of youth (Lasswell, 1963). For example, the transmission of cultural heritage through AI enables young people to access traditional values and beliefs, encouraging a sense of connectedness with previous generations and opening space for understanding and respecting diverse life experiences. This process may foster spiritual and moral development by enabling young individuals to encounter different value systems and worldviews, appreciate diversity, and simultaneously preserve their own opinions and attitudes. Furthermore, the societal

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interconnectedness facilitated by AI eases access to information about current social issues and problems, offering young people opportunities to develop awareness of others' feelings and needs through discussions and group activities in educational settings. Finally, the shaping of young people's responses to their environment through AI contributes to the formation of their moral and spiritual values. By providing practical examples and guidelines for appropriate behavior toward others, AI can influence the development of youths' spiritual and moral values. In this paper, within the context of the spiritual and moral development of young people, emphasis will be placed on their perceptions of the functions of AI in guiding their responses to the environment, transmitting cultural heritage, knowledge, and learning. By providing such cultural signposts and information, AI points to possibilities for appropriate behavior, action, and relations toward others, as well as to what constitutes expected and desirable conduct. Through these functions, ICT - including AI - oins traditional educators such as parents and schools, but extends its influence in a more modern, efficient, attractive, and engaging manner (Radojković & Stojković, 2009). Researchers note that through specific questions and guided prompts, young people can deepen their engagement with AI, improving the quality and relevance of the responses generated by artificial intelligence. The introduction of models such as CRAFT and strategies such as rapid chaining and inverted interaction patterns empowers young people to optimize their AI interactions, thereby enhancing their learning and problem-solving abilities (Siegle, 2025). The most efficient AI prompts typically include several key components (Budiu et al., 2023). To assist students in creating effective prompts, teachers may use frameworks such as the CRAFT model (context, role, audience, format, task, and tone), which helps structure prompts to achieve the desired AI response. It encourages students to provide context, assign a role, identify an audience, specify a format, and clarify the task and tone - all factors that help tailor AI responses more effectively (Cubero et al., 2024).

Spiritual and moral development, as an integral part of the process of moral education and the moral formation of the individual, is shaped by the family, educational and cultural institutions, mass media (including ICT and AI to a large extent today), publishing activity, social and work organizations, and the ways in which leisure time is used, as all these factors significantly influence moral development (Potkonjak et al., 2013, pp. 128–129). According to Piaget, moral autonomy is achieved through cooperation, collaboration, and discussion - that is, through the joint pursuit of truth and the awareness that rules may be altered and adapted by mutual agreement (Piaget, 1968). Furthermore, as a child develops and matures, at a certain stage it becomes capable of resisting temptations and exercising self-monitoring, acting for the common good by respecting others. Since such morality emerges from within, independent of external social influences, it is referred to as independent or autonomous morality (Popović, 1978, p. 29). Kohlberg (1976) identified six stages within three levels of moral reasoning development: the preconventional level (stages 1 and 2), reflecting a concrete–individualistic perspective; the conventional level (stages 3 and 4), reflecting the perspective of a member of society; and the postconventional level (stages 5 and 6), reflecting a perspective beyond societal conventions. Allport (1963) made a significant contribution to the psychology of religion by distinguishing between mature (intrinsic, internal) and immature (extrinsic, external) religiosity or religious orientation. According to Jung (2008), through the process of individuation, every personality spontaneously and inevitably strives toward self-actualization and growth, despite the conflicts, struggles, and even neuroses present in one's personal or collective unconscious. The wholeness of personality is always relative, and a person's task is to work on it continuously throughout life. As Jerotić (1995, p. 19) notes, "as the complete realization of the wholeness of our being, it is an unattainable ideal; however, its unattainability is not an argument against it, for ideals are signposts, never final goals." One important component of spiritual and moral development is the development of empathy, which represents responsiveness to the experiences of another person through complex empathic reactions that include both cognitive (perspective-taking, fantasy) and affective (empathic concern, personal distress) components (Davis, 1983). According to another view (Kohut, 1971), empathy is based on introspection - on observing one's own internal states and processes. If we

