

Analysis of the Effectiveness of Islamic Religious Education in Improving the Emotional Balance of Alpha Genes in the Digital Era

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ABSTRACT

The rapid development of digital technology affects the character and emotional balance of Generation Alpha, who grew up as a true digital generation with high interaction intensity with digital devices. This study aims to analyze the effectiveness of Islamic Religious Education (PAI) in improving the emotional balance of Generation Alpha in the digital era. The method used is quantitative, with a survey and questionnaire on 100 7th grade students at SMP Muhammadiyah 3 Yogyakarta and data analysis using SEM-PLS through SmartPLS 4.0. The results showed that the effectiveness of PAI implementation has a positive and significant influence on the emotional balance of Generation Alpha, with a correlation coefficient of 0.981 and high significance ($p < 0.05$). The integration of a religious approach with a digital-based adaptive learning strategy has been shown to improve emotional stability and understanding of religious values of students. In conclusion, the adaptive and integrative PAI learning model is effective in improving the emotional and spiritual balance of Generation Alpha students in the digital era, so it is important to continue to develop it to suit the psychological needs and characteristics of this generation.



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A. INTRODUCTION

The rapid development of technology in this modern era has brought great changes in various aspects of human life. The advancement of digitalization has shaped the character and lifestyle of modern society, in addition to communication patterns and social interactions. According to Evita Nor Effendy et al., (2024), Generation Alpha is the first group that since birth has interacted directly with digital devices such as smartphones, tablets, and the internet. This generation was born between 2010 and 2025 and has a very different lifestyle from previous generations. Central Statistics Agency (BPS, 2024) noted that one-third of Indonesia's total middle-class society in 2024 will consist of young people belonging to Generation Z and Generation Alpha. Of the total 47.85 million people in the middle class, around 12.77% are Generation Alpha, And this figure is projected to continue to increase in the coming years. The data shows that Generation Alpha will be the dominant population group that plays an important role in the direction of Indonesia's social and educational development in the future.

As such, they are a generation that relies heavily on digital technology in almost all aspects of life, such as learning, communicating, and enjoying entertainment. This generation is known as the true digital generation because since birth it has been integrated into the advanced technology ecosystem that has become part of daily life, McCrindle, M., & Fell. A., (2020), in his article introduced this term to describe the first generation who not only used technology, but also lived and developed in it from an early age. Faizul (2025), in its article dubbed this generation as the glass generation, screen users, digital natives, and connected or wired generations due to their clear connection to technology and technological innovation. Rusmiatiningsih & Rizkyantha, (2022) states that this generation is characterized by a strong attachment to the digital world, the ability to learn independently, and a tendency to be individualistic with a relatively short attention span.

The main characteristics of Generation Alpha include a deep connection with technology. They are referred to as the "Digital Generation" because they grow up in an environment surrounded by devices such as smartphones, tablets, and internet access, which affects the way they learn, interact, and play (Jha, 2020). Although these individuals are quick to respond and intelligent in accessing information, they also face new challenges related to social, emotional, and moral development that need to be carefully considered, especially in education and character building. The challenge in educating the Alpha Generation does not only include the delivery of material, but also the internalization of moral and spiritual values in students. Most Islamic education experts argue that religious learning methods need to be updated in the era of transformation, especially in Islamic Religious Education (PAI). In the context of increasingly massive social and technological transformation, Islamic Religious Education (PAI) faces new demands as the main instrument in maintaining the emotional and spiritual balance of the younger generation, especially the Alpha Generation. This generation is growing up in the midst of easy access to information, technological advancements, and the high intensity of digital interactions, which indirectly affect their emotional stability, thinking patterns, and morality. The ease of obtaining instant information and entertainment makes Gen Alpha adaptive to technological developments, but on the other hand is susceptible to concentration disorders, decreased social empathy, and fluctuating emotional tendencies due to excessive exposure to digital media (Kafa & Anisa, 2025).

In this context, the effectiveness of PAI is no longer enough to be measured from a cognitive aspect, but must also include its contribution to the formation of emotional balance, self-control, and spiritual calmness. According to Princess, (2024), Islamic education has a strategic role in building a value system that is able to direct students not to be trapped in moral disorientation due to globalization and digitalization. PAI serves as a balance between intellectual intelligence and emotional intelligence through the integration of Islamic values such as the purification of the soul (Tazkiyatun nafs), empathy (Rahmah), patience (ṣabr), and responsibility (Trust). The process of internalizing these values is important because emotional balance is the foundation for the creation of a complete and resilient personality in the face of social pressure in the digital era.

