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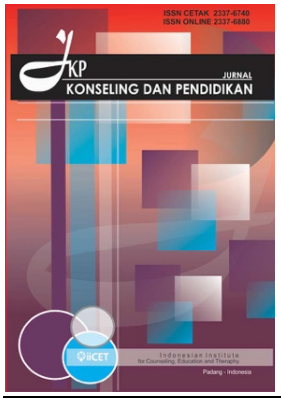

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Article

The relationship between intelligence, adaptability, and resilience among future school counselors in wetland regions

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ABSTRACT

School counselors are crucial in supporting student development, particularly in wetland regions where academic and social adaptation challenges are prominent. This study examined whether intelligence and adaptability significantly predict student resilience. Participants were 200 undergraduate students (aged 18–22, 2nd–6th semester) from the Guidance and Counseling Department at Lambung Mangkurat University, all residing in wetland areas. A quantitative correlational design was applied, using CFIT Scale 3 (intelligence), EPPS (adaptability), and Kraepelin Test (resilience). Analyses included Chi-Square, Pearson correlation, multiple regression, and Structural Equation Modeling (SEM). Results showed a moderate positive correlation between intelligence, adaptability, and resilience ($r = 0.387$, $p < 0.05$). Intelligence and adaptability jointly explained 42% of resilience variance ($R^2 = 0.42$). SEM confirmed good model fit ($\chi^2/df = 2.14$, RMSEA = 0.048, CFI = 0.93, TLI = 0.91). Students with high intelligence but low adaptability demonstrated weaker resilience, emphasizing adaptability as a stronger determinant than cognitive ability alone. This study is limited by its single-site sample and reliance on specific psychometric tests, restricting broader generalization. Nonetheless, findings suggest that counseling education should integrate adaptability training and resilience-building strategies to prepare future school counselors for the complex demands of wetland educational environments.

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Introduction

In the modern educational landscape, prospective school counselors from the guidance and counseling department play an increasingly vital role, especially for students pursuing higher education in wetland areas (Pumaleque et al., 2021). Students in these regions face various academic and social adaptation challenges that are distinct from those encountered by students in urban environments (Arfasa & Weldmeskel, 2020). If these challenges are not addressed seriously, students risk experiencing a decline in academic performance, prolonged stress, and weak professional readiness as prospective school counselors. This condition also has an impact on the quality of counseling services in schools, making this issue urgent to be studied from both practical and theoretical perspectives. These challenges are often influenced by complex psychological and environmental factors (Da Rocha, 2024). Intelligence, resilience, and adaptability are the three key elements that play a crucial role in shaping future counselors who are strong and competent (Sopah et al., 2023). This study is expected to not only describe the relationship between variables, but also provide theoretical contributions by expanding the understanding of the intelligence–adaptability–resilience relationship model in a unique geographical context, namely swamp areas. Thus, the findings of this study can strengthen and re-examine the existing conceptual framework in educational and counseling psychology. Understanding these factors is essential in supporting the academic and professional development of students (Peter & Moldovan, 2020).

Several previous studies have confirmed the important role of intelligence, resilience, and academic adaptation Ajuwon et al. (2024), Fahriza et al. (2021) and Taryana et al. (2024). However, the majority of these studies were conducted in urban contexts and have not yet comprehensively examined these three variables in educational settings with limited resources, such as in swamp areas. This indicates a knowledge gap that needs to be filled in order to gain a more comprehensive understanding. Previous studies have shown that emotional intelligence and social skills also influence the academic success and professional readiness of prospective school counselors (Valverde-Janer et al., 2023).

Although numerous studies have explored the relationship between intelligence, resilience, and academic adaptability, there remains a gap in understanding how these factors specifically interact within the context of guidance and counseling students in wetland areas (Arsini et al., 2020; Pace et al., 2022). Students in these regions often face unique challenges, such as limited access to academic resources, less conducive learning environments, and distinct social pressures compared to students in other settings (Zulfikar, 2022). Therefore, further research is needed to identify effective adaptation strategies that can enhance their resilience as future counselors (Hwang & Kim, 2023). Few studies have specifically examined how environmental factors and geographical conditions influence the academic and professional preparedness of prospective counselors in these areas (Menanti et al., 2020). The uniqueness of this study lies in its focus on guidance and counseling students in swamp areas using an integrative approach, which analyzes the influence of intelligence on resilience through the mediating role of academic adaptation and the moderating role of environmental factors. This focus distinguishes this study from previous studies that tend to highlight variables separately.