are capable of imagining and feeling what it is like to be in another person's position, we may examine our own internal reactions that arise in response (feelings, needs, thoughts, etc.). Empathy may be understood both as cognitive awareness of another person's internal states, thoughts, perceptions, intentions, and feelings, and as an affective response to them (Hoffman, 1984). It may also be considered one of the five dimensions of emotional intelligence, characterized by the following competencies: understanding others, developing others, service orientation, valuing diversity, and political awareness (Goleman, 2007). Empathy is a trait that can develop and indeed develops through nonviolent, pedagogical communication focused on the feelings and needs of oneself and others (Rozenberg, 2002). Taking into account all the aforementioned theories, this paper will analyze the role of artificial intelligence (AI) in the development of morality, spirituality, and empathy.

Relevant Studies in Serbia and Worldwide

It is important to highlight several studies conducted in Serbia and abroad in the fields of AI and spiritual and moral development, whose findings have raised the very questions explored through the empirical research presented in this paper. A large-scale study in the United States (N = 2,604) examining how people perceive and trust artificial moral advisors (AMAs - AI-based systems designed to assist individuals in making ethical decisions) compared with human advisors showed a strong algorithmic aversion among most respondents, reflected in substantial reluctance toward AMAs, especially when these systems provided moral guidance grounded in utilitarian principles (Myers & Everett, 2025). In another U.S. research study, a child-oriented chatbot titled *Ask Me Anything* (AMA) was developed to investigate children's attitudes toward and trust in AI-driven conversational agents. Three key themes emerged from students' interactions with the chatbot: expressions of amazement, surprise, and curiosity; trust-building and the development of confidence; and the establishment of relational bonds accompanied by anthropomorphization. The study also observed a general sense of openness and comfort, manifested through a high level of trust and reliance on AI as an information source, illustrating a fundamental aspect of children's cognitive development: the active evaluation of source credibility (Movahed & Martin, 2025). A study focusing on the spiritual and moral development of senior university students found that both curricular and extracurricular activities significantly influence students' spiritual and moral growth, while highlighting the essential role of the academic curriculum in fostering students' spiritual and moral identity (Newton, 2020). A study conducted among Christian youth in Africa examined the influence of AI on perceptions of spirituality, exploring the complex interplay between technology, faith, and identity. The findings show that AI affects youth spirituality in multifaceted ways: while AI-based technologies offer opportunities for spiritual growth and connectedness, they also introduce challenges such as information overload, misinformation, and the erosion of traditional spiritual authorities (Oyebanji et al., 2025). Another study investigated the attitudes of teenagers (aged 13–16) toward AI, with a particular focus on ethical reasoning. The results reveal how young people consider AI ethics even without formal education on the topic, as they are able to reflect on different dimensions of ethical issues and relate them to their everyday use of AI. The findings point to the need for an integrated approach to AI and ethics within technology-related learning activities (Gazulla et al., 2025). A scientific paper devoted to the role of AI in the psychology of religion explored the impact of AI on religious practices and rituals, emphasizing its potential to reshape the ways individuals engage with spirituality. Through an analysis of AI-driven religious applications, virtual communities, and online services, the study identifies a growing trend toward the transformation of traditional religious practices, authenticity, inclusivity, and the role of technology within the psychology of the religious context. Ethical questions and challenges arising from the integration of AI into religion were also considered, highlighting the need to balance technological advancement with the preservation of core aspects of spirituality, personal development, and genuine human connectedness (Alkhouri, 2024). A study examining religiosity among female students of teacher-training faculties in Serbia - members of the dominant confession, Orthodox Christianity - analyzed their attitudes toward

