



The Influence of Instant Dopamine Dependence Induced by Digital Content on Arabic Language Learning Motivation among Students at MTs Al Mujahidin 2 Samarinda

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American Psychological Association 7th Edition Style Citation

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Article History

Received : 10/08/2026

Revised : 12/09/2026

Accepted : 13/09/2026

Keywords

Instant Dopamine Dependence; Digital Content; Learning Motivation; Arabic Language Learning; Islamic Secondary Education

Subjects

Applied Linguistics;
Arabic Language Education

Article Structure

Introduction
Method
Findings and Discussion
Conclusion
References

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Abstract

The rapid advancement of digital technology has transformed adolescents' behavioral patterns in accessing information and entertainment through various digital content platforms. The ease of obtaining immediate stimulation from digital content has drawn increasing scholarly attention to instant dopamine dependence, which may influence students' attentional patterns and motivation to learn. This study aimed to examine the relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic at MTs Al Mujahidin 2 Samarinda. A quantitative approach with an associative research design was employed. Data were collected through a Likert-scale questionnaire administered to 45 ninth-grade students at MTs Al Mujahidin 2 Samarinda. The data were analyzed using validity and reliability tests, classical assumption tests, and simple linear regression with the assistance of statistical software. The findings revealed that instant dopamine dependence induced by digital content had no statistically significant effect on students' motivation to learn Arabic, with a significance value of 0.391 ($p > 0.05$). Furthermore, the coefficient of determination ($R^2 = 0.017$) indicated that the independent variable accounted for only 1.7% of the variance in students' learning motivation. These findings suggest that digital content consumption does not directly determine students' learning motivation, as multiple factors, including self-regulation, the learning environment, and psychological factors, influence academic motivation. This study contributes to a better understanding of the relationship between digital behavior and learning motivation in Islamic secondary education. It provides a foundation for future research on additional factors that influence students' motivation to learn in the digital era.



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A. Introduction

The rapid advancement of digital technology has significantly transformed people's lifestyles, particularly how younger generations access information, communicate, and engage with entertainment (Anwar et al., 2023; Rao et al., 2024). The emergence of digital platforms such as TikTok, Instagram, and YouTube, characterized by short-form, fast-paced, and easily consumable content, has altered users' attention patterns and behavioral tendencies, especially among adolescents (Aziz et al., 2026; Maulana & Hidayat, 2025; Sofian et al., 2026). Generation Z is the demographic group most closely associated with the development of digital technology, as a substantial proportion of their social interactions and entertainment activities occur through digital devices (Muttaqin et al., 2025; Pérez & Colón, 2024; R et al., 2026). According to global reports on internet and social media usage, adolescents and young adults exhibit particularly high levels of engagement with digital platforms centered on visual content and short-form videos (Social, 2024). These developments have generated numerous benefits in contemporary society, including greater accessibility to information and learning resources. Nevertheless, they have also introduced new challenges, as the rapid and highly stimulating nature of digital content may affect individuals' capacity to sustain attention, regulate their behavior, and engage in activities that require prolonged cognitive effort, including academic learning.

One of the emerging phenomena associated with the increasing intensity of digital content consumption is the growing tendency of individuals to seek immediate gratification through digital activities that provide instant rewards (Dewan, 2024; Özbay, 2026). Contemporary digital platforms are intentionally designed with features that maximize user engagement, including algorithm-driven recommendation systems, push notifications, endless content feeds, and immediate feedback through user interactions (Lupinacci, 2020; Shanmugasundaram & Tamilarasu, 2023). These mechanisms are closely associated with the brain's reward system, in which dopamine plays a central role in motivation, learning, and the reinforcement of specific behaviors (Schultz, 2016). In the context of digital behavior, repeated exposure to rapidly rewarding stimuli may foster a tendency to seek similar pleasurable experiences continuously (Berthon et al., 2019; Eisenwort et al., 2020). In the present study, this phenomenon is conceptualized as instant dopamine dependence induced by digital content, defined as an individual's tendency to seek immediate emotional gratification and rapid stimulation through digital content consumption. Previous studies on problematic digital media use have demonstrated that excessive digital engagement is associated with diminished self-regulation, impaired attentional control, and behavioral changes, particularly among adolescents (Elhai et al., 2017; Kuss & Griffiths, 2017).