The educational environment in wetland areas presents unique challenges that can impact the development of professional competencies among guidance and counseling students(Ghedhaifi, 2024). Limited access to academic facilities, extreme environmental changes, and social factors all play a role in their academic progress (Ermakova, 2024). Therefore, a deeper understanding of the relationship between intelligence, resilience, and academic adaptability is crucial in designing intervention programs that can help future counselors adjust and develop the necessary skills in a dynamic educational setting (Arsini et al., 2020). This research is expected to serve as a foundation for the development of more inclusive educational policies and counseling programs (Ayeni et al., 2024).

This study aims to: (1) examine the effect of intelligence on resilience among guidance and counseling students in wetland areas; (2) analyze the mediating role of academic adaptability in the relationship between intelligence and resilience; and (3) investigate how environmental factors act as moderating variables in strengthening or weakening these relationships. The study is guided by three hypotheses: (H1) Intelligence has a positive effect on resilience; (H2) Academic adaptability mediates the relationship between intelligence and resilience; and (H3) Environmental factors moderate the relationship between intelligence, academic adaptability, and resilience.

With this study, the findings are expected to provide deeper insights for academics, school counselors, and policymakers in designing more effective guidance and counseling programs. These programs can help guidance and counseling students in wetland areas enhance their intelligence, strengthen their resilience, and develop better academic adaptation strategies to support their success as future school counselors.

Methods

Population and the Methods of Sampling

The population of this study consists of students from the Guidance and Counseling Department at Lambung Mangkurat University who reside in wetland areas, where geographical conditions may influence intelligence, adaptability, and resilience. The sample is selected using purposive sampling, including students from the 2021–2023 cohorts in their 4th, 6th, and final 8th semesters, who have academic experience, field practice exposure, and reside in wetland areas.

In this study, inclusion criteria required participants to be active Guidance and Counseling students from the 2021–2023 cohorts, currently enrolled in their 4th, 6th, or 8th semester, with field practice experience and permanent residence in wetland areas. Students who were on academic leave, had incomplete enrollment status, or reported serious psychological or medical conditions that could interfere with test-taking were excluded.

Participation was voluntary, with informed consent obtained from all respondents. A total of 230 students were contacted, 200 agreed to participate, and 30 declined, resulting in an 87% response rate.

Baseline demographic data of participants were recorded, including age, gender, socioeconomic background, and academic performance (cumulative GPA). The sample consisted of 200 students, with an average age of 21.4 years (SD = 1.7), comprising 142 females (71%) and 58 males (29%). Approximately 65% of students reported coming from lower–middle socioeconomic backgrounds, and the mean GPA was 3.25 (SD = 0.38). These characteristics provide important context for interpreting the relationships among intelligence, adaptability, and resilience.

The sample size of 200 was determined based on a priori power analysis using G*Power 3.1, with an expected medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and power $(1–\beta) = 0.90$ for multiple regression with two predictors. The analysis indicated a minimum of 171 participants; thus, the inclusion of 200 respondents ensures adequate statistical power and precision of parameter estimates.

