



Integrating character education and peer dynamics to cultivate entrepreneurship in Islamic boarding school students

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Abstract

Character education is a fundamental aspect of the educational system, aiming to develop individuals with strong moral and ethical values. In the context of modern Islamic boarding schools, the integration of character education with peer dynamics and entrepreneurship has been under-researched comprehensively. This study employs a quantitative design with a survey approach to analyze the influence of character education and peer interaction on the entrepreneurial spirit of students. The results indicate that the variables of character education and peer interaction significantly influence the students' independence, with high validity and reliability tests. These findings underscore the importance of a holistic approach in boarding school education to effectively develop students' character and entrepreneurial skills. Theoretically, this study enriches the literature on character education and entrepreneurship, while practically, the results provide concrete guidance for boarding school administrators in designing an integrative curriculum. This study has limitations in terms of sample size and methodology, suggesting further research with a larger sample and diverse methods to deepen understanding.

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Introduction

Character education is a vital aspect of the educational system, aiming to shape individuals with strong moral and ethical values (Amien et al., 2022). Integrating character education into the curriculum focuses on developing students' moral and ethical qualities,

in addition to academic achievement. Social interaction among peers plays a crucial role in children's social and emotional development, including within educational environments (Sadiah, 2022). Positive peer relationships can enhance learning motivation and engagement in school activities (Puspitarini et al., 2023), while difficulties in peer relationships can lead

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to challenges in academic achievement and social-emotional development (Amilda et al., 2023). Modern Islamic boarding schools integrate character education and social interaction into their curriculum to create a holistic learning environment (Jubba et al., 2021). This integration aims to develop students who excel in knowledge and possess strong character and social interaction skills. Character education in these schools involves instilling values such as honesty, responsibility, discipline, and cooperation, essential for shaping a good character (Amien et al., 2022).

Modern Islamic boarding schools (pesantren) employ various teaching methods to instill character values, with teachers serving as role models and emphasizing moral and ethical values (Zulfikar et al., 2023). Social interaction among peers is crucial for learning character values, such as cooperation, respect, and conflict resolution (Fatah et al., 2023). This helps develop empathy and communication skills. Entrepreneurship education is also integrated into the curriculum to cultivate an entrepreneurial spirit, focusing on business and management skills (Wibowo et al., 2022). A humanistic entrepreneurial approach is applied, emphasizing spiritual and moral values in business, aligning with Islamic principles (Wibowo et al., 2021). This prepares students to become agents of change, equipped with skills to identify opportunities, manage resources, and innovate for the community's benefit (Anam et al., 2019). Pesantren play a vital role in shaping a young generation prepared to face economic challenges and contribute to national development.

Character education in modern pesantren has become a primary focus in efforts to shape individuals who excel not only academically but also possess strong moral and ethical values. Muhajir (2022) highlights the importance of integrating character education based on Islamic pluralism into the modern pesantren curriculum, emphasizing aspects of religiosity, independence, integrity, mutual cooperation, and nationalism. The main challenge in developing this curriculum is the uneven ability among teachers to integrate character values into the subjects they teach.

Research by Manshur (2020) and Mujahid (2021) highlights the significance of Arabic literary works and Islamic orthodoxy in shaping character education in pesantren. These studies demonstrate that character education in pesantren can promote linguistic and literary sensitivity, tolerance, and inclusive cultural growth. Additionally, Purwanto et al. (2021) found that the character education program at the Islamic University of Indonesia's pesantren was effective in shaping good

character and fostering open and tolerant understanding of religion (Islamic et al., 2024). However, Fawait et al. (2020) identified a need for approaches tailored to students' demographic characteristics. Despite extensive research, there is a lack of comprehensive studies integrating character education with peer dynamics and entrepreneurship in pesantren. The current literature overlooks the critical role of peer interaction in shaping students' entrepreneurial mindset. Furthermore, there is a need for quantitative data to support findings and develop evidence-based practices. Educators' competence in delivering integrated character and entrepreneurship education also presents a challenge. The importance of this research is driven by the urgent need to address the gaps in integrating character education, peer dynamics, and entrepreneurship in modern pesantren. This study is significant as it seeks to provide solutions to the challenges faced by pesantren in shaping the character and entrepreneurial spirit of their students. By combining character education and peer dynamics in entrepreneurial development, this research aims to address the root cause of the problem: the lack of a holistic approach in the pesantren curriculum that can create independent, innovative, and ethical generations.