Dependence on instant digital stimulation has become increasingly important in educational research, particularly regarding students' motivation to learn (Noor et al., 2025). Learning motivation is a fundamental determinant of successful learning outcomes, as it reflects students' internal drive to engage in learning activities, sustain their efforts, and achieve academic goals (Hidayat et al., 2024; Hidayat, 2026). According to Self-Determination Theory, individuals' motivation is shaped by fulfilling three basic psychological needs—autonomy, competence, and relatedness—which foster active engagement in learning and other goal-directed activities (Ryan & Deci, 2020). In foreign language learning, motivation plays an

even more critical role because language proficiency requires sustained learning, repeated practice, and the ability to persevere through long-term challenges. Arabic language education in Islamic secondary schools (madrasahs) has distinctive characteristics, as it involves not only developing linguistic competence but also understanding Islamic primary sources. Consequently, learning Arabic requires persistence and strong motivation. However, patterns of digital content consumption that emphasize immediate gratification may create a mismatch between activities that provide instant rewards and those that require gradual, sustained effort to achieve meaningful outcomes.

Changes in behavioral patterns resulting from digital content consumption have attracted considerable attention in educational research due to their potential influence on students' ability to regulate attention, manage time, and maintain learning motivation. Previous studies have demonstrated that digital technology can exert both positive and negative effects on the learning process, depending on the purpose of its use and individuals' capacity for self-regulation. From a positive perspective, digital technology expands access to learning resources, enhances learning flexibility, and facilitates self-directed learning. However, when digital technologies are used predominantly for entertainment, they may increase the risk of academic distraction and reduce students' engagement in learning activities that require sustained concentration (Dontre, 2021; Kaur et al., 2021). Research on problematic smartphone use has likewise shown that excessive use of digital devices is associated with various psychological outcomes, including difficulties in regulating technology use, diminished attentional control, and compulsive engagement in digital activities (Elhai et al., 2017). Collectively, these findings suggest that the primary concern lies not in the presence of digital technology itself, but rather in how individuals interact with it and how such interaction may influence behavioral patterns and learning motivation within academic settings.

Within the literature on learning motivation, self-regulation has been recognized as a key determinant of students' academic success. The theory of self-regulated learning posits that students who effectively regulate their cognitive processes, motivation, and behavior are more likely to demonstrate higher levels of academic engagement than those who struggle to manage these dimensions (Panadero, 2017). The contemporary digital environment presents new challenges to self-regulation, as students are continuously exposed to a wide range of stimuli that can divert their attention. Research on digital learning has shown that students' engagement in technology-enhanced learning environments is influenced not only by the quality of the digital media used but also by their ability to sustain motivation to learn and effectively manage digital distractions (Faza & Lestari, 2025). Therefore, the relationship between dependence on digital content and learning motivation cannot be understood solely by the amount of time spent using digital devices. Rather, it should be examined in light of how digital experiences shape students' behavioral patterns, preferences, and capacity to direct their attention toward academic goals.

Although research on digital technology and education has expanded considerably, several important research gaps remain. Most previous studies have focused on problematic Internet use, social media addiction, or the relationship between the intensity of technology use and academic achievement in general. These approaches have not sufficiently addressed the psychological dimension of

individuals' tendency to seek instant stimulation through digital content and how this tendency relates to learning motivation. Furthermore, research examining the relationship between digital behavior and language learning remains relatively limited, particularly within the context of Arabic language education in Islamic educational institutions. This is noteworthy because learning Arabic requires a gradual learning process, continuous practice, and sustained active engagement from students over an extended period. These gaps underscore the need for further research examining the relationship between contemporary digital content consumption and learning motivation within more specific educational contexts.

Within the context of Islamic secondary education, this issue has become increasingly relevant, as students are inevitably exposed to the rapid advancement of digital technology in their daily lives. MTs Al Mujahidin 2 Samarinda, the site of the present study, is an Islamic secondary school that faces the challenges posed by technological advancement while pursuing distinctive educational objectives, including Arabic language instruction. In the context of this study, digital content consumption among students constitutes an important phenomenon to investigate because it may influence their attentional patterns and engagement in the learning process. Learning Arabic requires not only the ability to comprehend instructional materials but also sustained motivation and perseverance throughout the learning process. Therefore, it is essential to examine whether students' tendency to seek immediate gratification through digital content is associated with their motivation to engage in Arabic language learning. Such an investigation is expected to provide valuable insights into the emerging challenges faced by Islamic education in the digital era.