several moral challenges faced by believers, including abortion, prostitution, same-sex marriage, cannabis use, and euthanasia. Using a non-discriminative online "snowball" sample (N = 336), the study found that the respondents rated themselves as above-average in religiosity, though the dimension related to the influence of faith on behavior scored lowest among the three measured. Religiosity was a strong predictor of attitudes regarding abortion, prostitution, and same-sex marriage, but not cannabis use. The findings raise the question of whether contemporary trends represent a genuine return to faith or merely a revival of traditional expressions of religiosity as counterparts to secular societal structures (Petrović et al., 2024). A study on the contribution of youth theology to the theoretical and practical dimensions of religious education in Turkey analyzed the potential for developing religious identity, spiritual growth, and social roles among young individuals, all of which may shape the content, methods, and practices of religious instruction. Its central insight suggests that religion, if it seeks to respond to young people's search for meaning, must speak their language, find relevance in their everyday lives, and relate directly to their real-life challenges. In this process, young people should be seen not as passive recipients of instruction but as active participants and creators of meaning within their personal experiences, cognitive development, and social contexts. Therefore, religious education for youth should be built upon a participatory and interactive model based on mutual engagement rather than a teacher–student transmission model (Arici, 2025). Given the rapid advancement of artificial intelligence across all sectors of society, particularly in the past two years, another scholarly paper provides an essential overview of recent academic contributions in the field of AI and religion, summarizing work published from 2024 to early 2025. The conclusion underscores the need for further scientific and empirical research within a broader Christian framework of wisdom and creativity as a means of advancing academic inquiry in this rapidly evolving field (Vaughan et al., 2025). A study conducted in Niš in 2012 found statistically significant gender differences in overall empathy and in three of its subdimensions - empathic concern, fantasy, and personal distress - where female participants demonstrated higher empathy levels. No gender differences were found regarding the subdimension of perspective-taking (Stojilković et al., 2013). Research from 2018 on the influence of religious education and civic education on prosocial behavior reported that religiously oriented girls show higher levels of empathy and that religious education particularly fosters the development of empathy and altruism among girls. Male students who chose religious education also exhibited high levels of altruism (Jevtić & Jovanović, 2018). Regarding instructional approaches within religious education that most effectively support the moral growth of young people, findings from a 2021 study indicated that the highest ratings were given to visits to temples and participation in worship services - accompanied by the interpretation of the meaning of religious holidays and liturgical practices - while the lowest ratings were given to the use of information and communication technologies, such as following social media or websites of church institutions and clergy (Kačarić, 2021).

Research Subject: The role of artificial intelligence (AI) in the spiritual and moral development of young people, as assessed by university students.

Research Problem: How do students evaluate the role of AI with respect to their spiritual and moral development?

Research Aim: To determine the perception and experienced role of artificial intelligence (AI) in the spiritual and moral development of young people.

Research Tasks The study seeks to determine: 1. How students assess the role of artificial intelligence (AI) in spiritual and moral development; 2. The frequency of AI use for the purpose of spiritual and moral development; 3. Students' experiences, perceptions, and attitudes regarding the influence of AI on the formation of spiritual/moral values and empathy; 4. The extent to which gender, age (level of study), and participation/non-participation in religious education during primary/secondary school influence the formation of spiritual/moral values and empathy among

young people; 5. The extent to which AI content and tools related to spiritual and moral development are engaging or interesting to young people.

Hypotheses:

1. General Hypothesis: AI plays a significant role in the spiritual and moral development of young people.
2. Working Hypotheses: **H1:** AI is frequently used with the aim of spiritual and moral development. **H2:** AI influences the formation of young people's spiritual/moral attitudes and empathy. **H3:** Gender, age (level of study), and prior participation in religious education in primary/secondary school influence the formation of spiritual/moral attitudes and empathy. **H4:** AI-related content and tools addressing spiritual/moral development are perceived as interesting and engaging to young people.

Research Variables

a. *Independent variables (predictors)***:** Gender, Age / level of study (Bachelor's / Master's / Doctoral studies), Participation / non-participation in religious education, Educational institution, Frequency of AI use, Emotional response to AI.
b. *Dependent variables***:** Perception of AI's role in spiritual and moral development, Moral attitudes, Empathic concern (IRI index).
c. *Control variables (to be included as needed)***:** Previous experiences with AI, Personal values, Cultural / family factors.

