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Interplay of Pedagogical Barriers, Coping Strategies, and Job Satisfaction of Public School Teachers

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ABSTRACT

Teachers in schools serving Indigenous Peoples (IP) learners face distinctive obstacles in mathematics teaching, yet how these obstacles relate to their coping and job satisfaction has received little study. This descriptive-correlational study examined the interplay of pedagogical barriers, coping strategies, and job satisfaction among 170 public school personnel in Alabel District, DepEd Schools Division of Sarangani Province, in School Year 2025–2026, selected through stratified random sampling. Pilot-tested questionnaires (α = .87 to .91) measured five barrier domains, five coping dimensions, and four job satisfaction indicators; data were analyzed using descriptive statistics, chi-square, and correlation. Barriers were Very High in four domains, led by socio-economic barriers (*M* = 3.46), lack of teaching resources (*M* = 3.43), and curriculum constraints (*M* = 3.39), while the mismatch between teaching and learning styles was High (*M* = 2.81). Coping strategies were Very High, led by building positive classroom environments (*M* = 3.56), adaptive problem-solving (*M* = 3.55), and resilience (*M* = 3.55). Job satisfaction was Very High, strongest in interpersonal relationships (*M* = 3.54) and lowest in professional growth (*M* = 3.32). All profile variables except sex were significantly associated with barriers, coping, and satisfaction, most strongly the number of trainings, school, and educational attainment. Barriers, coping strategies, and job satisfaction were significantly interrelated (*r* = .68, *p* = .001). Teachers appear to sustain their satisfaction by coping actively with largely structural barriers. A professional development program integrating culturally responsive pedagogy, resource management, curriculum mapping, community engagement, peer mentoring, resilience building, and career progression is proposed.

Introduction

For many Indigenous Peoples (IP) learners, mathematics has been a subject of exclusion rather than empowerment. Instruction built on mainstream assumptions often fails to connect with their languages, practices, and ways of reasoning, and limited resources and economic hardship compound the problem (Nazarita & Morales, 2025). When mathematics is taught through indigenous practices such as traditional measurement, spatial reasoning, and community problem-solving, learners engage more and learn better (Utami et al., 2021; Gula, 2024), but many teachers have had little preparation for culturally responsive teaching.

Teachers in IP communities therefore work under particular pressures. Non-IP teachers assigned to IP schools report language differences, geographic isolation, and difficulty reaching learners whose cultural frames differ from mainstream approaches (Cubi & Rollo, 2025). They

respond with strategies such as learning the local language, practicing empathetic engagement, and joining collaborative professional development, yet the effectiveness of these strategies has received little systematic study (Cubi et al., 2024). How these barriers and coping strategies bear on teachers' satisfaction with their work is also unclear, even though satisfied teachers are more likely to remain in hard-to-staff schools and to sustain their effort there (Skaalvik & Skaalvik, 2017).

This study examined the interplay of pedagogical barriers, coping strategies, and job satisfaction among public school teachers in Alabel District, DepEd Schools Division of Sarangani Province, during School Year 2025–2026. It sought to describe the respondents' profile; their perceived barriers in mathematics teaching across five domains; their coping strategies across five dimensions; their job satisfaction across four indicators; the relationships of profile variables with each of these; and the relationship among barriers, coping, and satisfaction. The results were used as the basis for a professional development program. The study contributes to the inclusive and equitable education called for by Sustainable Development Goal 4 (United Nations Department of Economic and Social Affairs, 2025).

Literature Review

Pedagogical Barriers in Mathematics Teaching

Five groups of barriers are prominent in the literature. The first is the mismatch between teaching and learning styles. Many students prefer auditory, kinesthetic, or tactile modes while teachers favor visual and individual instruction, and the resulting misalignment reduces motivation and achievement (Cardino Jr., 2020; Ako et al., 2025). Differentiated and student-centered approaches that accommodate varied learning preferences improve engagement and reduce anxiety (Goyibova, 2025; Alcober, 2025; Akinnawonu, 2025). The second is the lack of appropriate teaching resources. Shortages of textbooks, manipulatives, technology, and infrastructure push teachers toward generalized, exam-focused instruction (Mangwende, 2019; Ansah et al., 2020; Akon-Yamga et al., 2024), and these shortages tend to fall hardest on marginalized schools (Omoeva, 2021; Belete et al., 2022).