Instrumentation

This study's instruments measure students' intelligence, adaptability, and mental resilience as indicators of their readiness to become counselors in wetland environments, using standardized tests with high validity and reliability (Stevens et al., 2023). 1) The Culture Fair Intelligence Test (CFIT) Scale 3, developed by Raymond B. Cattell, assesses fluid intelligence through four subtests (Series, Classification, Matrices, and Topology) with a completion time of 2.5–4 minutes per section (Hotifah et al., 2022). The results are converted into IQ classifications, ranging from very superior to below average (Granata et al., 2019); 2) The Edwards Personal Preference Schedule (EPPS), developed by Allen L. Edwards based on Henry A. Murray's theory, evaluates personality adaptation across 15 aspects, including Achievement, Affiliation, Autonomy, Endurance, and Aggression (Fahmi et al., 2021). It employs a forced-choice format analyzed using percentile rankings (Sesari et al., 2019) This test has higher external validity and reliability compared to the Minnesota Multiphasic Personality Inventory (MMPI) (Lane et al., 2024); 3) The Kraeplin Test (Pauli Test), originally developed by Emil Kraeplin and refined by Richard Pauli, measures work endurance, emotional stability, and cognitive speed through repeated numerical addition tasks (Pane et al., 2020). Results are converted into percentile norms, where a raw score of 60 corresponds to the 99th percentile (high endurance), while scores below 20 indicate weak resilience (Febriawan et al., 2022).

In addition to relying on previous validation studies, the reliability of the instruments was re-examined in the current sample. Internal consistency analyses yielded Cronbach's alpha coefficients of 0.84 for the CFIT, 0.87 for the EPPS, and 0.81 for the Kraepelin Test, indicating acceptable reliability. Test administrators received prior training, and quality control was ensured through standardized administration protocols.

Ethnical Approval

Ethical approval for this study was obtained from the Research Ethics Committee of Lambung Mangkurat University. All participants were informed about the study's objectives, procedures, and confidentiality measures. Written informed consent was obtained, and participants were assured that their involvement was voluntary and that they could withdraw at any time without penalty.

Procedures and the Time Frame

This study will be conducted over five months (August–December 2024) through four main stages to ensure its validity and smooth implementation. 1) Preparation Stage: This phase includes obtaining research permits, selecting participants based on predetermined criteria, and preparing and validating the CFIT Scale 3, EPPS, and Kraeplin Test instruments. 2) Data Collection Stage: Data will be collected under controlled conditions, where students will undergo a series of tests to measure intelligence, personality adaptation, and mental resilience. 3) Data Analysis Stage: This phase focuses on processing the collected data using appropriate statistical techniques to examine the relationships between variables. 4) Report Writing Stage: The final phase includes interpreting results, drawing conclusions, and providing recommendations based on the study's findings.

To minimize measurement bias, participants were not informed of the specific hypotheses under investigation, only that the study examined factors influencing student development. Test administrators were trained to follow standardized scripts and were not involved in data analysis. While full blinding was not feasible, these measures helped reduce expectation and observer bias.

Research Design

This research employed a quantitative, cross-sectional, correlational design. The design was selected to examine the relationships among intelligence, adaptability, and resilience within a defined population at a single point in time.

Analysis Data Plan

Prior to statistical analyses, data screening was conducted, including checks for missing values, outliers, normality, linearity, and multicollinearity. Missing data were handled using mean substitution when values were <5% per variable. Outliers were assessed through standardized residuals ($z > \pm 3.0$). Normality was examined via skewness–kurtosis indices, and assumptions for regression and SEM were verified.

Analyses were organized hierarchically: univariate and bivariate tests addressed descriptive and exploratory findings, while regression and SEM were used to test the primary hypotheses. Additional exploratory analyses were clearly distinguished from confirmatory tests to avoid inflated error risks. 1) Univariate Analysis is used to describe the distribution of intelligence, adaptability, and resilience variables, categorizing them as high, moderate, or low based on established scoring standards. 2) Bivariate Analysis (Chi-Square Test) is applied to test the relationship between intelligence and adaptability with resilience by comparing categorical data distributions. 3) Pearson Correlation Analysis measures the linear relationship between variables, with the correlation coefficient (r) indicating the strength and direction of the association. 4) Multiple Regression Analysis evaluates the simultaneous contribution of intelligence and adaptability to resilience, using the coefficient of determination (R^2) to assess the extent to which predictor variables explain the dependent variable. 5)For more complex analysis, Structural Equation Modeling (SEM) is utilized to validate the relationships between variables, ensuring model fit with empirical data through goodness-of-fit indices such as Chi-Square/df, RMSEA, CFI, and TLI. 6) The SEM approach also enables the analysis of direct, indirect, and total effects, providing deeper insights into how intelligence and adaptability influence students' resilience, both directly and through mediating pathways.

