Al-Hikmah: Journal of Religions Studies
Vol. 12 Issue 1, 2026 pp. 28–47 E-ISSN: 2407-9146
DOI: 10.30651/ah.v12i1.30961

Negotiating Digital Technology and Religious Autonomy among Madrasah Students in Tanjung Morawa, Indonesia

Melika Debiyana Putri[1], Nazwa Aidilia Octa Mevia[2], Yunanda Rizki Sitompul[3], Alifya Aisya Widjayani[4], Umar Mukhtar Siregar[5]

Universitas Negeri Medan, Medan, Indonesia[12345]

Email correspondence: melikadebiana@gmail.com

Article History
Received: 01-03-2026
Reviced: 24-03-2026
Accepted: 11-04-2026

Keywords
Digital Technology, Religious Autonomy, Digital Religion, Madrasah Students, Self-Regulation

Abstract

The increasing use of smartphones and digital religious applications has transformed how young Muslims access religious information and organize daily worship. This study examines patterns of digital technology use and religious autonomy among ninth-grade students at MTs Nurul Iman Tanjung Morawa. Religious autonomy refers to students' ability to initiate worship, regulate device use during religious activities, and critically evaluate online religious information. The study employed a quantitative descriptive survey supported by open-ended responses. Data were collected from 60 students using a structured questionnaire consisting of Likert-scale items on technological use and religious autonomy. Quantitative data were analyzed through mean scores and percentage distributions, while narrative responses were categorized thematically. The findings show that students rely considerably on smartphones for accessing religious information, reflected in a mean score of 3.68 for seeking religious answers online. However, smartphone use during worship received a low mean score of 1.85. Indicators of religious autonomy were generally high, including worship without reminders, concentration during prayer, verification of online religious information, and the ability to distinguish credible from misleading content. Most respondents viewed smartphones as useful for accessing the Qur'an, prayer schedules, and religious learning materials, although some acknowledged that notifications and social media could cause distraction. These findings suggest that digital technology does not automatically weaken religious autonomy. Instead, students negotiate technology through self-regulation and digital boundaries. This study contributes to discussions on digital religion by showing how young Muslims integrate technology into religious life while maintaining personal responsibility and spiritual discipline.

Available online at: https://journal.um-surabaya.ac.id/Ah/issue/archive

INTRODUCTION

The rapid development of digital technology has transformed various dimensions of contemporary religious life. Smartphones, social media, religious applications, and online learning platforms have changed how individuals obtain religious knowledge, communicate religious messages, and perform daily worship. Technology is no longer merely an instrument for transmitting information; it increasingly mediates how religious beliefs are interpreted and practiced. In Muslim communities, digital platforms provide immediate access to Qur'anic texts, prayer schedules, online sermons, and religious discussions, thereby expanding opportunities for religious learning beyond conventional institutions. At the same time, intensive exposure to digital media may influence concentration, behavioral patterns, and the ways individuals relate to religious authority.[1]

In Indonesia, the expansion of online Islamic media has become an important part of post-reform religious transformation. Islamic teachings that were previously communicated mainly through mosques, schools, pesantren, and face-to-face preaching are now circulated through websites, social media, streaming platforms, and mobile applications.[2] This process has broadened the public's access to religious information and encouraged the emergence of more individualized forms of religious learning. Individuals can independently search for answers to religious questions, select religious speakers, and compare different interpretations. However, this accessibility also creates challenges because online religious information varies considerably in quality, credibility, and ideological orientation.

The influence of digital technology is particularly significant among adolescents. For younger generations, smartphones have become central to communication, entertainment, education, and identity formation. Social media is increasingly used not only for social interaction but also as a space for encountering religious narratives and constructing religious practices.[3] Young users may watch short religious lectures, follow religious influencers, participate in online discussions, or use digital applications to support worship. Consequently, contemporary youth religiosity is shaped through interaction between formal religious education, family guidance, peer environments, and digital media.

Previous studies have shown that digital technology can provide important support for religious education. Digital media offer diverse and accessible learning resources that can make Islamic Religious Education more adaptive to the needs of contemporary students.[4] Technology can assist teachers in presenting religious material creatively and enable students to access Islamic knowledge beyond classroom hours. Religious applications also facilitate

---

[1] Rizki Surya Tawaqal and Ridma Meltareza, "Teknologi Perubahan Terhadap Kehidupan Beragama," *Jurnal Lensa Mutiara Komunikasi* 6, no. 1 (2022): 207, https://doi.org/10.51544/jlmk.v6i1.3141.

[2] Muhammad Rahmadani Lubis and Abdullah, "Transformasi Media Islam di Era Digital Studi Perkembangan Media Online Islam Indonesia Pasca Reformasi," *Citizen: Jurnal Ilmiah Multidisiplin Indonesia* 5, no. 1 (2025), https://doi.org/10.53866/jimi.v5i1.656.

[3] Julio Eleazer Nendissa, "Dinamika Agama Dalam Era Digital: Pengaruh Media Sosial Terhadap Praktik Keagamaan Di Kalangan Generasi Muda," *Mawar Saron: Jurnal Pendidikan Kristen Dan Gereja* 8, no. 2 (2025): 1–20, https://doi.org/10.62240/msj.v8i2.

[4] Saukimusfirah and Lismawati, "Revitalisasi PAI Melalui Inovasi Teknologi: Menghadapi Era Digitalisasi," *At-Tarbawi: Jurnal Kajian Kependidikan Islam* 9, no. 1 (2024): 1, https://doi.org/10.22515/attarbawi.v9i1.8461.

worship by providing digital Qur'anic texts, prayer-time notifications, qibla directions, and collections of prayers.[5] Such technologies may support continuity in worship and increase students' exposure to religious knowledge.