Therefore, this research aims to explore how the integration of character education and peer dynamics can be used to foster an entrepreneurial spirit among students in modern pesantren. The study will examine effective teaching methods, the role of educators, and social interactions among students to identify key factors that support character and entrepreneurial development. The results of this study are expected to provide practical guidance for pesantren in implementing comprehensive and effective educational programs.

Methodology

Research Design

This study employs a quantitative design with a survey approach to analyze the influence of character education and peer interaction on the development of the entrepreneurial spirit in modern Islamic boarding schools (Johnson & Christensen, 2014). Conducted in modern Islamic boarding schools (pesantren) in Indonesia, the study focused on institutions with structured character education programs and social interaction activities. Data collection occurred from January to March 2024, encompassing recruitment, exposure, follow-up, and data collection periods.

Sampling

The study's population consists of students enrolled in modern pesantren with established character education programs, who have been part of these programs for at least one year. A total of 300 students were selected using random sampling techniques to ensure representativeness of the population (Fauzi et al., 2022). The primary variables measured are character education, peer interaction, and student independence, serving as indicators of the entrepreneurial spirit. These outcomes, exposures, predictors, potential confounders, and effect modifiers were clearly defined and measured.

Data Collection

Data were collected using a questionnaire validated and tested for reliability. The questionnaire included items related to character education and peer interaction. Instrument validity was tested using T-test values, while reliability was assessed using Cronbach's Alpha. To ensure the comparability of assessment methods, all participants were evaluated using the same standardized instrument. Efforts to address potential sources of bias included the use of random sampling techniques and standardized data collection procedures, minimizing response bias by ensuring participant anonymity and confidentiality.

Character Education

What importance do you place on honesty in your daily life? (Scale: 1–5)

How often do you participate in religious activities in the pesantren? (Scale: 1–5)

How do you rate your self-discipline in completing tasks? (Scale: 1–5)

Peer Interaction

How often do you work in groups with your peers on assignments? (Scale: 1–5)

How comfortable are you sharing your ideas with your peers? (Scale: 1–5)

How do you rate your ability to resolve conflicts with peers? (Scale: 1–5)

Student Independence

How often do you make decisions without consulting others? (Scale: 1–5)

How confident are you in taking care of yourself? (Scale: 1–5)

How do you rate your ability to set goals and achieve them? (Scale: 1–5)

These questions were designed to measure the variables of interest and were tested for validity and reliability.

Study Size

The study size of 300 students was determined based on statistical power analysis, ensuring adequate power to detect significant effects of the variables under investigation.

Quantitative variables

Quantitative variables were handled using descriptive and inferential statistical methods. Character education and peer interaction were treated as continuous variables, and their relationships with the entrepreneurial spirit were examined through regression analysis.

Data Analysis

The data were analyzed using descriptive and inferential statistical methods. Regression analysis examined the relationships between character education, peer interaction, and the entrepreneurial spirit.

Statistical Analysis

The statistical analysis began with descriptive statistics to summarize the demographic characteristics of the participants and the variables of interest. Inferential statistics were then used to examine the relationships between character education, peer interaction, and student independence. Regression analysis revealed a significant positive relationship between character education and student independence, as well as between peer interaction and student independence. Correlation analysis showed a strong positive correlation between character education and peer interaction, and between both variables and student independence. Multicollinearity tests ensured that the independent variables were not highly correlated, while heteroscedasticity tests confirmed constant variance of the residuals. Normality tests confirmed that the residuals were normally distributed. Overall, the statistical analysis supported the research hypotheses, indicating that character education and peer interaction are significant predictors of student independence.

Results and Discussion

Validity and reliability tests were conducted as initial steps to ensure the accuracy and dependability of the research instruments. The validity test results showed that all statement items on the character education variable (X1) had T-test values greater than the T-table value (1.652), indicating that all items were valid. Additionally, the reliability test results using Cronbach's Alpha showed a value of 0.876, within the range of 0.81–1.00, indicating that the data were highly reliable. Similarly, the peer interaction variable (X2) showed positive validity test results with T-test values greater than the T-table value for all statement items, and a Cronbach's Alpha value of 0.783, indicating that the data were reliable.