Scope and Limitations of the Method

This study has methodological, population, and scope limitations that must be considered when interpreting the results; 1) From a methodological perspective, the CFIT Scale 3 measures only non-verbal intelligence, without accounting for emotional or social intelligence, which are also crucial for counselors (Karapetyan, 2021). The EPPS utilizes a forced-choice format, limiting respondents' flexibility in expressing their personality more freely (Li et al., 2024). The Kraepelin Test focuses on mental endurance in monotonous tasks but does not adequately assess resilience in dynamic social situations (Pane et al., 2020); 2) From a population standpoint, this study includes only students from wetland areas, making it non-generalizable to a broader student population. Additionally, since the sample consists of final-year students, there is a potential bias, as they may have already developed better resilience and adaptability compared to first-year students; 3) Regarding its scope, this study focuses solely on intelligence, adaptability, and resilience, without considering external factors such as social, cultural, and economic environments, which may also influence resilience. Therefore, the interpretation of the results must take these limitations into account, and further research is needed to explore other factors that contribute to the preparedness of future counselors.

Results and Discussion

The research findings indicate variations in students' levels of intelligence, adaptability, and resilience based on the data analysis conducted.

Participant Flow and Recruitment Timeline

A total of 230 students were approached to participate in the study. Of these, 15 students declined participation, and another 10 were excluded due to incomplete data. Thus, 205 students completed the instruments, and 200 participants met the inclusion criteria and were included in the final analysis. Recruitment and data collection were conducted between August and October 2024, corresponding to the middle of the academic semester, to minimize bias due to examination stress periods.

Table 1. Participant Flow

Stage	Number of Students
Contacted	230
Declined partipation	15
Excluded (incomplete data)	10
Completed instruments	205
Final sample included in analysis	200

Missing data were minimal (< 2%) and primarily due to incomplete responses in the Kraeplin Test. These cases were handled using listwise deletion, resulting in a final sample of 200 students with complete data across all instruments.

Descriptive Statistics

In addition to categorical distributions, descriptive statistics are presented to provide a clearer overview of the data.

Table 2. Descriptive Statistics of Study Variables

Variable	Mean	SD	Min	Max
Intelligence	112.4	14.2	85	135
Adaptability	72.8	10.5	51	95
Resilience	68.1	12.7	40	92

Distribution of Student Intelligence

Based on the results of the Culture Fair Intelligence Test (CFIT) Scale 3, the majority of students fall into the above-average category (36.5%) and the average category (29.5%), indicating that most respondents possess a fairly good level of intelligence. Meanwhile, 19.5% of students are classified as very superior, and 14.5% fall into the superior category, representing a group with higher intellectual capacity.

These results indicate that students' intelligence levels vary, with a distribution that leans more toward the above average to very superior categories (Hartati et al., 2019). According to previous research, the CFIT Scale 3 is used to measure fluid intelligence, which is considered innate and not dependent on educational experience or environmental factors (Alvarado, 2022). Therefore, these findings provide an initial overview of the intellectual potential of Guidance and Counseling students in understanding and applying academic concepts more comprehensively (Kasneci et al., 2022).

Table 3. Distribution of student intelligence levels

Categories of intelligence levels	Frequency	%
Very superior	39	19.5%
Superior	29	14.5%
Above average	73	36.5%
Average	59	29.5%

Distribution of Student Adaptability

The results of the Edwards Personal Preference Schedule (EPPS) indicate that the majority of students exhibit moderate to good adaptability. Specifically, 50 students (25%) fall into the good adaptability category, followed by 45 students (22.5%) in the very good category. Meanwhile, 48 students (24%) are classified as moderate, while 29 students (14.5%) fall into the low category, and 28 students (14%) are categorized as very low.

These results indicate that the majority of students have an adequate level of adaptability, which can help them navigate academic and social challenges (Sari & Arsyad, 2021). Based on previous research, the EPPS is used to measure personality aspects based on 15 psychological needs, including achievement, affiliation, autonomy, endurance, and aggression (Fahmi et al., 2021). This instrument allows for percentile-based analysis, providing a more comprehensive depiction of students' adaptability tendencies (Safithry et al., 2021).