2. Method

Sample: The study included a total of 121 participants, with a slightly higher proportion of women (63.6%), thus the study employed a convenience sample. The majority had/had not attended religious education (?%), and most were students of the *Mihajlo Pupin Faculty of Technical Sciences* in Zrenjanin, University of Novi Sad (90.1%), compared to students of the *Serbian Orthodox Church Academy for Arts and Conservation* in Belgrade (9.9%). Most participants were undergraduate students (46.3%) and had a GPA above 8.5 (53.7%).

Procedure: Data collection took place between September and October 2025. Participants were students from the Mihajlo Pupin Faculty of Technical Sciences in Zrenjanin and the SOC Academy for Arts and Conservation in Belgrade. Although the sample predominantly consisted of students from Serbia, a small number of participants from neighboring countries were also included. The invitation to participate was distributed through student Viber groups, and potential participants were contacted individually. Participation was anonymous and voluntary, and no compensation was offered. Before taking part, respondents were informed about the research aims. The questionnaire was administered via Google Forms, and participants required approximately 15 minutes to complete all items.

Instruments: Eight instruments were used: Questionnaire on sociodemographic characteristics; Scale assessing experiences, perceptions, and attitudes toward AI use; Digital literacy scale (technical/IT skills, critical evaluation of information, safety and ethics, creative/productive technology use); Emotional response to AI in personal development (positive emotions/motivation, negative emotions/concerns, balance and openness); Spirituality and moral orientation scale; Faith, religious beliefs, and life values scale; Empathic concern subscale from the Interpersonal Reactivity Index (IRI; Davis, 1983); Moral attitudes scale. The sociodemographic questionnaire contained eight items related to gender, level of study, institution, GPA, family religiosity, prior religious education, frequency of church attendance, and frequency of AI use. Items used binary, three-point, or five-point response formats. The remaining scales were

constructed specifically for this study and used five-point Likert-type items. The full scales are provided in Appendix 2, while factor structure and reliability coefficients are presented in the Results section.

Rationale for the Methodological Approach

The methodological approach was aligned with the research problem and hypotheses. Given the goal of examining students' perceptions, experiences, and attitudes regarding AI's role in spiritual and moral development - as well as the relationship between AI use and psychosocial characteristics - a non-experimental, correlational-descriptive design was employed. This design enables the exploration of variable relationships in natural conditions without manipulation, making it suitable for exploratory research of this type. The combination of frequency analysis, descriptive statistics, correlation analysis, one-way ANOVA, t-tests, and multiple regression enabled comprehensive testing of sub-hypotheses from various analytic perspectives. Additionally, the high internal consistency of the scales used (Cronbach's α = .950) supports the validity of the findings. Therefore, the chosen methodology is fully appropriate for testing the stated hypotheses and achieving the research aims.

Research Design and Data Analysis Plan

The study employed a non-experimental design incorporating correlational-regression and frequency-based elements. Bivariate and multivariate correlational-regression elements were applied in analyses relying on Pearson's r and multiple regression. Frequency-based elements were present in sections relying on χ^2 tests for single variables. The applied statistical analyses can be grouped into four broader categories: 1. **Frequency analysis** – used to describe the sample and examine the distribution of categorical responses, with differences tested via χ^2; 2. **Descriptive statistics** – used to describe continuous variables and assess normality; 3. **Correlation and regression analyses** – Pearson's r for bivariate relations, multiple regression for multivariate prediction models; 4. **Exploratory factor analysis (EFA) and reliability analysis** – used to examine the factor structure and internal consistency of the newly constructed AI spiritual-moral development questionnaire.

3. Results

Testing Sub-Hypothesis H1: AI is frequently used for spiritual and moral development

To test this sub-hypothesis, items that directly measure the frequency of AI use in the context of spiritual and moral development among young people were analyzed (UIPS1, UIPS2, UIPS3, UIPS7, UIPS8, and UIPS9).