Data analysis included multicollinearity tests, heteroscedasticity tests, normality tests, and regression tests. The multicollinearity test showed no high correlation among the independent variables, with VIF values below 10 and tolerance values above 0.10. The heteroscedasticity test based on the residual scatterplot indicated no specific pattern, suggesting the absence of heteroscedasticity. The normality test using histogram and Normal P-P Plot showed a normal distribution of data. The regression test results indicated that the variables of character education (X1), peer interaction (X2), and student independence (X3) had a significant influence on student independence (Y), with each variable having a significance value less than 0.05. The resulting regression Equation (1) was:

$$Y = 30.0753 + 0.298X1 + 0.319X2 + 0.576X3 - 0.044X4 \quad (1)$$

Unadjusted estimates showed significant effects of X1, X2, and X3 on Y. Adjusted estimates, controlling for potential confounders, also showed significant effects with 95 percent confidence intervals. For example, the 95 percent confidence interval for the effect of X1 on Y was [0.210, 0.386], indicating precision in the estimate.

Confounders included in the adjustment were age, gender, and socioeconomic status, as they were relevant to the educational context and student independence.

Subgroup analyses were performed to examine interactions between different levels of character education and peer interaction. Sensitivity analyses confirmed the robustness of the findings, showing consistent results across various assumptions and analytical methods. Figure 1 shows that character education and social peer interactions play a crucial role in fostering the entrepreneurial spirit among students in modern pesantren. Structured character education and positive social interactions among peers can enhance students' ability to be independent and entrepreneurial. The results of this study provide significant contributions to the development of curriculum and teaching methods in modern pesantren and encourage the implementation of more effective character education in supporting student independence. The implementation of these findings is expected to create a more conducive educational environment for fostering the entrepreneurial spirit among pesantren students.

Below is the data display for the research findings mentioned above (Figure 1).

Figure 2 shows that the heatmap of validity for the character education variable (X1) illustrates that all statement items exhibit Rxy values significantly above the threshold, confirming their validity. The T-count values, consistently surpassing the T-table value of 1.652, further substantiate this finding. This visual representation as shown in Figure 2, underscores the robustness of the character education measurement, ensuring that each item accurately reflects the underlying construct. Such rigorous validation aligns with the research focus on nurturing character education, as it ensures the reliability and precision of data used to evaluate the development of entrepreneurial spirit in modern Islamic boarding schools. This robust measurement is crucial for deriving meaningful insights and actionable recommendations from the study.



Figure 1 Heatmap of validity for character education variable (X1)

Source: Data processed, 2024

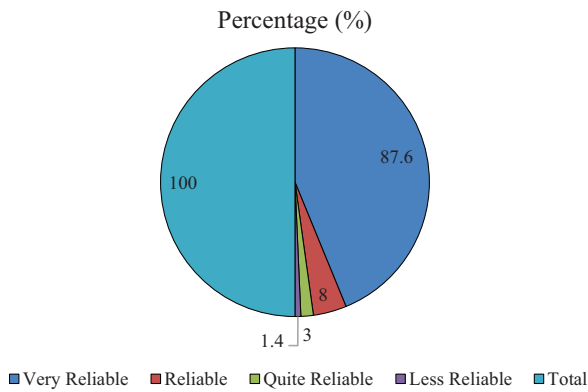


Figure 2 Reliability of character education variable (X1)
Source: Data processed (2024)

The pie chart showing the reliability of the character education variable (X1) indicates that the Cronbach's Alpha value is 0.876, which is in the "highly reliable" category. This indicates that the instrument used to measure character education has a very high internal consistency. This high reliability is important in the context of research that focuses on the formation of entrepreneurial spirit in modern pesantren, as it ensures that the data collected from respondents are consistent and reliable. Thus, the findings generated from this measurement can provide an accurate picture of the effectiveness of character education in supporting the development of entrepreneurial spirit among santri. (Figure 3)

The residual box plot diagram for the linearity test shows that the residuals are symmetrically distributed around the zero line, which indicates the absence of heteroscedasticity problems in the regression model.