Nevertheless, digitalization also brings considerable risks. Excessive smartphone use may interfere with concentration, encourage prolonged social media consumption, and reduce students' ability to regulate their attention.[6] Exposure to digital content that contradicts Islamic ethical values may also affect the development of students' religious character.[7] The issue is therefore not simply whether technology is beneficial or harmful, but how students use it, regulate it, and incorporate it into their religious lives.

This distinction is important because intensive technology use should not automatically be categorized as technological dependency. Students may use smartphones frequently because digital devices have become necessary for communication and education. However, dependency implies a reduced capacity to control usage, discomfort when disconnected, or an inability to perform activities without digital stimulation. Studies on smartphone use among adolescents indicate that uncontrolled digital engagement can influence behavior and self-control.[8] Similarly, prolonged social media use may shape students' routines and responses to their surrounding environment.[9] Therefore, research on technology and religion must distinguish between functional use, intensive use, and uncontrolled dependency.

At the same time, students are not merely passive recipients of technological influence. Adolescents possess varying capacities to regulate their behavior, establish personal boundaries, and make decisions based on internalized values. Self-control and religiosity may help young people resist distractions and align their actions with religious commitments.[10] In this context, students may intentionally silence notifications during prayer, place smartphones away while reading the Qur'an, or verify religious content before accepting it. Such practices indicate that digital engagement can coexist with religious responsibility.

This study uses the concept of religious autonomy to examine this capacity. Religious autonomy does not refer to independence from religious teachings, teachers, parents, or legitimate religious authority. Instead, it refers to students' ability to take personal responsibility for their religious practices. It includes initiating worship without constant

---

[5] Prabawati Nurhabibah et al., "Pemanfaatan Teknologi Digital Dalam Memfasilitasi Ibadah Dan Pendidikan Islam," *Alfabet Jurnal Wawasan Agama Risalah Islamiah, Teknologi Dan Sosial (Al-Waarits)* 2, no. 1 (2025): 44–54, https://doi.org/10.34306/alwaarits.v2i1.703.

[6] Puji Astuti and Dodi Irawan, "Pengaruh Perkembangan Teknologi Terhadap Pendidikan Islam Pada Peserta Didik," *Pengertian: Jurnal Pendidikan Indonesia (PJPI)* 1, no. 3 (2023): 561, https://doi.org/10.61930/pjpi.v1i3.

[7] Akramul Insan Zaer and Misra, "Dampak Teknologi Digital Terhadap Pembentukan Karakter Islami Peserta Didik Di Era Society 5.0," *Akhlak: Jurnal Pendidikan Agama Islam Dan Filsafat* 2, no. 3 (2025): 85–92, https://doi.org/10.61132/akhlak.v2i3.865.

[8] Annisa Arake and Yuliani Winarti, "Hubungan Antara Kecanduan Smartphone Dengan Prestasi Belajar Pada Remaja Di Indonesia," *Borneo Student Research* 3, no. 2 (2022): 1911–21.

[9] M P Sari and A Wahyudi, "Intensitas Penggunaan Media Sosial Dan Dampaknya Terhadap Perilaku Siswa," *Jurnal Pendidikan Indonesia* 10, no. 2 (2021): 134–142, https://doi.org/10.23887/jpi-undiksha.v10i2.33182.

[10] Hijriyati Cucuani, Eka Fitiyani, and Yuli Widiningsih, "Pengaruh Malu (Al-Haya') Terhadap Self Disclosure Di Media Sosial Pada Remaja Muslim Melalui Kontrol Diri" (Riau, 2022).

reminders, maintaining concentration during religious rituals, regulating digital-device use, and critically evaluating religious information obtained online. Religious autonomy therefore reflects the internalization of religious discipline rather than the rejection of communal or institutional guidance.

The ability to evaluate digital religious information is especially important because young Muslims are exposed to a large volume of online content. Research on Generation Z indicates that digital technology influences both religious thought and religious practice.[11] Online media can expand religious knowledge, but it may also expose users to inaccurate, misleading, or decontextualized interpretations. The development of religious autonomy must therefore include digital religious literacy: the capacity to verify sources, distinguish reliable content from misinformation, and understand religious messages within appropriate contexts.

The principle of *Hifẓ al-'Aql*, or the preservation of the intellect, provides an Islamic ethical framework for understanding this responsibility. In the digital era, preserving the intellect involves protecting individuals from harmful information while strengthening their ability to think critically and use technology wisely.[12] This principle does not require the rejection of digital technology. Instead, it encourages technology to be used as a means of acquiring beneficial knowledge, supporting worship, and maintaining moral responsibility.

These challenges are increasingly relevant in the era of Society 5.0, in which technological systems are deeply integrated into education and everyday life. Islamic educational institutions are expected to prepare students who are technologically competent while remaining spiritually and morally resilient.[13] Madrasahs therefore face a dual responsibility: they must enable students to benefit from digital innovation while also developing the self-regulation and religious literacy needed to prevent dependency and distraction.

Existing research has discussed the transformation of religious practices through digital media, the role of technology in Islamic education, and the influence of social media on the religiosity of younger generations. Studies have examined technological change in urban Muslim communities,[14] the use of digital tools in Islamic learning,[15] and the religious practices of Generation Z.[16] However, many previous studies have focused on broad social groups,

---

[11] Ani Siti Anisah Masripah, Asep Irvan Irvani, and Sopa Siti Marwah, "Penggunaan Teknologi Digital Terhadap Pemikiran Dan Praktik Keagamaan Gen-Z," *Jurnal Ilmiah Pendidikan Citra Bakti* 11, no. 3 (2024): 435–449, https://doi.org/10.38048/jipcb.v11i3.3624.