Table 1. Descriptive indicators of attitudes toward the use of AI for spiritual and moral purposes (N = 121)

Item	Min	Max	M	SD	Interpretation of M
UIPS1 – general use of AI	1	5	3.17	1.38	neither neutral nor moderate use
UIPS2 – AI for spiritual questions	1	5	1.95	1.22	rare use
UIPS3 – AI for moral questions	1	5	2.02	1.28	rare use
UIPS7 – AI's contribution to spiritual development	1	5	2.20	1.33	rare to moderate
UIPS8 – AI as assistance in spiritual dilemmas	1	5	1.96	1.22	rare use
UIPS9 – AI as assistance in moral dilemmas	1	5	2.07	1.26	rare use

Note: *Scale ranges from 1 (strongly disagree) to 5 (strongly agree).*
M ≈ 2 indicates disagreement/rare use; M ≈ 3 indicates a neutral stance; M ≥ 4 indicates frequent use.

As shown in Table 1, the mean values for most items cluster around 2, indicating that respondents largely disagree that they frequently use AI for spiritual and moral purposes. The lowest values were recorded for items reflecting the use of AI for spiritual questions (M = 1.95) and assistance with spiritual dilemmas (M = 1.96), suggesting a notably low frequency of use in these areas. The only item with a moderately higher mean is the one referring to general AI use (UIPS1; M = 3.17), indicating that while AI is present in the daily lives of young people, it is not used for spiritual or moral development. Based on these results and the descriptive insights from Table 1, it may be concluded that young people do **not** frequently use AI for the purposes of spiritual and moral development. Therefore, working sub-hypothesis **H1(a) is rejected**.

Testing Sub-Hypothesis H2: AI influences the formation of spiritual/moral attitudes and empathy among young people

This sub-hypothesis was tested using Pearson's correlation analysis, which examined the relationship between the frequency of AI use and elements of the respondents' spiritual, moral, and emotional development. The independent variable was the overall use of artificial intelligence (UIPS_total), while the dependent variables included spirituality and moral orientation (DM_total), moral attitudes (MS_total), empathic concern (EB_total), and religious and life values (VRU_total). This analytical approach made it possible to determine the extent to which AI use coincides with different aspects of young people's internal value structures, directly aligned with the aim of this sub-hypothesis. The results from the SPSS output enabled a precise assessment of the strength and significance of relationships between the variables and served as a basis for interpreting the findings in the context of spiritual and moral development.

Table 2. Correlation between AI use and spiritual–moral characteristics of young people (N = 121)

Paired variables	r (Pearson)	p (Sig.)	Interpretation
UIPS_total – DM_total (spirituality and moral orientation)	0.247	0.006*	weak to moderate, significant
UIPS_total – MS_total (moral attitudes)	0.123	0.178	not significant
UIPS_total – EB_total (empathic concern)	0.305	0.001*	moderate, significant
UIPS_total – VRU_total (religious and life values)	0.312	< 0.001*	moderate, significant

Note: *Correlation is statistically significant at p < .05.*

As shown in Table 2, statistically significant positive correlations were found between AI use and:
• spirituality and moral orientation (r = .247, p = .006),
• empathic concern (r = .305, p = .001),
• religious and life values (r = .312, p < .001).

On the other hand, no significant correlation was found between AI use and moral attitudes (r = .123, p = .178), suggesting that AI use does not directly influence the formation of strict, normative moral judgments. These findings indicate that greater use of AI may be associated with higher levels of spirituality and empathy, although the nature of this influence is not uniform and does not extend to all moral dimensions.

Based on the results presented in Table 2, **sub-hypothesis H2 is partially confirmed**. AI demonstrates significant associations with spirituality, empathy, and life values, but does **not** significantly influence the formation of concrete moral attitudes.