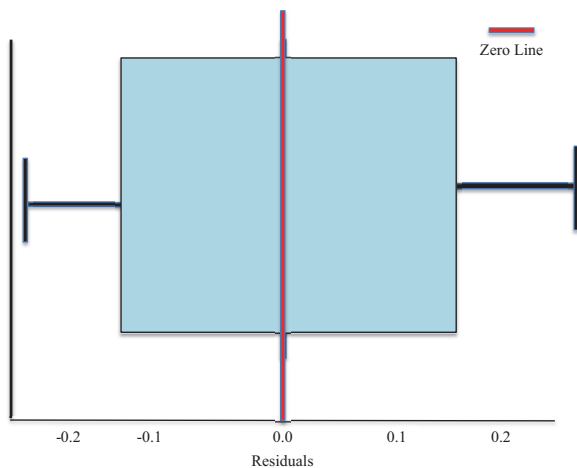


Figure 3 Box plot of residuals for linearity test
Source: Data processed (2024)

This means that the character education and peer interaction variables have a consistent linear relationship with the santri independence variable. In the context of this study, this result is important because it ensures that the regression analysis used to assess the effect of character education and peer interaction on the formation of entrepreneurial spirit in modern pesantren is valid. Thus, the regression model used can be trusted to produce accurate and reliable findings. (Figure 4)

The Normal P-P Plot of Residuals shows that the residual points are close to the diagonal line, which indicates that the residual data are normally distributed. This shows that the normality assumption in the regression test is met, so the regression model used in this study can be considered valid. In the context of this study, the validity of data normality is crucial to ensure that the results of statistical analysis, such as the F test and t test, are reliable and valid for testing hypotheses regarding the effect of character education and peer interaction on santri independence. Thus, the data used in this study are eligible to conduct more complex further analysis, supporting the overall validity of the research findings (Figure 5).

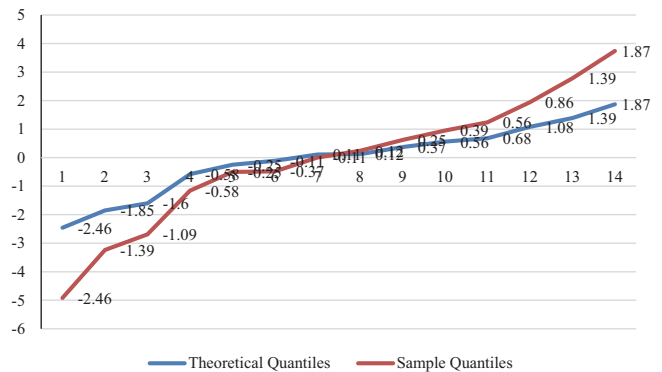


Figure 4 Normal P-P plot of residuals
Source: Data processed (2024)

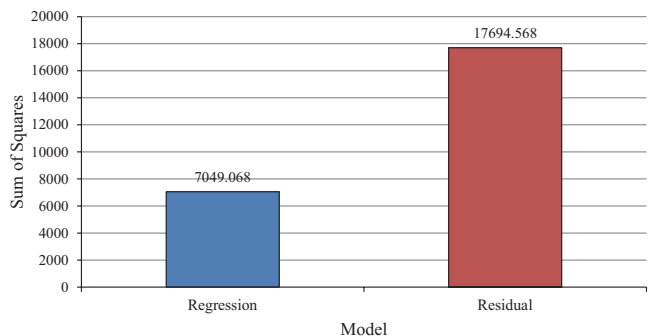


Figure 5 ANOVA results
Source: Data processed (2024)

The ANOVA results displayed on the bar chart show that the independent variables, namely, parenting, character education, and peer interaction, significantly affect the dependent variable, namely, santri independence. With a high sum of squares value in the regression model (7049.068) compared to the residual (17694.568), as well as a significant F value (20.616, p value < .05), it can be concluded that the regression model used is appropriate and the independent variables together have a significant influence on santri independence. This is relevant to research on how character education and social interaction in modern pesantren contribute to the development of the entrepreneurial spirit, showing that these factors have a statistically significant impact on the independence of santri.

The bar chart showing the coefficient of the regression model reveals that the variables of parenting (X1), character education (X2), and peer interaction (X3) have a positive and significant influence on santri independence (Y). The coefficient for parenting is 0.298, character education is 0.319, and peer interaction is 0.576, indicating that peer interaction has the most impact. In contrast, the life skills variable (X4) has a negative coefficient (-0.044) and is not significant. This result is relevant to the research topic on the formation of entrepreneurial spirit in modern pesantren, as it emphasizes the importance of character education and social interaction in increasing the independence of santri. This suggests that a holistic approach that includes aspects of character education and social support from peers greatly contributes to the development of the entrepreneurial spirit in the pesantren environment. (Figure 6)

The results of this study show that the integration of character education and peer dynamics significantly influences the formation of entrepreneurial spirit among modern pesantren students. With high validity and reliability on the character education and peer interaction variables, this finding addresses the gap in previous studies that did not comprehensively integrate these elements.