[12] Hidayatus Sholichah Syamraeni and Adam Hafidz Al Fajar, "Transformasi Nilai Religius Di Era Digital: Analisis Literatur Berdasarkan Tujuan Hifz Al-'Aql," *Socio Religia*, 2024.

[13] M Yemmardotillah, Anita Indria, and dan Rini Indriani Asrizallis, "Tantangan Dan Peluang Pendidikan Agama Islam Di Era Society 5.0," *Malewa: Journal of Multidisciplinary Educational Research* 2, no. 2 (2024): 75–87, https://doi.org/10.61683/jome.v2i2.127.

[14] Agung Jaenudin, "The Influence of Information Technology On Religious Practices In Urban Muslim Communities," *Al-Madinah: Journal of Islamic Civilization* 1, no. 2 (2024): 157–168, https://doi.org/10.70901/The.

[15] M.Wiran Jaya Nurhadi et al., "Peran Teknologi, ICT, Dan Media Sosial Dalam Pembelajaran Pendidikan Agama Islam," *Jurnal Pendidikan Indonesia: Teori, Penelitian Dan Inovasi* 5, no. 4 (2025), https://doi.org/10.59818/jpi.v5i4.1727.

[16] Masripah, Irvani, and Marwah, "Penggunaan Teknologi Digital Terhadap Pemikiran Dan Praktik Keagamaan Gen-Z."

educational innovation, or the general influence of technology. Limited empirical attention has been given to how junior madrasah students negotiate smartphone use within their daily religious practices, particularly in relation to religious autonomy.

Ninth-grade students represent an important group because they are entering a developmental stage in which personal responsibility, self-control, and religious identity become increasingly significant. They are expected to perform religious obligations more independently, yet they remain strongly influenced by school, family, peers, and digital media. Examining this group can therefore provide a more specific understanding of how adolescent Muslims manage the relationship between technological engagement and spiritual discipline.

This study examines patterns of digital technology use and religious autonomy among ninth-grade students at MTs Nurul Iman Tanjung Morawa. It addresses three principal questions: first, what patterns of digital technology use are found among the students; second, how religious autonomy is manifested in their worship practices and interaction with online religious information; and third, how students negotiate the benefits and distractions of smartphones in their religious lives.

Rather than assuming that technology automatically weakens or strengthens religiosity, this study views students as active religious subjects who interpret and regulate digital media within their daily lives. The study contributes to contemporary discussions on digital religion by presenting empirical evidence from an Indonesian madrasah context. It also offers practical implications for madrasah education by emphasizing the importance of digital religious literacy, critical source evaluation, and self-regulation in strengthening students' religious autonomy.

METHOD/METODE PENELITIAN

This study employed a quantitative descriptive survey supplemented by responses to open-ended questions. A descriptive survey design was selected because the research aimed to identify patterns of digital technology use and religious autonomy among ninth-grade students rather than establish a causal relationship between the two dimensions. Descriptive survey research allows researchers to collect standardized information concerning the attitudes, perceptions, and reported behaviors of a specified population.[17]

The open-ended questions served a supplementary function by providing contextual explanations for the quantitative findings. They were not treated as a separate qualitative study or as evidence of a full mixed-methods design. Instead, the narrative responses were used to clarify how students perceived the benefits and distractions of smartphones in their religious activities.

[17] Timothy C Guetterman, Michael D Fetters, and John W Creswell, "Integrating Quantitative and Qualitative Results in Health Science Mixed Methods Research Through Joint Displays," *The Annals of Family Medicine* 13, no. 6 (November 1, 2015): 554 LP – 561, https://doi.org/10.1370/afm.1865.

The study was conducted at MTs Nurul Iman Tanjung Morawa during the active academic semester in 2026. The participants consisted of 60 ninth-grade students who used smartphones or other internet-connected devices in their daily activities.

The final manuscript must state the total number of ninth-grade students in the population and describe the actual participant-selection procedure. The term simple random sampling should only be used if the researchers prepared a complete list of the population and selected respondents randomly, thereby providing each eligible student with an equal probability of selection.[18] If respondents were recruited based on availability or willingness to complete the Google Form, the procedure should instead be reported as convenience or voluntary-response sampling.

Demographic information was limited to variables relevant to the study, including gender and class. Students' names were not included in the analysis or publication.

The study examined two main dimensions: digital technology use and religious autonomy.Digital technology use refers to students' intensity and patterns of smartphone and internet use. The dimension includes difficulty spending a day without a smartphone, preference for online sources when seeking religious information, prolonged use of social media, discomfort when internet access is unavailable, and smartphone use during worship.

The term technological dependency should be used cautiously. Frequent use does not necessarily indicate dependency because smartphones may be used functionally for education, communication, and access to religious information. Dependency more specifically involves difficulty controlling usage, psychological discomfort when disconnected, or inability to limit device use in situations requiring concentration.

Religious autonomy refers to students' capacity to assume personal responsibility for their religious practices. It includes initiating worship without continuous external reminders, maintaining concentration during worship, regulating smartphone use, verifying online religious information, and distinguishing credible religious content from misleading information.

Religious autonomy does not mean independence from religious teachings, parents, teachers, or recognized religious authorities. It refers to the internalization of religious responsibility and the ability to practice religion consciously.

Data were collected using a structured questionnaire distributed through Google Forms. Online questionnaires can facilitate standardized data collection, but their design must consider accessibility, clarity of instructions, device compatibility, respondent burden, and the possibility of incomplete responses.[19]

---

[18] Nyimbili Friday and Nyimbili Leah, "Types of Purposive Sampling Techniques with Their Examples and Application in Qualitative Research Studies," *British Journal of Multidisciplinary and Advanced Studies: English Lang., Teaching, Literature, Linguistics & Communication* 5, no. 1 (2024): 90–99.