From an academic perspective, this study is significant because it seeks to extend the existing body of knowledge on the relationship between digital technology, psychological behavior, and learning motivation. Previous research has largely focused on the benefits of technology as a learning medium. At the same time, relatively little attention has been devoted to examining how the reward-oriented characteristics of digital content may influence students' motivational orientation toward academic activities. By investigating instant dopamine dependence induced by digital content, this study offers the perspective that the challenges of digital education are not limited to issues of technological access but also involve behavioral changes resulting from intensive interaction with digital environments. From a practical standpoint, the findings of this study may provide valuable insights for teachers, schools, and parents in understanding students' digital behaviors, thereby enabling the development of more effective educational support and instructional strategies that are aligned with the characteristics and needs of learners in the digital era (Valkenburg et al., 2022).

Based on the theoretical framework and previous empirical studies, this study is founded on the assumption that there is a relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic. This assumption is grounded in the contrasting characteristics of digital activities, which provide immediate rewards, and learning activities, which require sustained effort, persistence, and delayed gratification. As students become increasingly accustomed to instant stimulation from digital content, academic activities that yield results only through gradual, sustained effort may become less appealing. Conversely, students with stronger self-regulation are expected to be better able to manage their use of digital technology while maintaining their

motivation to learn. Accordingly, this study hypothesizes that there is a significant relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic at MTs Al Mujahidin 2 Samarinda.

The novelty of this study lies in its examination of the relationship between instant dopamine dependence induced by digital content and motivation to learn Arabic in the context of Islamic secondary education. Unlike previous studies, which have primarily focused on Internet addiction, social media use, or the general impact of digital technology on academic achievement, the present study emphasizes a behavioral dimension—namely, individuals' tendency to seek rapid stimulation and immediate gratification through digital content. Furthermore, this study situates Arabic language learning, an area that remains relatively underexplored in the literature on the relationship between digital technology and learning motivation. It is expected that the findings will enrich the fields of educational psychology, educational technology, and language education by providing new insights into how changes in the digital environment may be associated with students' motivation to learn.

Drawing on the social phenomenon, the reviewed literature, the underlying theoretical framework, and the identified research gaps, this article aims to examine the relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic at MTs Al Mujahidin 2 Samarinda. Specifically, the objectives of this study are to: (1) determine the level of instant dopamine dependence induced by digital content among students at MTs Al Mujahidin 2 Samarinda; (2) assess students' level of motivation to learn Arabic; and (3) analyze the relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic. Theoretically, this study is expected to contribute to the growing body of knowledge on digital behavior and learning motivation in the era of technological transformation. In practice, the findings are expected to serve as a valuable reference for educators and educational institutions in understanding the challenges of sustaining students' motivation to learn amid increasing exposure to digital content.

B. Method

This study employed a quantitative approach using an associative research design to examine the causal relationship between the variables under investigation. A quantitative approach was selected because the study focuses on the objective measurement of variables through numerical data collected from respondents, which were subsequently analyzed using statistical techniques to test the proposed hypotheses. In this study, the independent variable (X) was instant dopamine dependence induced by digital content, whereas the dependent variable (Y) was students' motivation to learn Arabic. An associative design with a causal framework was adopted to investigate the effect of instant dopamine dependence induced by digital content on students' motivation to learn Arabic. According to Creswell J. W. & D. (2023), quantitative research is employed to examine relationships among variables through systematic measurement and statistical analysis, thereby enabling conclusions to be drawn based on empirical evidence. Therefore, this approach was considered appropriate for addressing the research objective of examining the relationship between digital content consumption behavior and students' motivation to learn.

This study was conducted at MTs Al Mujahidin 2 Samarinda, located on KH. Harun Nafsi Street, Gang Darma, Rapak Dalam, Loa Janan Ilir District, Samarinda, Indonesia. The research site was selected because ninth-grade students at this school actively engage with digital content, particularly through scrolling, which is relevant to the phenomenon of dependence on instant stimulation. In addition, the site was chosen because no previous study had specifically examined the relationship between instant dopamine dependence induced by digital content and students' motivation to learn Arabic within this Islamic secondary school. The study was conducted during the 2024/2025 academic year and involved ninth-grade students. This group was selected because adolescents at this educational level typically engage with digital devices frequently and face increasing academic demands.