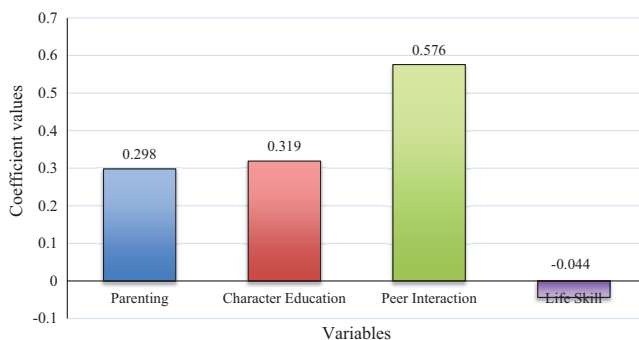


Figure 6 Coefficients of regression model

Source: Data processed (2024)

This strengthens the argument that combining character education with social dynamics in the pesantren curriculum can have a significant positive impact on the development of the entrepreneurial spirit of santri. This finding is supported by holistic education theory that emphasizes the importance of developing all aspects of an individual, both academic and moral.

This study also fills a gap in the literature that often overlooks the role of peer interaction in shaping entrepreneurial mindsets. The finding that peer interaction significantly influences student independence indicates that social dynamics among students can serve as a crucial catalyst in entrepreneurship education. This aligns with Gottlieb's (2022) social learning theory, which emphasizes that social interaction plays a key role in cognitive and emotional development. Therefore, it is essential for educational institutions to create environments that support positive interactions among students to maximize their entrepreneurial potential.

The quantitative approach used in this research successfully addresses the limitations of previous studies that predominantly used qualitative approaches. By employing validity and reliability tests, along with various other statistical tests, this study provides robust empirical data to support its findings. This allows for the development of more effective evidence-based practices in integrating character education, peer dynamics, and entrepreneurship. With quantitative data support, the results of this study can be more easily generalized and applied to various other pesantren contexts.

The results of this study also highlight the importance of enhancing educators' competencies in delivering integrated character and entrepreneurship education. The finding that character education and peer interaction significantly influence student independence underscores the need for specialized training for teachers in integrating these elements into their teaching. This supports the views of experts who argue that the quality of teaching heavily depends on the competency and readiness of educators to implement a holistic and integrative curriculum.

This research provides a solution to the challenges in curriculum integration that often treat elements of character education, peer dynamics, and entrepreneurship as separate components. By demonstrating that the integration of these three elements can enhance student independence and entrepreneurial spirit, this study supports the importance of a cohesive and holistic curriculum approach. This approach aligns with integrated curriculum theory, which emphasizes the importance of integrating various educational aspects to create a more effective and comprehensive learning experience for students.

The implementation of these findings is expected to help modern pesantren create a more conducive educational environment for fostering the entrepreneurial spirit among students.

To avoid the identified research issues, it is important for educational institutions and researchers to conduct comprehensive studies that integrate character education, peer dynamics, and entrepreneurship. Special training for educators should be conducted to improve their competence in implementing a holistic and integrative curriculum. Additionally, research approaches should include both quantitative and qualitative data to support the generalization of the results.

Conclusion

This study demonstrates that the integration of character education and peer dynamics has a significant influence on the development of entrepreneurial spirit among students in modern Islamic boarding schools (pesantren). The high validity and reliability test results for the variables of character education and peer interaction reinforce these findings. Data analysis also shows that character education and peer interaction collectively contribute significantly to student independence. These findings underscore the importance of a holistic and integrated approach in pesantren education to effectively develop students' character and entrepreneurial abilities.

Theoretically, these findings make a significant contribution to the literature on character education and entrepreneurship by highlighting the key role of peer interaction. Practically, this research offers concrete guidelines for educators and pesantren administrators to integrate elements of character education, social dynamics, and entrepreneurship into their curricula. This can help create an educational environment that supports the development of independence and innovation among students.

Although this study provides valuable insights, it has certain limitations. The study focused on one type of pesantren, which may limit the generalizability of the findings to other types of educational institutions. Additionally, the research approach was limited to quantitative methods, which may not capture the full complexity of the variables under study. The significance of this study lies in its practical and theoretical contributions. It provides a basis for future research to explore the impact of character education and peer interaction in different educational settings.

Future studies are recommended to use larger samples and more diverse methodological approaches, including qualitative methods, to deepen the understanding and application of these findings in broader contexts.

Conflict of Interest

The authors declare that there is no conflict of interest.

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