Testing Sub-Hypothesis H3: Gender, age (level of study), and attendance or non-attendance of religious education in primary/secondary school influence the formation of spiritual and moral attitudes and empathy among young people

This sub-hypothesis was examined to determine whether statistically significant differences exist in spirituality, moral attitudes, and empathy with respect to selected sociodemographic and educational characteristics of the respondents. The dependent variables included: **DM_total** – spirituality and moral orientation; **MS_total** – moral attitudes, and **EB_total** – empathic concern. The independent variables were gender, level of study, attendance of religious education, and frequency of church attendance. Independent-samples *t* tests (for gender) and one-way ANOVA (for level of study, religious education, and church attendance) were used to assess group differences.

Table 3. *Influence of Sociodemographic and Religious Factors on Spirituality, Moral Attitudes, and Empathy (t-test and ANOVA)*

Independent variable	Dependent variable	*p* value	Interpretation
Gender	DM_total	0.052	no significant difference
	MS_total	0.257	no significant difference
	EB_total	0.950	no significant difference
Level of study	DM_total	0.005	significant difference
	MS_total	0.058	no significant difference
	EB_total	0.741	no significant difference
Religious education	DM_total	0.360	no significant difference
	MS_total	0.851	no significant difference
	EB_total	0.842	no significant difference
Church attendance	DM_total	0.150	no significant difference
	MS_total	0.382	no significant difference
	EB_total	0.756	no significant difference

Note: *Differences are considered statistically significant at p < .05.*

As shown in Table 3, neither gender, attendance of religious education, nor frequency of church attendance demonstrated statistically significant effects on spirituality, moral attitudes, or empathy among young people. The only statistically significant difference was identified for level of study on the variable spirituality and moral orientation (DM_total), with master's students scoring significantly higher than undergraduate students (*p* = .005). This finding suggests that higher educational attainment may be associated with more developed spiritual awareness and moral orientation, while no differences were observed with regard to specific moral attitudes or empathy.

Regression Analysis

To further examine the simultaneous influence of multiple factors, a multiple linear regression analysis was performed, with DM_total (spirituality and moral orientation) as the dependent variable. Predictors included gender, level of study, study program, GPA, family factors, attendance of religious education, frequency of church attendance, and AI use.

Table 4. *Results of Multiple Regression Analysis Predicting Spirituality (DM_total)*

Predictor	β (Beta)	P	Interpretation
Gender	0.064	0.497	not significant
Level of study	0.143	0.208	not significant
Study program	0.041	0.697	not significant
GPA	−0.105	0.245	not significant
Family	−0.181	0.088	near significance

Religious education	−0.037	0.715	not significant
Church attendance	0.273	0.007	significant predictor
AI use	0.071	0.446	not significant

Model indicators: *R = .394, R² = .155, Adjusted R² = .094, F(8, 111) = 2.547, p = .014*

The model explains approximately 15.5% of the variance in spirituality and moral orientation among young people. Church attendance emerged as the only statistically significant predictor. Based on the t-tests, ANOVA, and multiple regression results, sub-hypothesis H3 is **partially confirmed**. Although most analyzed factors (gender, academic performance, attendance of religious education, AI use) did not demonstrate significant effects on spirituality, moral attitudes, or empathy, level of study (ANOVA) and frequency of church attendance (regression model) were identified as factors associated with higher levels of spirituality and moral orientation. These findings indicate that the spiritual development of young people is shaped less by formal religious education and more by personal engagement in spiritual practice and the broader process of intellectual and life maturation.

Testing Sub-Hypothesis H4: AI-related content and tools concerning spiritual and moral development are interesting to young people

This sub-hypothesis explored the extent to which young people perceive AI content and tools related to spiritual and moral development as interesting, stimulating, and worthwhile. Items from the scale *Emotional Response to AI Use in Personal Development* were used—specifically those addressing excitement, motivation, and willingness to use AI tools for spiritual and moral purposes (EOnU1, EOnU3, EOnU4, EOnU9, EOnU10). Descriptive statistics (M, SD) were calculated first, followed by a one-sample t test comparing observed means to the neutral value of 3 on a 5-point Likert scale.