The population of this study comprised all ninth-grade students enrolled at MTs Al Mujahidin 2 Samarinda during the 2024/2025 academic year, totaling 57 students. A saturated sampling technique (total population sampling) was employed, whereby all members of the target population were included as research participants. This sampling technique was selected because the population size was relatively small, allowing every member of the population the opportunity to participate in the study. Of the 57 students comprising the target population, 45 returned completed questionnaires that met the criteria for data analysis. Accordingly, the final sample consisted of 45 students, representing a response rate of 78.95%. The use of saturated sampling is appropriate for studies involving relatively small populations, as it provides a more comprehensive representation of the target population's characteristics (Sugiyono, 2019).

The data used in this study consisted of both primary and secondary sources. Primary data were collected directly from the respondents through a structured questionnaire administered to ninth-grade students at MTs Al Mujahidin 2 Samarinda. These data comprised respondents' scores measuring instant dopamine dependence induced by digital content as the independent variable (X) and motivation to learn Arabic as the dependent variable (Y). Secondary data were obtained from relevant documentation, including the school's profile, student records, and supporting information concerning the research setting. The primary data collection instrument was a closed-ended questionnaire using a five-point Likert scale: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). The instrument was designed to systematically measure respondents' perceptions and behavioral tendencies regarding the research variables. According to Cohen (2018), the use of questionnaires in quantitative research enables researchers to collect standardized data that can be analyzed using statistical techniques.

Data analysis was conducted in several stages using JASP version 0.96.0.0. The initial stage involved data processing, including editing, coding, and tabulation of respondents' Likert-scale responses. Subsequently, the quality of the research instrument was evaluated through validity and reliability testing. Construct validity was assessed using the Pearson product-moment correlation to determine the extent to which each questionnaire item accurately measured the intended research variable. The results indicated that of the 15 items measuring the independent variable (X), 14 were deemed valid, while 1 was excluded because it did not meet the validity criterion. In contrast, all 15 items measuring the dependent variable (Y) were found to be valid. Instrument reliability was

evaluated using Cronbach's alpha, yielding coefficients of 0.798 for the independent variable and 0.842 for the dependent variable. These results indicate that both instruments demonstrated satisfactory internal consistency and were therefore considered reliable. According to Field (2024), evaluating the validity and reliability of research instruments is an essential step in quantitative research, as the quality of the measurement instrument directly affects the credibility of the research findings.

After the research instruments were confirmed to be valid and reliable, the analysis proceeded with statistical assumption testing and hypothesis testing. The prerequisite tests included the Shapiro–Wilk normality test, the linearity test, and the heteroscedasticity test to ensure that the data met the assumptions underlying linear regression. The results of the normality test indicated that the data for both instant dopamine dependence induced by digital content and motivation to learn Arabic were normally distributed, as the significance values for both variables exceeded the 0.05 threshold. Subsequently, descriptive statistics were computed to summarize the data, including the mean, minimum, maximum, mode, and standard deviation. Hypothesis testing was conducted using the t-test, the coefficient of determination (R^2), and simple linear regression analysis based on the model $Y = a + bX$. These analyses were undertaken to determine whether instant dopamine dependence induced by digital content had a statistically significant effect on students' motivation to learn Arabic.

C. Findings and Discussion

Respondent Characteristics and Overview of the Research Data

This study was conducted among ninth-grade students at MTs Al-Mujahidin 2 Samarinda to examine the relationship between instant dopamine dependency arising from digital content consumption and students' motivation to learn Arabic. Based on the research data, the target population consisted of 57 students, while the collected data that met the criteria for analysis comprised 45 respondents. All respondents were ninth-grade students who actively participated in Arabic language learning and had experience using digital media in their daily lives. Data were collected using a questionnaire instrument employing a Likert scale. The research instrument consisted of two main variables: instant dopamine dependency from digital content (X) and Arabic learning motivation (Y). The X variable was measured using indicators such as scrolling frequency, loss of self-control, compulsive urges, and disruption of essential activities.

Meanwhile, the Y variable was measured using indicators such as task persistence, interest in Arabic learning materials, and learning goal orientation. The data collection results indicate that digital content consumption has become an integral part of students' daily activities. Short-form video-based digital platforms were identified as the most frequently used media among respondents. This phenomenon suggests that students experience relatively high exposure to digital environments that provide rapid, repetitive stimulation. Such exposure may influence students' behavioral patterns, particularly regarding attention regulation, self-control, and engagement in academic activities.

Description of the Instant Dopamine Dependency from Digital Content Variable

The variable of instant dopamine dependency from digital content was analyzed based on respondents' responses to 15 statement items. Descriptive

analysis was conducted to identify the tendency of respondents' dependency levels on digital content consumption. The results of the analysis showed that the X variable obtained a mean score of 42.80 with a standard deviation of 8.357.