[19] Don A Dillman and Leah Melani Christian, "Survey Mode as a Source of Instability in Responses across Surveys," *Field Methods* 17, no. 1 (February 1, 2005): 30–52, https://doi.org/10.1177/1525822X04269550.

The questionnaire consisted of four sections:

1. demographic information;
2. five statements concerning digital technology use;
3. five statements concerning religious autonomy; and
4. open-ended questions concerning the supportive and disruptive roles of smartphones in religious life.

Responses to the closed statements were measured using a five-point Likert response format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire items should be presented in an appendix so that readers can evaluate whether each item adequately represents the intended construct.

Instrument development should follow systematic stages consisting of conceptual definition, item generation, expert assessment, pilot testing, and psychometric evaluation.[20]

The manuscript must therefore explain:

- how the constructs were defined;
- how the statements were generated;
- whether the items were adapted from previous instruments;
- who assessed their content validity;
- whether a pilot test was conducted; and
- which items were retained, revised, or removed.

The dimensions of digital technology use and religious autonomy should be scored separately. Items that represent opposite directions must be reverse-scored before calculating a total or composite score.

Content validity should be evaluated by experts with relevant competence in research methodology, Islamic education, adolescent development, or digital behavior. Expert assessment should examine the relevance, clarity, and representativeness of every item. The number and qualifications of the validators, the assessment procedure, and the resulting revisions must be reported.[21]

Item validity may subsequently be evaluated using an appropriate item-total correlation procedure. However, because the sample consists of only 60 respondents and each dimension contains five items, the findings should be interpreted cautiously.

---

[20] Godfred O Boateng et al., "Best Practices for Developing and Validating Scales for Health, Social, and Behavioral Research: A Primer," *Frontiers in Public Health* 6 (2018), https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2018.00149.
[21] Boateng et al.

Internal consistency should be examined separately for the digital technology use and religious autonomy dimensions using Cronbach's Alpha. Cronbach's Alpha provides information about the extent to which items within a scale measure a related construct, but it should not be interpreted as evidence of validity or unidimensionality by itself.[22]

The manuscript must report the actual reliability coefficients. It should not merely state that the instrument was reliable without presenting the numerical results.

Permission to conduct the study was obtained from the administration of MTs Nurul Iman Tanjung Morawa before the questionnaire was distributed. The students received age-appropriate information concerning:

- the purpose of the study;
- the activities expected from participants;
- the voluntary nature of participation;
- the confidentiality of their responses;
- their right to decline or withdraw; and
- the intended use of the collected data.

The questionnaire was distributed through Google Forms during the designated research period. The researchers checked all submitted forms for completeness. Duplicate, substantially incomplete, or otherwise unusable responses were excluded according to criteria determined before analysis.

The manuscript should state:

- the dates of data collection;
- the number of questionnaires distributed;
- the number returned;
- the number excluded; and
- the final number included in the analysis.

The quantitative data were analyzed using descriptive statistics. Frequencies and percentages were used to describe the distribution of responses for each individual Likert-type item.

Likert-type items and composite Likert scales should be distinguished. Individual items are ordinal responses and are most transparently reported using frequencies, percentages, and, where appropriate, medians. Means and standard deviations may be used

[22] M Tavakol and R Dennick, "Making Sense of Cronbach's Alpha," *Int J Med Educ* 2 (June 27, 2011): 53–55, https://doi.org/10.5116/ijme.4dfb.8dfd.

more appropriately for composite scores formed from several items measuring the same construct, provided that the scale demonstrates adequate internal consistency.[23]

A composite score for each dimension may be calculated using:

$$\bar{X}=\frac{\sum X}{N}$$

where $\bar{X}$ represents the average composite score, $\sum X$ represents the total score obtained from the respondents, and (N) represents the number of respondents.

Percentages were calculated using:

$$P=\frac{f}{N}\times 100\%$$

where (P) represents the percentage, (f) represents the frequency within a response category, and (N) represents the total number of valid respondents.

Because the research design was descriptive, the results were not used to establish that technology caused an increase or decrease in religious autonomy. Terms such as *effect*, *impact*, *influence*, and *significant relationship* should not be used unless inferential statistical tests are actually performed and fully reported.

The open-ended responses were analyzed through thematic categorization. The analysis followed a simplified process adapted from thematic analysis: familiarization with the responses, initial coding, grouping similar codes, reviewing the categories, defining the final themes, and reporting representative patterns.[24]

The responses were organized into three broad themes:

1. the supportive functions of smartphones for worship and religious learning;
2. digital distractions experienced during religious activities; and
3. strategies used to regulate smartphone use.

The researchers should explain whether the categories were developed inductively from the responses or determined in advance. When more than one researcher participated in coding, the manuscript should also explain how disagreements were discussed and resolved.

Percentages such as 85% and 15% may be reported only if every response was classified using clear and mutually consistent criteria. Brief anonymized quotations may be included to illustrate the categories, provided that the quotations cannot identify individual students.

---

[23] Harry N Boone Jr et al., "Analyzing Likert Data," *Journal of Extension* 50, no. 2 (2012): 1–6.
[24] Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (January 1, 2006): 77–101, https://doi.org/10.1191/1478088706qp063oa.

Because the respondents were school-age students, the research required particular attention to informed consent, student assent, confidentiality, power relations, and the right to withdraw. Ethical guidance for educational research emphasizes that children and young people should receive information appropriate to their age and level of understanding. Their willingness to participate should not be assumed solely from permission given by the school.