Research results Nuralimah, (2025) emphasized that character building and emotional stability in Generation Alpha will be more effective when the PAI approach is combined with a psychological perspective. The integration between the two allows for a more contextual, empathetic, and reflective learning process. Psychological approaches such as Social Learning Theory and Emotional Reinforcement can be used to strengthen students' emotional connection with spiritual values. Meanwhile, Islamic methods such

as the example (Uswah Hasanah), habituation (ta'wīd), and Qur'anic reflection can inculcate moral values deeply and consistently. The synergy between educational psychology and Islamic principles is what makes PAI not only a transfer of knowledge, but also a process of strengthening the soul and controlling emotions based on spirituality. Align with views Puspitasari & Ramadhan, (2024), character education in an Islamic perspective should be directed to foster self-awareness (Self-Awareness), the ability to regulate emotions, and moral integrity as a form of faith actualization in the midst of digital culture.

An effective PAI educational strategy for the Alpha Generation requires adaptive pedagogical innovations, such as the use of Islamic digital media, value-project-based learning, and the use of interactive content that instills moral messages visually and emotionally. In this way, religious learning is no longer dogmatic, but dialogical and touches the affective side of students. Therefore, the analysis of the effectiveness of Islamic Religious Education in improving the emotional balance of the Alpha Generation in the digital era is important to measure the extent to which PAI is able to adapt to the changing times without losing its spiritual essence. This effectiveness can be seen from PAI's success in forming students who are emotionally stable, have noble character, and are able to manage psychological pressure that arises from digital interactions. Thus, PAI has a strategic role not only in shaping religious people, but also in creating a generation with strong character, emotional intelligence, and spiritual power in the midst of increasingly complex global disruption currents (Rahman, 2025).

Although the urgency of adapting PAI in the digital era has been widely discussed, an in-depth analysis of the previous literature shows that there are limitations and inconsistencies in the results (research gap). Most previous studies have tended to examine the effectiveness of PAI partially, where evaluation of its success is still dominated by cognitive achievement and compliance with formal rituals, without empirically linking it to the child's psychological structure. On the other hand, there are inconsistencies in results related to the impact of technology on affective aspects; Some studies say that intensive digital interaction absolutely weakens the efficiency of moral internalization, while others argue that technology can be a catalyst for positive character. The main limitation of previous studies is the absence of structural modeling that systematically and simultaneously tests how the PAI effectiveness variables affect the emotional balance construct of Generation Alpha under the stimulation of the digital ecosystem.

To fill these theoretical and empirical gaps, the novelty of this research is strengthened through the development of a new conceptual model that integrates the dimensions of the curriculum, adaptive pedagogy, and school spiritual policies into a single unit of PAI Effectiveness variables (IERE). This model is enriched by placing the indicators of emotion regulation, affective stability, and impulse control as the main structural targets of the Emotion Balance (EBGE) variable. Through the Structural Equation Modeling-Partial Least Squares (SEM-PLS) approach, this study does not only look at linear relationships, but also enriches the analysis by examining how digital-based adaptive learning strategies function as contextual variables that strengthen (or moderate) the persistence of spiritual values in stabilizing Gen Alpha's emotional fluctuations. Thus, the proposed conceptual model offers a more comprehensive, measurable, and cutting-edge theoretical resolution.

Based on the description and reconstruction of the conceptual model that has been described above, the purpose of this study is to analyze the effectiveness of Islamic Religious Education in improving the emotional balance of the Alpha Generation in the

digital era through a new structural approach. This research seeks to reveal the extent to which the application of Islamic values through pedagogical, psychological, and spiritual approaches is able to foster emotional stability, inner peace, and religious character of students who live in the midst of fast-paced and competitive technological currents.

The benefits of writing this article are expected to be a scientific reference and practical reflection for the world of Islamic education in Indonesia, especially for teachers, educational institutions, and curriculum designers in developing PAI learning strategies that are adaptive to the digital characteristics of the Alpha Generation. In addition, the results of this research are also expected to be a conceptual contribution to strengthening an educational model that is oriented towards the emotional and spiritual balance of students, so that PAI is not only a means of transferring religious knowledge, but also a vehicle for the formation of mental resilience and superior character in the era of digital transformation.