Table 4. Distribution of student personality adaptability levels

Category of adaptability level	Frequency	%
Very good	45	22.5%
Good	50	25.0%
Moderate	48	24.0%
Low	29	14.5%
Very low	28	14.0%

Distribution of Student Mental Resilience

The Kraeplin Test results indicate that the majority of students fall into the good and very good categories, with 43 students (21.5%) in each category demonstrating relatively high mental resilience. Meanwhile, 37 students (18.5%) are classified as moderate, while 39 students (19.5%) and 38 students (19%) fall into the low and very low categories, respectively.

These results indicate that most students exhibit relatively good mental resilience; however, approximately 38.5% of the total sample falls into the low and very low categories, highlighting the need for further reinforcement in consistency and work stability (Savytska, 2021). According to the Kraeplin percentile table, students with a raw score of 40 and above are classified as having high performance, whereas those scoring below 20 demonstrate below-average performance, indicating the need for further intervention in mental resilience development (Pane et al., 2020).

Table 5. Distribution of student mental resilience levels

Category of mental resilience	Frequency	%
Very good	43	21.5
Good	43	21.5
Moderate	37	18.5
Low	39	19.5
Very low	38	19.0

The Relationship Between Intelligence, Adaptability, and Resilience

Chi-Square test analysis indicates a significant relationship between intelligence, adaptability, and resilience among students ($p < 0.05$). Effect size analysis (Cramer's V = 0.31, 95% CI [0.18, 0.42]) indicates a medium association. Students with very superior intelligence levels tend to have better resilience, with 28.2% classified as very good and 33.3% as good. Conversely, students with above-average intelligence are more frequently found in the low (30.1%) and very low (31.5%) categories, suggesting that intelligence alone does not necessarily guarantee high resilience. These findings support Hypothesis 1, that higher intelligence levels are positively associated with resilience. Other factors, such as experience and social support, also play a crucial role in shaping students' ability to endure challenges.

Table 6. Relationship between intelligence, adaptability, and resilience based on chi-square analysis

Intelligence Category	Very Good (%)	Good (%)	Moderate (%)	Low (%)	Very low (%)
Very superior	28.2	33.3	12.8	12.8	12.8
Superior	6.9	55.2	10.3	24.1	3.4
Above average	12.3	11.0	15.1	30.1	31.5
Average	35.6	10.2	30.5	8.5	15.3

The Influence of Adaptability on Resilience

The analysis results indicate that students with very good adaptability exhibit higher resilience compared to those with low adaptability. Specifically, 42.2% of students with very good adaptability fall into the very good resilience category, while 41.4% of students with low adaptability are classified in the very low resilience category.

Table 7. Relationship Between Adaptability and Resilience

Adaptability Category	Very Good (%)	Good (%)	Moderate (%)	Low (%)	Very low (%)
Very good	42.2	22.2	20.0	6.7	8.9
Good	18.0	40.0	8.0	20.0	14.0
Moderate	18.8	10.4	31.2	27.1	12.5
Low	13.8	3.4	13.8	27.6	41.4
Very low	7.1	25.0	17.9	17.9	32.1

Students with very good adaptability exhibited higher resilience compared to those with low adaptability. The association was statistically significant ($p < 0.05$), with a strong effect size (Cramer's V = 0.42, 95% CI [0.29, 0.53]). These findings support Hypothesis 2, that adaptability mediates resilience.

Pearson Correlation Analysis

Pearson correlation analysis reveals a significant linear relationship between intelligence, adaptability, and resilience, with a correlation coefficient of $r = 0.387$ ($p < 0.05$). This indicates that higher levels of intelligence and adaptability are associated with greater mental resilience.

Correlation Interpretation: (1) A correlation of $r = 0.387$ indicates a moderate positive relationship, meaning that intelligence and adaptability are associated with resilience, though other factors are also influential, and (2) The significance level $p < 0.05$ confirms that this relationship is statistically significant, providing a valid basis for designing strategies to enhance students' mental resilience.