Table 1. Descriptive Statistics of the Instant Dopamine Dependency from Digital Content Variable (X)

Statistic	Value
Number of respondents (N)	45
Mean	42,80
Median	43,00
Standard Deviation	8,357
Minimum	22,00
Maximum	62,00

Based on the score categorization, students' levels of instant dopamine dependency from digital content were classified as moderate. This finding indicates that most students demonstrate engagement with digital content consumption; however, their involvement has not yet reached an excessive or extreme level of dependency.

Table 2. Categories of Instant Dopamine Dependency from Digital Content Variable

Category	Score Range	Frequency	Percentage
Low	15–32	3	6,7%
Moderate	33–51	36	80,0%
High	52–70	6	13,3%
Total	-	45	100%

These findings indicate that although students have habits of accessing digital content, the majority remain within a moderate level of usage. This condition is an important factor in interpreting subsequent research findings, as negative impacts associated with digital media use are generally more evident among individuals with problematic or excessive levels of digital engagement.

Description of the Arabic Learning Motivation Variable

The Arabic learning motivation variable was analyzed through 15 statement items measuring students' persistence, interest in learning materials, and learning goal orientation. The results of the descriptive statistical analysis showed that the mean score of Arabic learning motivation was 54.98, with a standard deviation of 7.599.

Table 3. Descriptive Statistics of the Arabic Learning Motivation Variable (Y)

Statistic	Value
Number of respondents (N)	45
Mean	54,98
Median	54,00
Standard Deviation	7,599
Minimum	35,00
Maximum	69,00

Based on the score categorization, students' motivation for Arabic learning was predominantly classified as moderate to high.

Table 4. Categories of the Arabic Learning Motivation Variable

Category	Score Range	Frequency	Percentage
Low	15-35	1	2,2%
Moderate	36-55	24	53,3%
High	56-75	20	44,4%
Total	-	45	100%

These results indicate that students maintain relatively strong motivation to learn Arabic despite exposure to a digital environment with various distractions. This finding provides an important basis for understanding that the presence of digital technology does not necessarily lead to a direct decline in academic motivation. Instead, the influence of digital technology on learning motivation may depend on how students regulate their digital engagement and integrate technology into their learning activities.

Instrument Validity Test

The validity test was conducted to assess the extent to which each instrument item accurately measures the research variables. The test was performed using the Pearson Product-Moment correlation analysis with a total of 45 student respondents. The critical value (r table) at a 5% significance level was 0.294. An item was considered valid if the calculated correlation coefficient (r calculated) was greater than the r table value.

Table 5. Validity Test Results of the Instant Dopamine Dependency Variable from Digital Content (X)

Item	r calculated	r table	Interpretation
X1	0,576	0,294	Valid
X2	0,611	0,294	Valid
X3	0,572	0,294	Valid
X4	0,456	0,294	Valid
X5-X15	>0,294	0,294	Valid (except eliminated item)

Based on the validity test results, out of the 15 instrument items measuring variable X, 14 items met the validity criteria, while one item did not meet the minimum correlation threshold and was excluded from further analysis. This indicates that the majority of the items were capable of representing the construct of instant dopamine dependency from digital content appropriately.

Table 6. Validity Test Results for the Arabic Learning Motivation Variable (Y)

Item	r calculated	r table	Interpretation
Y1-Y15	>0,294	0,294	Valid

All items in the Arabic learning motivation variable were declared valid, indicating that all indicators met the validity criteria and could be used to measure the research construct. This finding confirms that the instrument items adequately represent the dimensions of Arabic learning motivation examined in this study.

Instrument Reliability Test

The reliability test was conducted using Cronbach's alpha to assess the consistency of the research instruments.

Table 7. Instrument Reliability Test Results

Variable	Cronbach's Alpha	Number of Items	Interpretation
Instant Dopamine Dependency from Digital Content (X)	0,798	14	Reliable
Arabic Learning Motivation (Y)	0,842	15	Reliable

The test results indicate that both instruments obtained Cronbach's Alpha values above 0.70, indicating good reliability. According to Field (2018), reliability coefficients above this threshold demonstrate that the instruments possess adequate internal consistency and are appropriate for use in quantitative research.