B. METHODS

This study uses a quantitative method that focuses on the use of numerical data in each stage of research, starting from the process of collection, analysis, to data interpretation (Purtiwi et al., 2024). This approach allows researchers to measure the relationship between variables in a systematic, objective, and measurable manner through research instruments that have been designed in a valid and reliable manner. In this study, there are two main categories of variables, namely independent variables and bound variables. The free variable is the Effectiveness of Islamic Religious Education (PAI), which includes various aspects such as the quality of teaching, learning methods, curriculum suitability, frequency of religious activities, quality of interaction between teachers and students, support for religious extracurricular activities, and school policies oriented towards strengthening spiritual and moral values. Meanwhile, the bound variable in this study is Alpha Generation Emotional Balance, which reflects the condition of students' emotional regulation through emotional regulation skills, affective stability, emotional resilience or resilience, impulse control, and social empathy for the surrounding environment. Thus, this study aims to find out the extent to which the effectiveness of PAI implementation can affect the emotional balance of Generation Alpha students in the context of modern education that is increasingly dynamic and digitally oriented. The relationship between the two variables is described systematically in the conceptual framework presented in Figure 1.

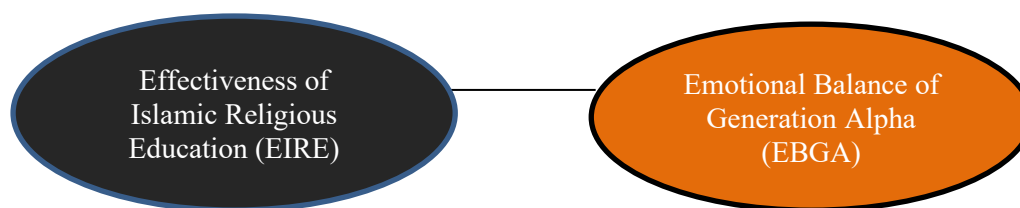


Figure 1. Research Framework Model

In this study, the survey method was used in conjunction with questionnaires, or questionnaires, as the main tool in the data collection process in the field. This method was chosen because it was able to reach a large number of respondents effectively while providing a comprehensive picture of respondents' perceptions, opinions, and experiences regarding the variables being studied. To ensure that the data obtained can accurately reflect empirical conditions, the questionnaire instrument is systematically

designed based on pre-established indicators and includes conceptual aspects of both independent and bound variables (Rustamana et al., 2024). This method allows researchers to collect measurable quantitative data, facilitate statistical analysis, and generate reliable conclusions about the relationship between effective Islamic education and the emotional balance of Generation Alpha in the contemporary education system.

Table 1. Population Data and samples

No.	School name	Number of respondents
1.	SMP Muhammadiyah 3 Yogyakarta	100
Number of samples		100

Table 2. Characteristics of respondents

Attribute	Categories	N%
Gender	Male	40%
	Female	60%
Degree	Grade 7	100%

The research sample was taken using the random sampling technique, which is a random sampling method so that every individual in the population has an equal chance of being selected. Refers to the mechanical random sample withdrawal procedure according to Squirrel, (2016), operationally this technique is carried out through the following systematic stages:

1. The researcher first compiled a sampling frame containing a list of names and identification numbers of all active grade 7 students at SMP Muhammadiyah 3 Yogyakarta as the target population.
2. Each student's name on the list is assigned a unique sequence number ranging from 1 to the total number of the 7th grade population in the school.
3. The researcher used a digital random number generator program to draw 100 random sample numbers without return (probability sampling without replacement).
4. Students whose serial numbers appear in the randomized program are automatically designated as the research respondent unit.

The operational application of this technique was chosen because it was considered to be able to produce a more objective sample, avoid subjective bias from researchers, and can fairly represent the population. Through this procedure, a definitive sample size of 100 representative 7th grade respondents was obtained to represent the 7th grade student population of 239 students. To collect data, the respondents were given research instruments in the form of a written questionnaire in physical form. This questionnaire contains a series of statements that have been systematically designed to measure the variables studied. Each respondent was asked to provide answers according to their understanding and experience of the topic being researched. The use of physical questionnaires in this study was chosen because it is easier to use in the school environment, and minimizes potential technical obstacles that may occur if using digital questionnaires.

In evaluating the results of the questionnaire, the researcher used the Likert scale to obtain respondents' indications regarding the degree of approval or disagreement with each statement in the questionnaire. According to Squirrel, (2016) The Likert scale is used to measure attitudes, opinions, and perceptions of individuals toward social phenomena.

The variables to be measured are broken down into variable indicators, and these indicators are used as a starting point to create instrument items in the form of questions. The results of each instrument item vary from very positive to very negative. The Likert scale ranking is displayed in Table 3.