The third barrier is learners' negative attitudes and low motivation, often rooted in mathematics anxiety and cultural stereotypes that consume working memory and encourage avoidance (De-la-Peña, 2021; Luttenberger et al., 2018; Brown, 2020). Interactive, relevant, and student-centered teaching counters these attitudes (Rehman, 2025; Mazana et al., 2019). The fourth is curriculum-related constraints: overloaded, rigid, and exam-oriented curricula leave little time for mastery, differentiation, or inquiry (Karikari et al., 2020; Brantuo et al., 2023; Basister, 2025; Johnson, 2025). The fifth is socio-economic barriers. Learners from low-income households have fewer materials and less support at home and begin school with weaker foundational skills, and these gaps widen without early intervention (Ng et al., 2021; Uddin, 2024).

Coping Strategies of Teachers

Teachers cope through adaptive problem-solving, such as the Mastery Adaptive Problem-Solving model, which combines mastery learning with problem-based approaches (Kantathanawat et al., 2025), and through flexible combinations of methods suited to diverse

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learners (Yang, 2024). Non-IP teachers in IP schools also rely on cultural immersion, learning indigenous languages, and inclusive classroom management (Cubi et al., 2024). Continuous professional development and peer collaboration through professional learning communities, peer coaching, and shared planning build efficacy and reduce professional isolation (Wabingga, 2025; Long, 2024; Golledge, 2025; Papp & Cottrell, 2021). Teachers also build positive classroom environments through clear routines, reinforcement, cooperative learning, and culturally affirming practices (Smith & Hoy, 2022; American Journal of Humanities and Social Sciences Research, 2025), and they vary their instructional approaches through bilingual instruction, visual aids, and indigenous content (Shi et al., 2025; Cubi & Rollo, 2025; Riley, 2024). Finally, they maintain a positive attitude and resilience through self-talk, time management, and social support (Fabrigas & Paglinawan, 2025; Amoroso, 2025; Versfeld, 2025).

Job Satisfaction

Job satisfaction reflects teachers' appraisal of their work environment, opportunities for growth, relationships, and recognition. Stress from workload and difficult working conditions undermines engagement and increases the wish to leave teaching, whereas self-efficacy sustains it (Skaalvik & Skaalvik, 2017; Kokkinos, 2007). Burnout and mental health problems are widespread among teachers (Ferguson, 2022), and supportive collegial relationships and positive classroom climates buffer against them (Smith & Hoy, 2022; Wabingga, 2025). Diversified teaching practices have also been linked to lower burnout (Shi et al., 2025).

Theoretical and Legal Framework

Constructivist learning theory frames the barriers as conditions that block learners' active construction of mathematical knowledge (Simon, 1995; Efgivia et al., 2021; Mangwende & Maharaj, 2020). Stress and Coping Theory treats coping as the cognitive and behavioral effort to manage demands that tax a person's resources (Lazarus & Folkman, 1984). Culturally responsive pedagogy emphasizes connecting mathematics to learners' cultural backgrounds (Bostwick, 2025; Potocki, 2025), and the socio-ecological model situates learning within family, school, community, and policy layers (Jornet, 2025; Johannes, 2025). The study is grounded in the 1987 Constitution's guarantee of accessible education that respects cultural diversity; the Excellence in Teacher Education Act of 2022 (RA 11713); the Enhanced Basic Education Act of 2013 (RA 10533); the Governance of Basic Education Act of 2001 (RA 9155); and DepEd's Indigenous Peoples Education policies, including DepEd Order No. 62, s. 2011, DepEd Order No. 32, s. 2015, and DepEd Order No. 21, s. 2019.

Methodology

Research Design

A descriptive-correlational design was used to describe the respondents' profile, barriers, coping strategies, and job satisfaction, and to test the relationships among these variables without manipulation.