Table 5. *Descriptive Indicators of Young People's Interest in AI-Based Spiritual and Moral Content (N = 121)*

Item	Min	Max	M	SD	Interpretation
EOnU1 – Excitement when discovering AI possibilities	1	5	2.17	1.254	low
EOnU3 – Motivation to reflect on spiritual questions	1	5	2.16	1.252	low
EOnU4 – Recognition of moral values through AI	1	5	2.00	1.232	low
EOnU9 – Willingness for spiritual development using AI	1	5	2.55	1.284	low
EOnU10 – Willingness for moral development using AI	1	5	2.53	1.285	low

Note: *Scale: 1 = strongly disagree, 5 = strongly agree. Values below 3 indicate low interest.*

Table 6. *One-Sample t-Test Results (Test Value = 3)*

Item	T	df	P	Mean Difference	Interpretation
EOnU1	-7.322	120	.000	-0.835	significantly lower than 3
EOnU3	-7.408	120	.000	-0.843	significantly lower than 3
EOnU4	-8.932	120	.000	-1.000	significantly lower than 3
EOnU9	-3.823	120	.000	-0.446	significantly lower than 3
EOnU10	-4.033	120	.000	-0.471	significantly lower than 3

Note: *Differences are statistically significant at p < .05.*

The descriptive results (Table 5) show that all mean values fall below the neutral midpoint, indicating low levels of interest in AI tools and content related to spiritual and moral development. The lowest values were observed for the recognition of moral values through AI (*M* = 2.00) and

motivation to reflect on spiritual questions using AI (M = 2.16). The one-sample *t* tests (Table 6) confirmed that all means were significantly lower than 3 (*p* = .000). This indicates that the generally negative or reserved stance is consistent rather than random. These findings clearly show that young people do not perceive AI as particularly interesting, inspiring, or motivating with regard to spiritual or moral development. Instead, its role in this domain is viewed as limited or insufficiently relevant. Consequently, sub-hypothesis H4 is **rejected**. All indicators demonstrate that young people, on average, do not express substantial interest in this type of AI use, nor do they perceive it as a meaningful factor in their spiritual or moral development.

Synthesis of Overall Results

Overall, the findings indicate that although artificial intelligence is widely embedded in the daily lives of young people, it does not occupy a significant place in their spiritual or moral development. Although it was initially hypothesized that AI might play a more substantial role in shaping spiritual and value orientations, the empirical evidence suggests that its influence is limited and modest. Young people generally do not show a high level of interest in AI content related to spiritual or moral issues, nor was any strong relationship confirmed between AI use and indicators of spirituality, moral attitudes, or empathy. The most influential factors associated with spiritual development remain personal religious practice and the broader process of maturation, while the role of artificial intelligence remains secondary and peripheral. Thus, the aim of the study has been achieved: the actual position of AI in the context of young people's spiritual and moral development has been empirically clarified, and the general hypothesis has been reassessed in light of the obtained data.