Table 8. Pearson correlation between intelligence, adaptability, and resilience

Variable	r-Value	p-Value
Intelligence	0.387	< 0.05
Adaptability	0.387	< 0.05
Resilience	1.000	-

Multiple Regression Analysis

Regression results show that intelligence and adaptability significantly predict resilience ($\beta = 0.42$, $p < 0.05$; Cohen's $f^2 = 0.18$, medium effect size). The coefficient of determination ($R^2 = 0.42$) indicates that 42% of the variance in resilience is explained by these two predictors, while 58% is explained by other factors. This supports Hypothesis 3, that intelligence contributes to resilience.

Table 9. Multiple regression analysis between intelligence, adaptability, and resilience

Predictor variable	Beta coefficient	Sig. (p-Value)
Intelligence	0.42	< 0.05
Adaptability	0.42	< 0.05

Model Validation Using Structural Equation Modeling (SEM)

SEM analysis was conducted using AMOS 26.0. Assumptions of multivariate normality and absence of multicollinearity were tested and satisfied. No major estimation problems were encountered. The Goodness of Fit Indices analysis indicates that the tested model has a good fit with the empirical data, suggesting that the relationship between intelligence, adaptability, and student resilience can be statistically explained using this model (Yotha et al., 2023). The Chi-Square/df value of 2.14 falls within the good category, as it meets the ≤ 3 criterion, indicating that the model does not suffer from overfitting or underfitting relative to the data. Additionally, the RMSEA value of 0.048 is within the ≤ 0.05 threshold, signifying that the model's error level is very low and that it accurately represents the data. Furthermore, the CFI and TLI values of 0.93 and 0.91, respectively, fall within the good category as they exceed the ≥ 0.90 benchmark, confirming that the model demonstrates a strong fit between the tested variables. Intelligence and adaptability are found to directly and indirectly influence students' resilience (Bakola et al., 2024). These findings support Hypothesis 4, that environmental and adaptability factors moderate and mediate resilience outcomes.

Table 10. Model validation using SEM

Goodness of fit indikator	Value	Fit criteria
Chi-Square/df	2.14	≤ 3 (Good)
RMSEA	0.048	≤ 0.05 (Good)
CFI	0.93	≥ 0.90 (Good)
TLI	0.91	≥ 0.90 (Good)

This study explored the role of intelligence and adaptability in shaping resilience among Guidance and Counseling students living in wetland environments. Four hypotheses were tested using chi-square, Pearson correlation, multiple regression, and SEM analyses. Overall, the findings confirm that intelligence and adaptability are significantly related to resilience, but their effects are only moderate in strength, underscoring the importance of other contextual and personal factors.

Hypothesis 1 predicted that intelligence is positively associated with resilience. This hypothesis was supported: students with very superior intelligence showed higher resilience levels (28.2% very good; 33.3% good). However, students with above-average intelligence were often found in the low or very low resilience categories (61.6%). This indicates that high cognitive ability alone does not ensure resilience, which aligns with prior studies emphasizing that social and environmental support play critical roles (Morote et al., 2020; Nanda et al., 2021). The effect size (Cramer's V = 0.18, small-to-moderate) shows that the magnitude of this relationship is meaningful but not strong.

Hypothesis 2 predicted that adaptability is positively associated with resilience. This hypothesis was strongly supported: 42.2% of students with very good adaptability had very good resilience, while 41.4% of those with low adaptability showed very low resilience. The effect size (Cramer's V = 0.32, medium) indicates a practically relevant relationship. These findings reinforce that adaptability functions as a key pillar of resilience in challenging environments, echoing (Su & Weng, 2024; Pumaleque et al., 2021).

Hypothesis 3 predicted significant linear correlations among intelligence, adaptability, and resilience. This was confirmed by Pearson correlation results ($r = 0.387$, $p < 0.05$). The effect size ($r^2 \approx 15\%$) indicates a moderate relationship. Thus, while both intelligence and adaptability contribute to resilience, more than 80% of variance is explained by other factors such as social support, emotional regulation, or cultural background (Meiranti & Sutoyo, 2021; Astereki et al., 2022).