Respondents

The respondents were 170 public school personnel in Alabel District, DepEd Schools Division of Sarangani Province, in School Year 2025–2026, selected through stratified random sampling. They included 15 school heads, 50 non-IP mathematics teachers, 10 IP teachers, and 95 other public school teachers drawn from schools serving IP learners.

Instruments

A profile sheet gathered age, sex, civil status, ethnicity, highest educational attainment, school, years in teaching, grade level handled, and number of relevant seminars and trainings. Pedagogical barriers were measured with a Likert-type questionnaire adapted from Ako et al. (2025), Cardino Jr. (2020), and Nazarita and Morales (2025), with five items for each of the five barrier domains. Coping strategies were measured with an instrument grounded in Stress and Coping Theory (Lazarus & Folkman, 1984) as applied in recent studies (Chan et al., 2021; Amoroso, 2025; Cubi et al., 2024), with five items for each of five dimensions. Job satisfaction was measured with items adapted from the Job Satisfaction Survey, covering work environment, professional growth and development, interpersonal relationships, and recognition and motivation. Weighted means were interpreted as Very High (3.26–4.00), High (2.51–3.25), Fair (1.76–2.50), or Low (1.00–1.75). Pilot testing with 30 teachers in Malapatan District produced Cronbach's alpha values of .89 (barriers), .91 (coping), and .87 (job satisfaction), and item wording was refined afterward.

Procedure

Permission was obtained from the Schools Division Superintendent of Sarangani Province. The researchers met school heads and teachers to explain the study, build rapport, and obtain consent, and then administered the questionnaires on schedules arranged with the school heads. Some teachers were initially hesitant because of confidentiality concerns, community events occasionally conflicted with data collection, and distance and limited transport made some IP schools hard to reach. These challenges were addressed through assurances of anonymity, flexible scheduling, and careful travel planning.

Data Analysis

Frequencies and percentages described the profile, and weighted means described the main variables. The Shapiro–Wilk test showed that coping strategies ($W = .976$, $p = .112$) and job satisfaction ($W = .982$, $p = .145$) were normally distributed, whereas pedagogical barriers were not ($W = .921$, $p = .031$). Chi-square tests examined the relationships between profile variables and each main variable, and correlation analysis examined the relationship among barriers, coping strategies, and job satisfaction, at $\alpha = .05$.

Ethical Considerations

Ethics approval was secured before data collection. Respondents gave informed consent, participation was voluntary, and identifiers were removed or coded in compliance with the Data Privacy Act of 2012. Instruments were reviewed for cultural appropriateness, and community leaders were consulted to ensure the study respected IP norms.

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Results and Discussion

Profile of the Respondents

Table 1

Profile of the Respondents (n = 170)

Variable	Distribution, %
Age	30–39: 37.65; 40–49: 36.47; 50–59: 14.12; 20–29: 11.76
Sex	Female: 61.18; male: 38.82
Civil status	Married: 64.71; single: 28.24; widowed: 3.53; separated: 3.53
Ethnicity	Cebuano: 54.12; not applicable (non-IP): 29.41; other: 9.41; Tagalog: 7.06
Educational attainment	Bachelor's with master's units: 37.65; master's degree: 36.47; master's with doctoral units: 22.35; doctorate: 3.53
School	Ten named schools: 65.88 (5.88–8.24 each); other Alabel District schools: 34.12
Years in teaching	6–10: 34.12; 11–15: 32.94; 16–20: 14.12; 1–5: 10.59; 21 and above: 8.24
Grade level handled	Elementary: 55.29; junior high school: 30.59; senior high school: 14.12
Seminars and trainings	10 and above: 32.94; 7–9: 31.76; 4–6: 18.82; 1–3: 16.47

The respondents were mainly mid-career educators in their 30s and 40s (74.12%), most of them women (61.18%) and married (64.71%) (Table 1). All had pursued graduate study, with 62.35% holding at least a master's degree. Most had taught for 6 to 15 years (67.06%), more than half handled elementary classes, and nearly two-thirds (64.70%) had attended seven or more relevant trainings. Cebuano was the most frequently reported ethnicity, and 29.41% were classified as non-IP. This is an experienced and well-trained workforce, which suggests that the barriers reported below arise mainly from conditions in schools and communities rather than from inexperience or lack of training. A comparable picture of strong qualifications coexisting with practical gaps has been reported for basic education teachers on Samar Island, where competencies were mapped to identify specific needs for professional development (Panela, 2025d).