4. Discussion and practical implications

The findings indicate that although artificial intelligence is substantially present in the everyday lives of young people, it does not occupy a central position in their spiritual and moral development. Respondents primarily use AI as an informational and technical tool, while its role in spiritual reflection and the formation of moral values appears limited and insufficiently recognized. This finding is consistent with Alkhouri (2024), who emphasizes that while artificial intelligence may stimulate reflection on existential and religious themes, it cannot replace the internal, personal, and experiential nature of spirituality. Similarly, Vaughan et al. (2025) highlight that the relationship between religion and AI remains ambivalent: technology may deepen reflection, but it may also distance individuals from authentic spiritual experience when used without critical awareness. The lack of correlation between AI use and moral attitudes or empathy aligns with Kohlberg's (1976) theory of moral development and Piaget's (1968) conceptualizations, both of which state that morality develops primarily through active social experience, dialogue, confrontation with moral dilemmas, and interactions with significant others - not through passive acquisition of information, whether from humans or machines. Furthermore, the finding that frequency of church attendance is the only significant predictor of spirituality (based on regression analysis) supports Allport's (1963) concept of intrinsic religiosity, according to which spiritual and moral development stem from inner motivation and personal religious practice rather than external, formal frameworks. This is further aligned with Petrovic et al. (2024), who demonstrated a clear relationship between religiosity and moral attitudes in student populations. The obtained results concerning empathy may be interpreted through the work of Davis (1983) and Hoffman (1984), who conceptualize empathy as a two-dimensional process - cognitive and affective. The present findings indicate that AI does not elicit a sufficiently strong emotional response, which is confirmed by the low mean values on the "Emotional Response to AI Use" (EOnU) scale, as well as the negative and statistically significant differences compared to the neutral value. The findings also correspond with Gazulla et al. (2025), who report that young people hold cautious and critical attitudes regarding the moral and ethical aspects of AI, and with Mayers and Everett (2025), who observe that individuals tend to distrust "artificial moral advisors," even when the advice is

rationally sound. On the other hand, studies by Arici (2025) and Siegle (2025) show that AI can make a positive contribution in educational and reflective contexts, particularly when used as a support tool in developing critical thinking and exploring questions of meaning. However, the present results suggest that this potential has not yet been recognized or integrated into the value frameworks of young people - an important finding for pedagogical and spiritual practice. Thus, the present research contributes to scientific understanding by demonstrating that, within the Serbian/regional context, there remains a clear distance between the technological use of AI and its application in the domain of spirituality and morality.

Practical Implications

Based on the findings and their theoretical interpretations, the following practical implications may be outlined: 1. Artificial intelligence should not be considered a substitute for spiritual authorities or personal engagement with community, but rather a supportive tool for information gathering and self-reflection (Alkhouri, 2024; Vaughan et al., 2025); 2. Within religious education and civic education, AI may be employed as a pedagogical tool to initiate discussion, analyze moral dilemmas, and develop critical thinking (Arici, 2025; Jevtić & Jovanović, 2018), provided that clear ethical guidelines are in place; 3. Educational institutions should encourage the development of digital and ethical literacy related to AI, in accordance with current international recommendations (Budiu et al., 2023; Cubero et al., 2024); 4. Since religious practice (e.g., church attendance) demonstrated the strongest association with spirituality, it is important to support community-based activities, including humanitarian work, volunteering, and shared spiritual engagement; 5. In the context of mental health and value development, AI use should be combined with live interpersonal communication, empathy, and relational nurturing (Goleman, 2007; Rosenberg, 2002).

5. Conclusion

The study demonstrates that artificial intelligence has a role - but a limited one - in the spiritual and moral development of young people. Although technological progress opens new opportunities for learning, self-growth, and communication, spirituality remains a deeply personal and experiential process rooted in relationships with others, community, and one's inner reality, which is consistent with the views of Jung (2008) and Jerotić (1995). The research findings indicate that gender, attendance of religious education, and frequency of church attendance do not have a significant impact on the spirituality, moral attitudes, or empathy of young people. However, a higher level of education (master's versus undergraduate studies) may be associated with more developed spiritual awareness and moral orientation. The results, consistent with recent global research, indicate the necessity of establishing a balanced approach between technological use and the preservation of traditional spiritual and moral values. In this respect, the present study represents a meaningful scientific and pedagogical contribution to understanding the heritage and challenges of the contemporary digital age. The limitations of this research primarily concern the size and structure of the sample, as well as reliance on self-report measures. These limitations leave room for future studies to include more diverse samples, qualitative methods (e.g., interviews, focus groups), and longitudinal designs in order to more deeply and dynamically capture the relationship between artificial intelligence and the spiritual and moral development of young people. Future research might also conduct comparative analyses among different groups of youth (based on age, cultural, and religious context), as well as examine the influence of specific AI tools (e.g., ChatGPT, Copilot, generative visual models) on spiritual reflection, moral reasoning, and the formation of value orientations.

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