Table 3. Likert scale

Alternative answer	Scoring	
	Positive	Negative
Strongly agree	5	1
Agree	4	2
Neutral	3	3
Disagree	2	4
Strongly disagree	1	5

The Likert scale used in this study consists of indicators that assess the Effectiveness of Islamic Religious Education and the Emotional Balance of the Alpha Generation. The calculation of factors on the Islamic Religious Education Effectiveness variable shows that all indicator items have a $\geq$ value of 0.5, which means that all instrument items can be considered valid. In addition to the validity submission, this study also conducted a test of the reliability of the instrument which was carried out through the evaluation of composite reliability, both for indicators and constructs. The calculation findings of each Generation Alpha variable item showed a composite reliability of $\geq$ 0.8 indicating that the score was excellent for the Generation Alpha variable.

The Alpha Generation Emotional Balance variable has an indicator scale related to the condition of students' emotional regulation through the ability to regulate emotions, affective stability, emotional resilience or resilience, impulse control, and social empathy for the surrounding environment. The calculation of the factor in this variable also shows that all indicator items have a value of $\geq$ 0.5, so that all instrument items are declared valid. Instrument reliability testing using composite reliability evaluation showed good results for both indicators and constructs. The calculation findings of each item of the Generation Alpha Emotional Balance variable showed a composite reliability of $\geq$ 0.8 which indicates that the score was excellent on the Generation Alpha Emotional Balance variable.

In this study, the data obtained were then analyzed using a statistical-based program application, namely the Smart-PLS 4.0 data processing application, which is often used to analyze SEM (Structural Equation Modeling) (Astuti & Bakri, n.d. 2021). The SEM-PLS approach used for data processing involves the implementation of inner model and outer model tests. These indicators must be tested to ensure their validity and reliability. Using the Calculate PLS -> Algorithm procedure will yield VIF, R², f², and Path Coefficient values that are used to assess the Inner Model. The first step in evaluating the Inner Model is to check for collinearity between constructs and the predictive power of the model. Next, the evaluation of the model's predictive ability is conducted using four criteria: the coefficient of determination (R²), sequentially validated redundancy (Q²), effect size (f²), and path coefficients, also known as path coefficients.

The advantage of the SEM-PLS approach is that it is non-parametric or does not require various assumptions. The number of samples required in SEM-PLS is not large. According to Zeng et al. (2021), it is mentioned that with just 30 samples, the application can be run, SEM-PLS can analyze constructs with normative or reflective indicators, and can be used on models whose theoretical foundations are still weak. PLS-SEM can be

utilized for data analysis because, in its application, PLS-SEM offers advantages such as the inclusion of formative and reflective indicators determined by a combination of linear indicators. And the technique used in data analysis is basic regression testing.

C. RESULT AND DISCUSSION

1. Validity Test

The validity test, according to Dewi & Sudaryanto, (2020), is the process of evaluating a tool's ability to measure concepts that should be measured correctly and consistently. Convergent and discriminant validity are the two main approaches typically used in quantitative research to assess validity. Both approaches ensure that each indicator represents the intended construct in addition to being able to distinguish itself from other irrelevant constructs. Value loading factor on the measurement model is used to assess the validity of the model. These values indicate the strength of the relationship between the indicator and the latent variable being measured. If the factor loading value of an indicator is below 0.7, then the indicator should be considered for removal from the measurement model as it does not meet the required validity criteria and may degrade the overall quality of the instrument.