Analysis Assumption Tests

Before testing the hypothesis using simple linear regression, this study first conducted statistical assumption tests to ensure the data met the requirements for parametric analysis. The assumption tests included normality, linearity, and heteroscedasticity tests. These tests were performed to verify that the regression model applied in this study could provide accurate estimates regarding the relationship between instant dopamine dependency from digital content and Arabic learning motivation.

Normality Test

The normality test was conducted to determine whether the research data for each variable were normally distributed. The Shapiro–Wilk test was performed because the number of research participants was fewer than 50. The data were considered normally distributed if the significance value was greater than 0.05.

Table 8. Results of the Shapiro–Wilk Normality Test

Variable	Shapiro–Wilk Statistic	Sig.	Interpretation
Instant Dopamine Dependency from Digital Content (X)	0,973	0,360	Normal
Arabic Learning Motivation (Y)	0,970	0,295	Normal

Based on Table 8, the instant dopamine dependency from the digital content variable obtained a significance value of 0.360, while the Arabic learning motivation variable obtained a significance value of 0.295. Both values are greater than 0.05, indicating that the research data were normally distributed. Therefore, the data met one of the requirements for conducting simple linear regression analysis.

Linearity Test

The linearity test was conducted to determine whether the relationship between instant dopamine dependency from digital content and Arabic learning motivation was linear. The test was performed using ANOVA to examine the significance of the deviation from linearity. The relationship between variables was considered linear if the significance value was greater than 0.05.

Table 9. Results of the Linearity Test

Source of Variation	F	Sig.	Interpretation
Deviation from Linearity	0,751	0,391	Linear

The test results showed that the significance value of deviation from linearity was 0.391. Since this value is greater than 0.05, it can be concluded that the relationship between instant dopamine dependency from digital content and Arabic learning motivation is linear. Therefore, the simple linear regression model is appropriate for analyzing the relationship between these two variables.

Heteroscedasticity Test

The heteroscedasticity test was conducted to determine whether the residual variance was unequal in the regression model. A good regression model should satisfy the assumption of homoscedasticity. The test was performed by examining the residual pattern and significance values.

Table 10. Results of the Heteroscedasticity Test

Variable	Sig.	Interpretation
Instant Dopamine Dependency from Digital Content (X)	>0,05	No heteroscedasticity detected

Based on the test results, the research model did not indicate heteroscedasticity. This finding suggests that the distribution of residuals was relatively stable, allowing the regression model to be used for hypothesis testing.

Hypothesis Testing

Simple Linear Regression Analysis

A simple linear regression analysis was conducted to determine the direction and magnitude of the effect of instant dopamine dependency from digital content on students' motivation to learn Arabic. The regression model used was:

$$Y = a + bX$$

Based on the analysis results, the following regression equation was obtained:

$$Y = 60,08 - 0,119X$$

The equation indicates that the constant value of 60.08 means that when the instant dopamine dependency from digital content variable is zero, the predicted value of Arabic learning motivation is 60.08. The regression coefficient of -0.119 indicates that each one-unit increase in instant dopamine dependency from digital content is theoretically associated with a decrease of 0.119 points in Arabic learning motivation. However, this negative relationship must be interpreted in light of its statistical significance.

Table 11. Results of Simple Linear Regression Analysis

Model	Coefficient B	Std. Error	t	Sig.
Constant	60,08	-	-	-
Instant Dopamine Dependency (X)	-0,119	-	-0,867	0,391

The analysis results showed that the significance value of the instant dopamine dependency from the digital content variable was 0.391. This value exceeds the significance level of 0.05. Therefore, the hypothesis that instant dopamine dependence from digital content significantly affects Arabic learning motivation is not supported by the research data.

Coefficient of Determination Test

The coefficient of determination was used to assess the extent to which the independent variable explains variation in the dependent variable.

Table 12. Results of the Coefficient of Determination

Model	R	R Square (R^2)	Contribution Percentage
Simple Linear Regression	0,130	0,017	1,7%

Based on Table 12, the coefficient of determination (R^2) value of 0.017 indicates that instant dopamine dependency from digital content explains only 1.7% of the variation in students' Arabic learning motivation. Meanwhile, the remaining 98.3% of the variation in learning motivation is influenced by other factors not examined in this study. These influencing factors may include both internal and external factors, such as learning interest, students' perceptions of Arabic language learning, teachers' instructional methods, school environmental support, family support, self-efficacy, and academic goals. This finding demonstrates that learning motivation is a complex construct that cannot be explained solely through a single digital behavioral factor.