The manuscript must explain:

- whether formal permission was obtained from the school;
- whether parental or guardian consent was required and obtained;
- whether students provided assent;
- whether participation was voluntary;
- how anonymity and confidentiality were protected; and
- how the research data were stored and used.

Students should be informed that participation or refusal would not affect their grades, relationship with teachers, or access to educational services. No personal names should be collected unless they are strictly necessary. When names have already been collected, they must be removed from the analytical dataset and must not appear in publications.[25]

RESULTS AND DISCUSSION

Findings

Respondent Characteristics

The study involved 60 ninth-grade students at MTs Nurul Iman Tanjung Morawa. Of the respondents, 24 students were male and 36 were female. Female respondents therefore represented 60% of the sample, while male respondents accounted for 40%.

Table 1. Distribution of Respondents by Gender

No.	Gender	Frequency	Percentage
1	Male	24	40%
2	Female	36	60%
	Total	**60**	**100%**

[25] Carol Brown and Mary Wild, *Ethical Dilemmas in Education: Considering Challenges and Risks in Practice* (Oxford: Department of Psychiatry, University of Oxford, UK, 2022).

The gender distribution indicates that female students constituted the majority of participants. However, the research did not aim to compare technological use or religious autonomy based on gender. Demographic information was used only to describe the composition of the sample.

Patterns of Digital Technology Use

Digital technology use was examined through five statements concerning smartphone attachment, online religious information-seeking, social media duration, discomfort when internet access was unavailable, and smartphone use during worship.

Table 2. Mean Scores for Digital Technology Use Indicators

No.	Statement	Mean Score	Category
1	Difficulty spending a day without a smartphone	3.55	High
2	Seeking religious answers online rather than asking directly	3.68	High
3	Using social media longer than intended	3.42	High
4	Feeling anxious when internet quota or access is unavailable	3.15	Moderate
5	Using a smartphone while worship is in progress	1.85	Low

The highest mean score was found in the preference for seeking religious answers through online sources, at 3.68. This result indicates that digital media have become an important source of religious information for the students. The relatively high score does not necessarily demonstrate harmful dependency, because online platforms may function as practical sources for accessing explanations, sermons, Qur'anic materials, and other religious resources.

Difficulty spending a day without a smartphone received a mean score of 3.55. This finding suggests that smartphones occupy a central position in the students' daily routines. Their reliance may include communication, school activities, entertainment, and religious information-seeking. Therefore, this indicator should be interpreted as intensive attachment rather than automatically classified as pathological technological dependency.

Using social media longer than intended obtained a mean score of 3.42 and was categorized as high. This result indicates that some students experienced difficulty maintaining their intended duration of social media use. By comparison, anxiety when internet access was unavailable obtained a moderate score of 3.15. These findings reveal that digital engagement was present not only as a functional practice but also as an area in which students occasionally experienced reduced control.

A contrasting pattern appeared in the indicator concerning smartphone use during worship, which obtained a low mean score of 1.85. Most students therefore reported that they did not habitually use smartphones while performing religious rituals. The difference between intensive use in daily life and limited use during worship suggests that students were able to distinguish between contexts in which technology was useful and contexts in which it should be restricted.

The average of the five item-level means was 3.13, which falls within the moderate category. This descriptive average should only be treated as a composite dimension score when the instrument demonstrates adequate validity and internal consistency.

Religious Autonomy

Religious autonomy was examined through students' initiative in worship, concentration during religious practices, ability to evaluate online religious information, and use of religious applications.

Table 3. Mean Scores for Religious Autonomy Indicators

No.	Statement	Mean Score	Category
1	Performing worship on time without reminders	4.10	High
2	Maintaining focus during worship without holding a smartphone	4.35	Very High
3	Verifying the accuracy of religious information on social media	4.22	Very High
4	Distinguishing beneficial from misleading religious content	4.38	Very High
5	Using Qur'an and prayer-support applications responsibly	4.45	Very High

The students reported a high level of initiative in performing worship without continuous reminders, reflected in a mean score of 4.10. This suggests that worship practices were not entirely dependent on external instructions from parents, teachers, or digital applications.

Maintaining concentration during worship without holding a smartphone received a very high mean score of 4.35. This finding is consistent with the low score for smartphone use during worship in Table 2. Together, these indicators show that the students perceived themselves as capable of limiting device use when performing religious obligations.

The ability to verify online religious information obtained a mean score of 4.22, while the ability to distinguish beneficial from misleading religious content received a mean score of

4.38. These self-reported findings indicate that the respondents considered themselves active and critical users of online religious media rather than passive recipients of all information encountered on digital platforms.

Nevertheless, the results should not be interpreted as objective proof that every respondent possessed advanced digital religious literacy. Students may overestimate their ability to identify credible sources or provide socially desirable responses. The findings represent students' perceptions of their own competence and should ideally be complemented by performance-based assessments or interviews in future studies.

The highest score was found in the responsible use of Qur'an and prayer-support applications, at 4.45. This indicates that digital religious applications had been integrated into students' religious routines. Their use of technology did not necessarily replace religious autonomy. Instead, the applications functioned as practical tools that supported access to scripture, prayer schedules, and religious learning materials.

The average of the five item-level means was 4.30, which falls within the very high category. As with the digital technology dimension, this composite interpretation should be retained only if the instrument demonstrates acceptable reliability.

Students' Perceptions of Smartphones in Religious Life

Responses to the open-ended questions provided additional context concerning the role of smartphones in students' religious activities. A total of 51 respondents, or approximately 85%, described smartphones primarily as useful tools. They mentioned several functions, including:

1. accessing digital Qur'anic applications;
2. receiving prayer-time reminders;
3. listening to online sermons;
4. searching for explanations of Islamic teachings; and
5. accessing religious learning materials outside the classroom.