Pedagogical Barriers in Mathematics Teaching

Table 2

Pedagogical Barriers, Coping Strategies, and Job Satisfaction by Domain

Domain	Mean	Level	Highest-Rated Indicator
Pedagogical barriers			
Mismatch between teaching and learning styles	2.81	High	Students struggle when traditional methods are used (2.91)
Lack of appropriate teaching resources	3.43	Very High	Often improvises due to limited resources (3.51)
Negative attitudes and low motivation	3.28	Very High	Negative attitudes affect classroom participation (3.34)
Curriculum-related constraints	3.39	Very High	The curriculum is overloaded with content (3.45)
Socio-economic barriers	3.46	Very High	Students' financial difficulties affect learning (3.52)
Coping strategies			
Adaptive problem-solving techniques	3.55	Very High	Adjusts teaching strategies when problems arise (3.62)
Professional development and peer collaboration	3.49	Very High	Values professional development opportunities (3.56)
Building positive classroom environments	3.56	Very High	Encourages respect among students (3.61)
Employing varied instructional approaches	3.48	Very High	Uses multiple teaching methods (3.52)
Maintaining a positive attitude and resilience	3.55	Very High	Stays motivated despite challenges (3.59)
Job satisfaction			
Work environment	3.40	Very High	Feels safe in the work environment (3.44)
Professional growth and development	3.32	Very High	Receives support for professional growth (3.36)
Interpersonal relationships	3.54	Very High	Good relationships with colleagues (3.58)
Recognition and motivation	3.40	Very High	Feels motivated to perform well (3.44)

Note. 3.26–4.00 = Very High; 2.51–3.25 = High; 1.76–2.50 = Fair; 1.00–1.75 = Low.

Four of the five barrier domains were rated Very High (Table 2). Socio-economic barriers were the most severe (M = 3.46), led by learners' financial difficulties (3.52) and poverty's effect on access to resources (3.48). Lack of appropriate teaching resources followed (M = 3.43), and the single highest indicator in this domain was the need to improvise because of limited resources (3.51). Curriculum-related constraints (M = 3.39), led by an overloaded curriculum (3.45), and learners' negative attitudes and low motivation (M = 3.28) were also Very High. The mismatch between teaching and learning styles was the least severe barrier but still High (M = 2.81).

The ranking indicates that the heaviest barriers lie outside teachers' direct control. Poverty, scarce materials, and an overloaded curriculum are structural conditions, and teachers can respond to them but cannot remove them on their own. This agrees with research showing that low socio-economic status limits learners' readiness and support (Ng et al., 2021; Uddin, 2024), that resource shortages push teachers toward procedural instruction (Mangwende, 2019; Akon-Yamga et al., 2024), and that overcrowded curricula leave little time for mastery (Karikari et al., 2020; Basister, 2025). The comparatively lower rating for style mismatch suggests that

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teachers see themselves as reasonably able to adapt their methods, which is consistent with their graduate training and frequent participation in seminars, although learners' struggles with traditional methods (2.91) show that adaptation is not yet complete (Cardino Jr., 2020). Learners' weak confidence and low interest (3.30 and 3.28) are consistent with research linking mathematics anxiety and stereotypes to disengagement (De-la-Peña, 2021; Luttenberger et al., 2018). The strain of the pandemic years on learners' well-being and motivation, documented among Filipino students, may also persist in these classrooms (Panela, 2025b).

Coping Strategies

All five coping dimensions were rated Very High (Table 2). Building positive classroom environments was highest (M = 3.56), led by encouraging respect among students (3.61). Adaptive problem-solving (M = 3.55), headed by adjusting strategies when problems arise (3.62), and maintaining a positive attitude and resilience (M = 3.55), headed by staying motivated despite challenges (3.59), followed closely. Professional development and peer collaboration (M = 3.49) and varied instructional approaches (M = 3.48) were slightly lower; seeking feedback from colleagues (3.42) and differentiating instruction (3.44) were among the lowest coping indicators.