Based on the overall analysis results, this study revealed several key findings. The level of instant dopamine dependency from digital content among students at MTs Al-Mujahidin 2 Samarinda was categorized as moderate, with 80% of students falling within this category. Meanwhile, students' Arabic learning motivation was classified from moderate to high, with the majority of students belonging to the moderate category (53.3%). The research instruments were confirmed to be valid and reliable for measuring both research variables. Furthermore, the research data fulfilled the assumptions required for regression analysis, as demonstrated by the normality, linearity, and heteroscedasticity tests. The findings also revealed that instant dopamine dependency from digital content did not have a significant effect on students' Arabic learning motivation. The contribution of instant dopamine dependency in explaining variations in learning motivation was only 1.7%, indicating that most variations in students' motivation were influenced by other factors beyond the scope of this study. These findings provide an important basis for further discussion regarding how students' digital behavior interacts with psychological, educational, and learning environment factors in shaping academic motivation.

The results of this study indicate that instant dopamine dependency from digital content does not significantly affect students' motivation to learn Arabic at MTs Al-Mujahidin 2 Samarinda. This finding is supported by the results of the simple linear regression analysis, which yielded a significance value of 0.391 (>0.05), with the contribution of instant dopamine dependency to learning motivation accounting for only 1.7%. These results demonstrate that although students exhibit some level of engagement with digital content, this engagement does not directly determine their motivation to learn Arabic. This finding suggests that the relationship between digital behavior and academic motivation is neither simple nor deterministic. Digital technology use does not necessarily have negative consequences for learning motivation, as its influence largely depends on the context of use, self-regulatory ability, individual characteristics, and students' social and educational environments.

The findings further suggest that the presence of digital content characterized by rapid stimulation does not automatically lead to a decline in learning motivation. This result is consistent with previous studies by Konrath et al. (2025) and Valkenburg et al. (2022), which explain that the effects of social media use among adolescents are heterogeneous and influenced by individual characteristics, types of digital activities, and the social contexts in which these activities occur. In other words, digital media does not exert identical effects on all individuals. Some students may experience attentional difficulties due to excessive digital engagement, whereas others may maintain their academic goals despite having high levels of digital involvement. In the present study, this pattern is reflected in the descriptive findings, which show that most students exhibited moderate levels of instant dopamine dependence. At the same time, their motivation for Arabic learning remained in the moderate-to-high range.

From a theoretical perspective, the findings of this study can be explained through the framework of Self-Determination Theory developed by Ryan and Deci. This theory posits that external factors do not solely influence individual motivation but are also shaped by the fulfillment of fundamental psychological needs, including competence, autonomy, and relatedness (Ryan & Deci, 2020). In this study, although students have access to various forms of digital stimulation, their motivation to learn Arabic can be sustained when their psychological needs in the learning environment are adequately met. Teacher support, peer relationships, the madrasah learning environment, and students' understanding of the importance and value of Arabic learning may be more dominant factors in shaping learning motivation than digital content consumption.

The findings of this study also demonstrate that digital behavior should be understood in terms of the quality of use rather than merely the presence or frequency of technology use. Research on problematic smartphone use indicates that negative effects of technology are more commonly observed when usage patterns develop into compulsive behaviors that interfere with daily functioning (Agustin & Arifin, 2022; Azzahra et al., 2025; Elhai et al., 2017). In the present study, the majority of students exhibited moderate levels of digital dependency, suggesting that potential negative effects on learning motivation may not yet emerge strongly. This finding indicates that digital content consumption at a certain level can coexist with academic activities, provided that students possess adequate self-regulation abilities to manage their digital engagement effectively.

The findings of this study differ from several previous studies that reported excessive digital media use as being associated with reduced academic engagement and diminished attentional capacity. Firth et al. (2019) explained that intensive internet use may influence certain cognitive processes, including attention and information processing. However, the study also emphasized that the effects of internet use on human cognition depend heavily on usage patterns and the context of digital activities. The differences between these findings may be attributed to variations in respondent characteristics. This study was conducted among madrasah students in an educational environment characterized by relatively strong academic and religious values, suggesting that environmental factors may serve as protective mechanisms against the potential negative effects of digital content consumption.