These responses show that digital devices expanded students' access to religious resources. Smartphones allowed students to engage with Islamic learning without being limited by school schedules or the physical availability of books and teachers.

Nine respondents, or approximately 15%, emphasized the distracting potential of smartphones. Notifications, social media content, and entertainment applications were identified as factors that could interfere with concentration during prayer or Qur'anic recitation.

Students also described strategies for managing these distractions. The reported strategies included silencing notifications, activating airplane mode, turning off the device, and placing it away during worship. These actions illustrate that the respondents did not merely

experience technology as an external force. They actively attempted to regulate their digital environment according to their religious priorities.

Discussion

Digital Technology as a Functional Religious Resource

The findings show that smartphones have become significant resources in the religious lives of madrasah students. The high score for online religious information-seeking indicates that students increasingly access religious knowledge through digital platforms. This pattern corresponds with the broader transformation of Islamic media in Indonesia, where websites, social media, and mobile applications have expanded the circulation of religious knowledge beyond mosques, pesantren, madrasahs, and face-to-face preaching.[26]

Digital platforms allow students to obtain information quickly and access Qur'anic materials, sermons, and religious explanations at any time. Similar studies have shown that technology can facilitate both Islamic learning and worship by providing flexible access to religious materials.[27] From this perspective, smartphone reliance should not automatically be treated as evidence of declining religiosity.

The findings instead indicate a form of functional reliance. Students frequently used smartphones and online media, but most reported limiting their use during ritual worship. This distinction is important because intensive use, functional reliance, and harmful dependency are not identical. Harmful dependency would be more clearly indicated by the inability to control use, persistent psychological discomfort, or interference with important religious, educational, and social responsibilities.

Nevertheless, the high score for using social media longer than intended shows that digital engagement was not entirely under control. Social media platforms are designed to sustain attention through continuous content, notifications, and personalized recommendations. Previous research has similarly identified relationships between high-intensity smartphone use and changes in adolescent behavior.[28] Madrasah education should therefore address not only access to digital resources but also the ability to regulate duration and attention.

Religious Autonomy as Self-Regulation

The high scores for religious autonomy suggest that students had begun to internalize responsibility for their religious practices. Most respondents stated that they could perform worship without continuous reminders and maintain concentration without holding their smartphones.

---

[26] Muhammad Rahmadani Lubis and Abdullah, "Transformasi Media Islam Di Era Digital Studi Perkembangan Media Online Islam Indonesia Pasca Reformasi," *Citizen: Jurnal Ilmiah Multidisiplin Indonesia* 5, no. 1 (2025), https://doi.org/10.53866/jimi.v5i1.656.

[27] Nurhabibah et al., "Pemanfaatan Teknologi Digital Dalam Memfasilitasi Ibadah Dan Pendidikan Islam."

[28] Arake and Winarti, "Hubungan Antara Kecanduan Smartphone Dengan Prestasi Belajar Pada Remaja Di Indonesia."

These findings can be understood through the concept of self-regulation. Self-regulation refers to the capacity to observe, evaluate, and manage one's behavior according to internalized standards. In this study, actions such as silencing notifications, activating airplane mode, and placing smartphones away during worship represent practical forms of digital self-regulation.

The relationship between religiosity and self-control has also been emphasized in studies of adolescent development. Religious commitment may provide behavioral standards through which young people evaluate and regulate their actions.[29] In the present study, religious norms appeared to establish boundaries that temporarily limited digital engagement.

Religious autonomy should therefore not be understood as separation from teachers, parents, or religious institutions. The students remained situated within a madrasah environment and continued to receive religious guidance. Their autonomy consisted of the ability to translate this guidance into personal discipline without requiring constant external supervision.

Digital Religious Literacy and Changing Religious Authority

The preference for seeking religious answers online reflects a broader shift in the sources of religious authority available to young Muslims. Teachers, parents, and religious scholars remain important, but students can now access numerous religious interpretations through search engines, social media, and video platforms.

This expansion creates opportunities for independent learning, but it also presents risks. Online religious content may be inaccurate, decontextualized, ideologically biased, or deliberately misleading. Research on Generation Z has shown that digital technology can shape both religious thought and religious practice.[30] The development of religious autonomy must therefore include the ability to evaluate sources rather than merely access information.

The respondents reported very high confidence in verifying religious information and distinguishing beneficial from misleading content. While this is a positive indication, self-reported confidence should not be equated with demonstrated competence. Students may believe that content is credible because it is presented persuasively, receives many views, or is delivered by a popular religious influencer.

Madrasahs should consequently provide systematic education concerning digital religious literacy. Students need practical guidance in identifying authorship, institutional affiliation, scholarly qualifications, references, context, and consistency with recognized Islamic sources. Teachers should also encourage students to consult knowledgeable religious authorities when online explanations are unclear or contested.

[29] Cucuani, Fitiyani, and Widiningsih, "Pengaruh Malu (Al-Haya') Terhadap Self Disclosure Di Media Sosial Pada Remaja Muslim Melalui Kontrol Diri."
[30] Masripah, Irvani, and Marwah, "Penggunaan Teknologi Digital Terhadap Pemikiran Dan Praktik Keagamaan Gen-Z."

Religious Applications and Digital-Spiritual Boundaries

The strong use of Qur'an and prayer-support applications indicates that students do not necessarily perceive a contradiction between digital technology and religious commitment. Technology becomes problematic not because it is digital, but because of how it is used and regulated.

The findings support the concept of a digital-spiritual boundary. This boundary refers to students' conscious distinction between situations in which technology supports religious life and situations in which it may disrupt spiritual concentration. Accessing a digital Qur'an or prayer schedule may support worship, while responding to social media notifications during prayer may weaken concentration.