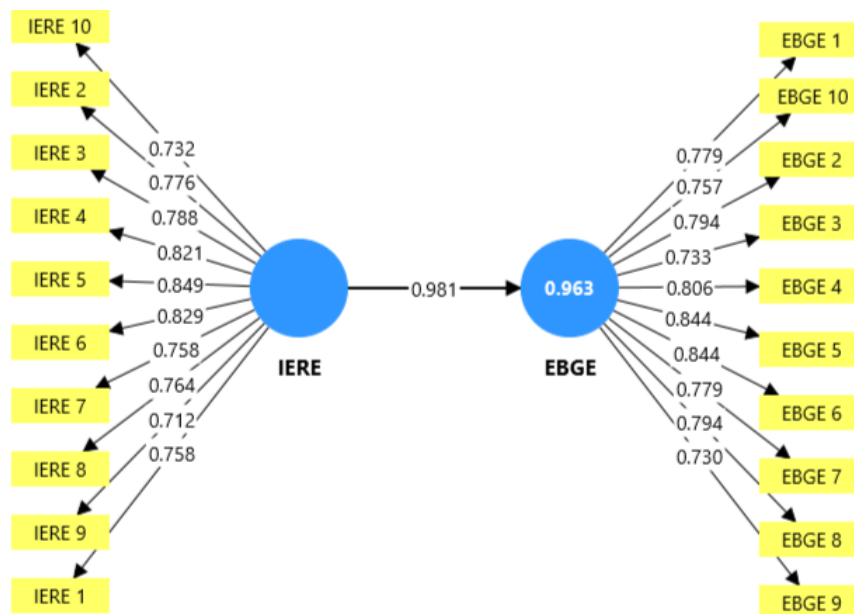


Figure 2. Outdoor Model Display

According to Hair et al., (2019), the data is said to be valid if the **LF > 0.70**. This is shown from the display of Figure 2 above which shows that all Loading Factor values in each indicator have a validity value of more than 0.70. However, the next examination of the *Average Variance Extracted (AVE)* is also required to confirm further.

Table 4
Factor Loading (FL) and Average Variance Extracted (AVE)

Variable	Indicator	FL	Roads
	IERE1	0.732	
	IERE2	0.776	
	IERE3	0.788	
	IERE4	0.821	
	IERE5	0.849	

	IERE6	0.829	
	IERE7	0.758	
Effectiveness of Islamic Religious Education	IERE8	0.764	0.608
	IERE9	0.712	
	IERE10	0.758	
	EBGE1	0.779	
	EBGE2	0.757	
	EBGE3	0.794	
	EBGE4	0.733	
	EBGE5	0.806	
	EBGE6	0.844	
	EBGE7	0.844	
Emotional Balance of Generation Alpha	EBGE8	0.779	0.619
	EBGE9	0.794	
	EBGE10	0.730	

The Factor Loading and Average Variance Extracted (AVE) images show that the value of the Average Variance Extracted (AVE) has been obtained from the assessment in the testing of Alpha Generation instruments and variables and Islamic Religious Education. The above results show that the Average Variance Extracted (AVE) value > 0.5 so that it can meet the standard, this is strengthened by Andreas Wijaya, (2019) in his book, it is explained that the expected Average Variance Extracted (AVE) value is > 0.5 so that it can meet the required standards.

2. Validity of Discrimination

Table 5. Discriminatory Validity

	Emotional Balance of Generation Alpha	Effectiveness of Islamic Religious Education
Emotional Balance of Generation Alpha	0.780	
Effectiveness of Islamic Religious Education	0.981	0.787

In this validity test, the determination of the feasibility of the indicator is carried out by referring to the cross-loading value which must show that each indicator has a higher factor charge in its own construct compared to other constructs. In addition, discriminant validity is analyzed using a comparison between the square root value of Average Variance Extracted (AVE) and the correlation between constructs, where a construct is declared to be discriminatically valid if the square root value of AVE is greater than the correlation value between related constructs. Based on the table shown, the square root values of AVE of 0.780 and 0.787 have exceeded the correlation values of each construct, as well as higher than the minimum limit of 0.05, which confirms that each construct is capable of distinguishing itself from other constructs. This condition also shows that the square root value of AVE is greater than its correlation value indicates the fulfillment of

the criteria of discriminant validity and ensures that the measurement model has good differentiation ability between the latent variables tested.

Reliability Test

Table 6. Alpha and Cronbach Composite Realism

	Alpha Cronbach	Cronbach Composites
Emotional Balance of Generation Alpha	0.928	0.931
Effectiveness of Islamic Religious Education	0.931	0.933

(1)

According to Ghazali et al., (2015) Cronbach's Alpha value is above 0.07 then Composite Reliability according to Sarstedt et al., (2017) The item variable is said to be reliable if $(\rho_c) > 0.07$. The values in Cronbach's Alpha and Composite Reliability in the table above indicate that the construct of measurement variables can be used in the study and is considered reliable. Because this shows that with the use of tables that present alpha and Cronbach composite reliability values that exceed the value of 0.07, so that the level of anonymity is reduced.

Structural Model Test

Table 7. R-Square Value

	R-Square	R-Square Adjusted
Emotional Balance of Generation Alpha	0.963	0.963

The table above shows that the R value contained in the Emotional Balance of Generation Alpha variable is 0.963 or 96.3%, it can be concluded that the relationship between the two variables is very strong and significant. Meanwhile, the remaining 3.7% which was influenced by other factors could not be taken into account further in this study because this study specifically focused on the effectiveness of Islamic Religious Education in improving the emotional balance of Gen Alpha in the digital era.