From the perspective of language learning, motivation is a highly complex construct shaped by internal and external factors. Dornyei & Ryan, (2015)

explained that motivation in language learning is not solely associated with interest in the language itself but also involves self-identity, learning goals, learning experiences, and social environments. Therefore, variations in Arabic learning motivation cannot be explained solely by a single factor such as digital content consumption. In this study, although students engage with various digital platforms, they continue to demonstrate relatively strong motivation to learn Arabic. This finding suggests that educational factors, such as teachers' instructional approaches, prior learning experiences, and the perceived importance of Arabic in Islamic education, may have a greater influence on students' motivation to learn.

The coefficient of determination value of 1.7% provides important evidence that instant dopamine dependency from digital content is not a primary factor explaining variations in students' Arabic learning motivation. This finding reinforces the perspective that learning motivation is a multidimensional construct. Research on self-regulated learning demonstrates that the ability to regulate goals, learning strategies, time management, and behavioral control plays a crucial role in determining students' academic achievement (Panadero, 2017). In digital environments, self-regulation skills become increasingly important because students are exposed to numerous stimuli that may interfere with their focus on learning. Therefore, future research should consider digital self-regulation as a potential mediating or moderating variable that may explain the relationship between technology use and learning motivation.

The findings of this study have theoretical implications: the relationship between digital technology and education cannot be understood solely from a perspective that positions technology as a threat or distraction. The results indicate that digital technology can become an integral part of students' lives without necessarily reducing academic motivation. This perspective is consistent with Orben (2020), who argued that the relationship between digital technology use and adolescent well-being is complex and requires a more specific understanding of user behaviors. Therefore, digital education approaches should not focus merely on restricting technology use but also on developing students' digital literacy and self-regulation skills.

From a practical perspective, the findings of this study have implications for teachers and educational institutions: strategies for addressing the development of digital technology should not be limited to prohibiting or restricting students' use of digital devices. Instead, a more constructive approach can be implemented through digital literacy education, strengthening self-regulation skills, and utilizing technology to support learning processes. Research in educational technology indicates that the benefits of technology in learning largely depend on how technology is utilized and integrated into educational practices (Bond et al., 2021). Therefore, schools should develop learning strategies that encourage students to use technology as a learning resource rather than merely as entertainment.

Despite its contributions, this study has several limitations. First, the research was conducted at only one school with a relatively small number of respondents, which limits the generalizability of the findings to broader populations of madrasah students. Second, this study employed a quantitative correlational approach, which limits the ability to explain causal relationships in depth. Third, the measurement of variables relied on self-reported questionnaires based on students' perceptions, which may introduce potential response bias. Future studies

are recommended to employ larger sample sizes, longitudinal research designs, and additional variables, such as digital self-regulation, academic self-efficacy, family support, and teachers' instructional strategies, to obtain a more comprehensive understanding of the relationship between digital behavior and learning motivation.

D. Conclusion

This study concludes that instant dopamine dependence induced by digital content does not have a statistically significant effect on students' motivation to learn Arabic at MTs Al Mujahidin 2 Samarinda. Based on the results of the simple linear regression analysis, the independent variable had a p-value of 0.391 ($p > 0.05$) and accounted for only 1.7% of the variance in learning motivation. Therefore, the hypothesis proposing a significant relationship between the two variables was not supported by the empirical data. These findings suggest that students' engagement with digital content does not directly determine the level of their learning motivation, as academic motivation is a multifaceted construct shaped by a range of internal and external factors, including self-regulation, the learning environment, social support, learning experiences, and students' academic goals. The results extend the existing literature on digital technology and education by demonstrating that digital content consumption does not necessarily negatively affect learning motivation, particularly in Islamic secondary education, which is characterized by distinctive social and cultural contexts. From a theoretical perspective, this study contributes to the literature on digital behavior and learning motivation by emphasizing that the educational impact of digital technology should be understood in relation to the context and patterns of technology use rather than merely the intensity of digital content consumption. From a practical perspective, the findings imply that educational institutions should not focus solely on restricting students' use of digital technology but should also promote digital literacy, strengthen students' self-regulation skills, and implement instructional strategies that encourage the productive and purposeful use of digital technologies for learning. Nevertheless, this study has several limitations. It was conducted at a single research site with a relatively small sample size. It employed a quantitative correlational design, which limits its ability to provide an in-depth understanding of students' digital behavior. Future research is therefore encouraged to involve a broader and more diverse sample, adopt longitudinal or mixed-methods approaches, and incorporate additional variables, such as digital self-regulation, academic self-efficacy, family environment, and teachers' instructional strategies, in order to develop a more comprehensive understanding of the factors shaping students' learning motivation in the digital era.

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