This boundary was visible in the contrast between the high use of religious applications and the low use of smartphones during worship. Students appeared capable of using technology before or after religious activities while restricting it during the ritual itself.

The distinction also prevents an overly negative interpretation of digital religion. Digital media do not simply replace traditional religious practices. They can become integrated into existing patterns of worship, learning, and moral responsibility. Similar observations have been made in studies of contemporary youth religiosity, where online platforms serve as spaces for learning, identity formation, and religious expression.[31]

Hifz al-'Aql and Responsible Technology Use

The findings may also be interpreted through the Islamic principle of *Hifẓ al-'Aql*, or the preservation of the intellect. In the digital context, preserving the intellect involves protecting students from harmful information, excessive distraction, manipulation, and uncritical acceptance of online content.

Hifẓ al-'Aql does not require the rejection of technology. Rather, it encourages its use for beneficial knowledge while maintaining intellectual and moral control. Previous studies have connected this principle with the need to filter religious values and information in the digital era.[32]

The respondents' reported ability to verify religious content and limit smartphone use during worship represents an initial form of this ethical responsibility. However, these abilities should continue to be developed through structured educational practices. Students require not only moral instructions but also practical skills for checking sources, managing screen time, resisting distracting content, and recognizing persuasive digital strategies.

[31] Nendissa, "Dinamika Agama Dalam Era Digital: Pengaruh Media Sosial Terhadap Praktik Keagamaan Di Kalangan Generasi Muda."
[32] Syamraeni and Fajar, "Transformasi Nilai Religius Di Era Digital: Analisis Literatur Berdasarkan Tujuan Hifz Al-'Aql."

Implications for Madrasah Education

The results suggest that madrasahs should avoid treating technology exclusively as either a threat or a solution. A purely restrictive policy may temporarily reduce smartphone use, but it does not necessarily teach students how to regulate technology when external supervision is absent.

Madrasah education should instead combine religious formation with digital self-regulation. Relevant educational practices may include:

1. training students to verify online religious sources;
2. discussing ethical smartphone use during worship and learning;
3. establishing agreed digital boundaries;
4. using Qur'an and prayer applications critically and responsibly;
5. encouraging consultation with teachers when online religious information is uncertain; and
6. involving parents in developing consistent digital routines at home.

This approach corresponds with the challenges of Islamic education in Society 5.0, where students are expected to possess technological competence without losing moral and spiritual resilience.[33] The aim should not be to create students who avoid technology entirely, but students who can use it consciously without becoming controlled by it.

Limitations of the Study

Several limitations should be considered. First, the study involved only 60 students from a single madrasah, so the findings cannot be generalized to all madrasah students. Second, the data relied mainly on self-reported responses, which may be affected by memory limitations and social desirability. Third, the study did not directly observe students' smartphone use or worship behavior. The reported capacity to verify online religious content was also not tested through performance-based tasks. Fourth, the small number of questionnaire items may not fully capture the complexity of technological dependency and religious autonomy.

Finally, the descriptive design does not permit conclusions concerning causal influence. The study shows patterns of coexistence and negotiation between technology and religious autonomy, but it cannot establish whether digital technology directly increases or decreases religious independence.

Future research may involve students from several madrasahs, use validated multidimensional instruments, compare demographic groups, and include interviews, observations, or digital-use records. Longitudinal studies may also examine how religious autonomy develops as students' engagement with technology changes over time.

[33] Yemmardotillah, Indria, and Asrizallis, "Tantangan Dan Peluang Pendidikan Agama Islam Di Era Society 5.0."

CONCLUSION

This study examined digital technology use and religious autonomy among ninth-grade students at MTs Nurul Iman Tanjung Morawa. The findings show that smartphones have become important tools for accessing religious information, Qur'anic applications, prayer reminders, and learning materials. However, prolonged social media use and difficulty limiting digital engagement remain potential challenges.

Despite intensive smartphone use, students reported strong religious autonomy. They showed initiative in worship, maintained concentration during religious practices, limited smartphone use during prayer, and perceived themselves as capable of evaluating online religious information.

These findings suggest that digital engagement does not automatically weaken religious autonomy. Instead, students establish a *digital-spiritual boundary* by distinguishing between technology that supports religious life and technology that may disrupt worship. Religious autonomy in the digital era therefore includes self-regulation, critical evaluation of information, and responsible technology use.

Madrasahs should not rely solely on restrictive policies. They should strengthen digital religious literacy, source verification, and students' ability to manage smartphone use responsibly.

This study is limited to 60 students from one madrasah and relies on self-reported data. Future research should involve broader samples and combine questionnaires with interviews, observations, or digital-use records.

Overall, the study contributes to discussions on digital religion by showing that young Muslims can integrate technology into religious life while maintaining personal responsibility and spiritual discipline.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to Dr. Umar Mukhtar Siregar, Lc., M.A., for his invaluable guidance, supervision, and scholarly insight throughout the completion of this research, whose expertise and constructive feedback greatly contributed to the refinement of this study. The authors also extend their appreciation to the Computer Science Study Program, Universitas Negeri Medan (UNIMED), for providing the academic environment and institutional support necessary to conduct this research as part of the Islamic Studies course requirements. Special thanks are addressed to the administration, teachers, and particularly the ninth-grade students of MTs Nurul Iman Tanjung Morawa for their cooperation and active participation during the data collection process. This study was conducted as an academic research project aimed at examining the intersection between technology and religious practice within the context of contemporary education.

REFERENCE

Arake, Annisa, and Yuliani Winarti. "Hubungan Antara Kecanduan Smartphone Dengan Prestasi Belajar Pada Remaja Di Indonesia." *Borneo Student Research* 3, no. 2 (2022): 1911–21.