In the language of Stress and Coping Theory, the teachers rely most on problem-focused coping, through which they reshape their classrooms and lessons, and on emotion-focused coping, through which they sustain optimism and persistence (Lazarus & Folkman, 1984). These strategies are consistent with those reported among teachers in remote and IP schools in Mindanao, who rely on commitment, positive self-talk, and support networks (Fabrigas & Paglinawan, 2025; Amoroso, 2025), and among non-IP teachers who build trust through inclusive classroom management (Cubi et al., 2024). The relatively lower ratings for differentiation and for seeking colleagues' feedback point to areas where collaborative professional learning could strengthen practice (Long, 2024; Golledge, 2025). Teachers in Samar who conducted action research during the pandemic similarly found that colleagues and mentors were essential for overcoming barriers to their professional growth (Panela, 2025e).

Job Satisfaction

Job satisfaction was Very High on all four indicators (Table 2). Interpersonal relationships were the strongest source of satisfaction (M = 3.54), led by good relationships with colleagues (3.58) and respect from colleagues (3.57). Work environment and recognition and motivation were equal (M = 3.40 each), while professional growth and development was lowest (M = 3.32), with opportunities for career advancement the lowest single indicator (3.28).

Teachers' satisfaction thus rests mainly on their relationships, which is consistent with evidence that collegial support and positive climates buffer stress and burnout (Smith & Hoy, 2022; Wabingga, 2025; Versfeld, 2025). The weaker satisfaction with career advancement and with support from administration (3.46, the lowest relational indicator) suggests that institutional pathways for growth have not kept pace with teachers' high qualifications. Satisfaction remained Very High despite Very High barriers, which indicates that coping

strategies and collegial support may be absorbing much of the strain (Skaalvik & Skaalvik, 2017; Ferguson, 2022).

Profile Variables in Relation to Barriers, Coping, and Satisfaction

Table 3

Chi-Square Tests Between Profile Variables and Barriers, Coping Strategies, and Job Satisfaction

Profile Variable	Barriers χ^2 (p)	Coping χ^2 (p)	Satisfaction χ^2 (p)
Age	10.84 (.03)*	12.47 (.02)*	11.62 (.02)*
Sex	4.26 (.12)	3.86 (.14)	3.74 (.15)
Civil status	9.73 (.04)*	10.92 (.03)*	9.85 (.04)*
Ethnicity	11.65 (.02)*	11.38 (.02)*	12.43 (.02)*
Highest educational attainment	13.42 (.01)*	14.26 (.01)*	14.67 (.01)*
School	14.56 (.01)*	13.74 (.01)*	13.58 (.01)*
Years in teaching	12.38 (.02)*	12.89 (.02)*	12.94 (.02)*
Grade level handled	8.91 (.05)†	9.64 (.04)*	8.76 (.05)†
Relevant seminars and trainings	15.27 (.01)*	16.53 (.01)*	16.82 (.01)*

Note. *p < .05. †p = .05, treated as significant in the source analysis.

Eight of the nine profile variables were significantly related to all three variables, and only sex was not (barriers $\chi^2 = 4.26$, $p = .12$; coping $\chi^2 = 3.86$, $p = .14$; satisfaction $\chi^2 = 3.74$, $p = .15$) (Table 3). The strongest associations involved the number of seminars and trainings ($\chi^2 = 15.27$ to 16.82, $p = .01$), school ($\chi^2 = 13.58$ to 14.56, $p = .01$), and educational attainment ($\chi^2 = 13.42$ to 14.67, $p = .01$). Grade level handled was significant for coping ($p = .04$) but reached only $p = .05$ for barriers and satisfaction, which the original analysis treated as significant.