Hypothesis Test

A reference that can be used in hypothesis testing using the use of SmartPLS Bootstrapping 4. So that it can involve the examination of original samples, T-statistics, and P-values. The value findings can be found by looking at table 8.

Table 8. Hypothesis Test Results

	Original sample	T-statistics	P-value
IERE->EBGE	0.981	273.891	0.000

The research hypothesis shows that the emotional balance of Gen Alpha in the digital era has an influence on the effectiveness of Islamic Religious Education. Based on the results of the analysis using SmartPLS 4, it was found that there was a significant and positive influence between the two variables. This is indicated by a coefficient value of 0.980, which indicates a strong positive relationship. The T-statistic value of 263.820, which is much higher than the critical value of 1.96 at a significance level of 5%, reinforces

the significance of the relationship. In addition, a P-value of 0.000, which is below 0.05, provides strong empirical evidence to accept the research hypothesis.

This analysis was carried out on 100 respondents consisting of 7th grade students of SMP Muhammadiyah 3 Yogyakarta. The data was processed using a linear regression approach through SmartPLS 4, and was strengthened by interview data with teachers and students. The main goal is to measure the extent to which the emotional balance of Generation Alpha in the digital era is able to affect the effectiveness of the implementation of Islamic Religious Education. The findings in table 8 show a coefficient value of 0.981, a T-statistical value of 273.891, and a P-value of 0.000, which further confirms the existence of a positive and significant influence.

Gen Alpha's emotional balance is an important factor as they grow up in a stimulus-rich and fast-changing digital environment. A stable emotional state allows them to receive, understand, and internalize Islamic Religious Education materials more effectively (Abu Darda et al., 2023). For the Alpha Generation, the effectiveness of its implementation is greatly influenced by the ability of educators to manage students' emotional dynamics and use an adaptive approach. Educators also have a strategic role in creating a learning environment that supports emotional balance through stimulation, mentoring, and learning methods that are in accordance with the child's nature (Nashihin, H., 2019).

Interactive digital approaches, such as the use of Google, Canva, YouTube, as well as appropriate reward and punishment strategies, are considered to be able to maintain motivation while supporting students' emotional regulation. These findings are in line with research that states that digital learning can increase learning engagement and support the formation of positive emotions (Coleman & Money, 2020). However, challenges still arise, especially in controlling digital distractions that can affect emotional stability and focus on learning. However, overall, the majority of students prefer digital methods over conventional learning because they are more engaging and help them manage their emotions better (Milatul Hasanah et al., 2024).

This research shows that the emotional balance of the Alpha Generation in the digital era has a significant role in increasing the effectiveness of the implementation of Islamic Religious Education. These findings provide important implications for educational institutions and educators to continue to update learning strategies that support emotional balance and improve the effectiveness of PAI learning in a sustainable manner.

D. CONCLUSION AND SUGGESTIONS

Based on the results of data analysis using SEM-PLS, this study empirically proves that the effectiveness of the implementation of Islamic Religious Education (PAI) has a positive and significant influence on the emotional balance of the Alpha Generation in the digital era. This is shown by the value of the relationship/path coefficient of 0.981 with a high level of significance and an R-Square value of 0.963. The data indicated that 96.3% of the variation in emotional stability of Gen Alpha was predominantly influenced by the PAI model applied in schools. In conclusion, the integration of religious approaches based on spiritual values—such as *tazkiyatun nafs*, *rahmah*, *şabr*, and *amanah*—combined with technology-based adaptive learning strategies has proven to be very effective in improving emotional stability, impulse control, and understanding of students' religious values. These findings produce several important practical implications for the sustainability of the quality of Islamic education. For teachers, this study emphasizes the importance of transforming the role from a mere dogmatic teacher to an adaptive facilitator by utilizing interactive digital media (such as Canva and YouTube) to maintain

the motivation and emotional regulation of grade 7 students persuasively. For curriculum designers, the practical implication is the need to reconstruct PAI learning materials by integrating the principles of educational psychology (Social Learning Theory), so that the curriculum content is not only oriented to cognitive aspects but also contextual to the affective needs of the true digital generation. Meanwhile, for education policymakers, the results of this study recommend the need for the formulation of regulations that support the standardization of the digital-spiritual-based school ecosystem, as well as reorient the indicators of the success of PAI evaluations so that students' mental resilience and emotional balance are recognized as the main competency achievements in the era of technological disruption.

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