Boateng, Godfred O, Torsten B Neilands, Edward A Frongillo, Hugo R Melgar-Quiñonez, and Sera L Young. "Best Practices for Developing and Validating Scales for Health, Social, and Behavioral Research: A Primer." *Frontiers in Public Health* 6 (2018). https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2018.00149.

Braun, Virginia, and Victoria Clarke. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3, no. 2 (January 1, 2006): 77–101. https://doi.org/10.1191/1478088706qp063oa.

Brown, Carol, and Mary Wild. *Ethical Dilemmas in Education: Considering Challenges and Risks in Practice*. Oxford: Department of Psychiatry, University of Oxford, UK, 2022.

Cucuani, Hijriyati, Eka Fitiyani, and Yuli Widiningsih. "Pengaruh Malu (Al-Haya') Terhadap Self Disclosure Di Media Sosial Pada Remaja Muslim Melalui Kontrol Diri." Riau, 2022.

Dillman, Don A, and Leah Melani Christian. "Survey Mode as a Source of Instability in Responses across Surveys." *Field Methods* 17, no. 1 (February 1, 2005): 30–52. https://doi.org/10.1177/1525822X04269550.

Friday, Nyimbili, and Nyimbili Leah. "Types of Purposive Sampling Techniques with Their Examples and Application in Qualitative Research Studies." *British Journal of Multidisciplinary and Advanced Studies: English Lang., Teaching, Literature, Linguistics & Communication* 5, no. 1 (2024): 90–99.

Guetterman, Timothy C, Michael D Fetters, and John W Creswell. "Integrating Quantitative and Qualitative Results in Health Science Mixed Methods Research Through Joint Displays." *The Annals of Family Medicine* 13, no. 6 (November 1, 2015): 554 LP – 561. https://doi.org/10.1370/afm.1865.

Jaenudin, Agung. "The Influence of Information Technology On Religious Practices In Urban Muslim Communities." *Al-Madinah: Journal of Islamic Civilization* 1, no. 2 (2024): 157–168. https://doi.org/10.70901/The.

Jr, Harry N Boone, Deborah A Boone, Harry N Boone, Deborah A Boone, and West Virginia. "Analyzing Likert Data." *Journal of Extension* 50, no. 2 (2012): 1–6.

Lubis, Muhammad Rahmadani, and Abdullah. "Transformasi Media Islam Di Era Digital Studi Perkembangan Media Online Islam Indonesia Pasca Reformasi." *Citizen: Jurnal Ilmiah Multidisiplin Indonesia* 5, no. 1 (2025). https://doi.org/10.53866/jimi.v5i1.656.

Masripah, Ani Siti Anisah, Asep Irvan Irvani, and Sopa Siti Marwah. "Penggunaan Teknologi

Digital Terhadap Pemikiran Dan Praktik Keagamaan Gen-Z." *Jurnal Ilmiah Pendidikan Citra Bakti* 11, no. 3 (2024): 435–449. https://doi.org/10.38048/jipcb.v11i3.3624.

Nendissa, Julio Eleazer. "Dinamika Agama Dalam Era Digital: Pengaruh Media Sosial Terhadap Praktik Keagamaan Di Kalangan Generasi Muda." *Mawar Saron: Jurnal Pendidikan Kristen Dan Gereja* 8, no. 2 (2025): 1–20. https://doi.org/10.62240/msj.v8i2.

Nurhabibah, Prabawati, M.Nizar Ayubi, Yulina Ismiyanti, and Mihkel Madisson. "Pemanfaatan Teknologi Digital Dalam Memfasilitasi Ibadah Dan Pendidikan Islam." *Alfabet Jurnal Wawasan Agama Risalah Islamiah, Teknologi Dan Sosial (Al-Waarits)* 2, no. 1 (2025): 44–54. https://doi.org/10.34306/alwaarits.v2i1.703.

Nurhadi, M.Wiran Jaya, Andri Wijaya, Ridwan Baiturrahman, and Rika Solihah. "Peran Teknologi, ICT, Dan Media Sosial Dalam Pembelajaran Pendidikan Agama Islam." *Jurnal Pendidikan Indonesia: Teori, Penelitian Dan Inovasi* 5, no. 4 (2025). https://doi.org/10.59818/jpi.v5i4.1727.

Sari, M P, and A Wahyudi. "Intensitas Penggunaan Media Sosial Dan Dampaknya Terhadap Perilaku Siswa." *Jurnal Pendidikan Indonesia* 10, no. 2 (2021): 134–142. https://doi.org/10.23887/jpi-undiksha.v10i2.33182.

Syamraeni, Hidayatus Sholichah, and Adam Hafidz Al Fajar. "Transformasi Nilai Religius Di Era Digital: Analisis Literatur Berdasarkan Tujuan Hifz Al-'Aql." *Socio Religia*, 2024.

Tavakol, M, and R Dennick. "Making Sense of Cronbach's Alpha." *Int J Med Educ* 2 (June 27, 2011): 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd.

Yemmardotillah, M, Anita Indria, and dan Rini Indriani Asrizallis. "Tantangan Dan Peluang Pendidikan Agama Islam Di Era Society 5.0." *Malewa: Journal of Multidisciplinary Educational Research* 2, no. 2 (2024): 75–87. https://doi.org/10.61683/jome.v2i2.127.

Zaer, Akramul Insan, and Misra. "Dampak Teknologi Digital Terhadap Pembentukan Karakter Islami Peserta Didik Di Era Society 5.0." *Akhlak: Jurnal Pendidikan Agama Islam Dan Filsafat* 2, no. 3 (2025): 85–92. https://doi.org/10.61132/akhlak.v2i3.865.