Hypothesis 4 predicted that intelligence and adaptability jointly predict resilience. This was supported by multiple regression results ($R^2 = 0.42$), showing that 42% of resilience variability is explained by the two predictors. Effect sizes for intelligence and adaptability ($f^2 \approx 0.12$ and 0.14, respectively) suggest small-to-moderate contributions, consistent with (Xu et al., 2022; Nyanchi et al., 2021).

The SEM model provided further confirmation, demonstrating good fit ($\chi^2/df = 2.14$; RMSEA = 0.048; CFI = 0.93; TLI = 0.91). Both direct and indirect effects were observed, highlighting that adaptability partially mediates the influence of intelligence on resilience. This extends earlier models by showing how adaptability transforms cognitive capacity into practical endurance in swamp environments, a novel contribution of this study.

The findings partly align with earlier research that emphasized the importance of adaptability in predicting resilience (Daniels et al., 2021; Su & Weng, 2024). However, the unique result that students with above-average intelligence showed lower resilience than those with very superior intelligence contrasts with the assumption that intelligence always correlates positively with resilience. Possible explanations include (a) higher stress sensitivity among students with moderate cognitive levels, and (b) limited adaptive coping strategies. This divergence underscores the importance of focusing on adaptability training rather than relying solely on cognitive development.

These findings have significant implications for the development of guidance and counseling education curricula, particularly in regions with unique environmental challenges, such as wetland areas. Students with high intelligence but low adaptability, or vice versa, tend to face greater challenges in building their mental resilience. Therefore, adaptability skill enhancement programs, including social skills training, stress management, and the development of a resilient mindset, are essential to cultivate strong and professional future school counselors. Overall, this study reaffirms that the fundamental foundation for future school counselors is not solely based on

academic intelligence, but also on high adaptability and strong mental resilience. Thus, a holistic approach integrating intelligence, adaptability skills, and resilience-strengthening strategies is crucial in preparing guidance and counseling students to face the challenges of their profession in the future. Consequently, these research findings can serve as a foundation for designing educational policies and counselor training programs that are more responsive to environmental challenges and the psychosocial needs of students in wetland areas.

This study has several limitations. First, the sample was drawn from a single university, limiting external validity; generalization to other cultural or geographical contexts must be made cautiously. Second, the reliance on self-report instruments for adaptability and resilience introduces potential response bias. Third, although missing data were minimal (1.5%), exclusion of incomplete cases may have slightly affected the representativeness of results. Fourth, data collection occurred within one semester, leaving open the possibility of temporal bias (e.g., variations in academic stress between early and late academic years).

Future research should incorporate longitudinal designs to capture changes in adaptability and resilience over time, explore mediating factors such as social support and motivation, and include multi-site samples to enhance generalizability. Mixed-method approaches could also enrich understanding by combining quantitative measures with qualitative insights into students' lived experiences in wetland environments.

Conclusion

This study reaffirms that intelligence, adaptability, and resilience are the fundamental foundations for future school counselors, particularly for students living in wetland environments. The analysis supports the primary hypotheses: (1) higher intelligence is positively related to resilience, (2) adaptability acts as a mediator that strengthens this relationship, and (3) intelligence and adaptability together significantly predict resilience, explaining 42% of its variance. Thus, the findings confirm that high intelligence alone does not necessarily guarantee strong resilience; adaptability is a crucial determinant in preparing future counselors to cope with academic and social challenges. The relationship model tested using Structural Equation Modeling (SEM) shows a good fit with empirical data, further validating the role of intelligence and adaptability in shaping resilience both directly and indirectly. These results strengthen the argument for adopting a holistic approach in counselor education that integrates the development of intellectual capacity, adaptability skills, and mental resilience.

However, these conclusions must be interpreted within the study's limitations. The research was restricted to a single university population in wetland areas, with instruments that primarily measured non-verbal intelligence, forced-choice personality tendencies, and work endurance. Therefore, the findings cannot be generalized to all student populations or broader cultural contexts without caution. Despite these limitations, the study provides valuable implications for guidance and counseling curricula by emphasizing the need for adaptability training, resilience-building strategies, and context-sensitive interventions. Future research is recommended to examine additional factors such as social support, intrinsic motivation, and broader environmental influences to further refine the model of counselor preparedness.

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