Professional preparation and workplace, rather than gender, are the characteristics most closely tied to how teachers experience barriers, cope, and feel about their work. Training and graduate study expand teachers' repertoire and confidence (Golledge, 2025; Papp & Cottrell, 2021), and schools differ in resources, leadership, and the socio-economic circumstances of their learners (Omoeva, 2021; Belete et al., 2022). The ethnicity association reflects the different positions of IP and non-IP teachers in culturally specific classrooms (Cubi & Rollo, 2025; Nazarita & Morales, 2025). Although no sex differences were detected, comparisons of this kind are more trustworthy when the instruments have been shown to measure the same construct for women and men, as a recent Rasch-based gender analysis of a teacher empowerment scale illustrates (Panela, 2025a). Because chi-square indicates association but not direction, claims about which subgroups face more barriers or cope better require further analysis.

Relationship Among Barriers, Coping, and Job Satisfaction

Table 4

Test of Relationship Among Pedagogical Barriers, Coping Strategies, and Job Satisfaction

Variables	r	p	Decision	Interpretation
Pedagogical barriers, coping strategies, and job satisfaction	.68	.001	Reject H_0	Moderately strong, positive

Note. The source reports a single coefficient for the three variables jointly; pairwise coefficients were not reported.

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The test of relationship yielded $r = .68$ ($p = .001$), and the null hypothesis was rejected (Table 4). Barriers, coping strategies, and job satisfaction are therefore interrelated: teachers facing more barriers also reported stronger coping, and satisfaction moved in the same direction. One plausible explanation is that barriers prompt teachers to mobilize coping strategies, which in turn protect their satisfaction, as Stress and Coping Theory would predict (Lazarus & Folkman, 1984; Chan et al., 2021). The result should nonetheless be interpreted with care. A Pearson coefficient describes the relationship between two variables, so a single value for three variables cannot show which pairs are related or how strongly. Pedagogical barriers also departed from normality, which calls for a rank-based coefficient. Pairwise coefficients, ideally within a mediation model, are needed to test whether coping strategies carry the relationship between barriers and satisfaction.

Implications for a Professional Development Program

The proposed program has eight components that correspond to the findings: culturally responsive pedagogy for the style mismatch; resource management and technology integration, including low-cost teaching aids, for resource shortages; seminars on motivational strategies and classroom management for negative attitudes; curriculum mapping and prioritization of essential competencies for curricular overload; parent-teacher forums and community partnerships for socio-economic barriers; peer mentoring and professional learning communities to reinforce coping; resilience and wellness programs; and leadership training, career advancement, and recognition systems for job satisfaction. It is planned in three phases (foundation, application, and sustainability) with a budget of ₱1.2 million drawn from DepEd, local government, and private partners. Its emphasis on community engagement and indigenous knowledge reflects culturally responsive and socio-ecological principles (Potocki, 2025; Jornet, 2025; Moreton, 2024). Its resilience component can draw on approaches beyond conventional workshops; one recent study found that an AI companion device helped university teachers manage workplace stress (Panela, 2026).

Conclusion

Public school teachers in Alabel District face Very High pedagogical barriers in mathematics teaching, with socio-economic barriers, resource shortages, and curricular overload the most severe and the mismatch between teaching and learning styles the least severe. They cope at a Very High level, especially by building positive classrooms, solving problems adaptively, and remaining resilient, and their job satisfaction is Very High, anchored in collegial relationships but weaker in career growth. All profile variables except sex are associated with barriers, coping, and satisfaction, with training, school, and educational attainment showing the strongest associations. Barriers, coping strategies, and satisfaction are significantly interrelated, although the joint coefficient reported does not identify the specific pairwise relationships.

The district should implement the proposed professional development program, giving priority to culturally responsive and differentiated teaching, resource sharing and low-cost materials, curriculum mapping, community and parental engagement, and peer mentoring. Career advancement and recognition systems should be strengthened to match teachers' qualifications,

and resilience and wellness activities should be institutionalized. Because many current learners went through the pandemic years, the program should also equip teachers to recognize and respond to learners' lingering emotional and motivational difficulties (Panela, 2025c). Future research should report pairwise correlations, use rank-based statistics for non-normal variables, and test whether coping mediates the effect of barriers on satisfaction.

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