
Effect Of Parental Involvement on The Correlation Between Student Preparedness to Learn And Motivation: A Mediation Analysis

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Abstract — Student motivation rapidly declined. The mediating role of parental involvement on the relationship between student preparedness to learn and motivation was verified. Through predictive design, the data from 218 respondents selected through proportionate stratified random sampling were analyzed using mediation analysis. Results showed that parental involvement partially mediates the relationship between student preparedness to learn and motivation, partly supporting Social Cognitive Theory. Future studies may explore other mediators, while school leaders may strengthen parental involvement to enhance the impact of preparedness to learn on student motivation.

Keywords: **Parental involvement, student preparedness to learn, student motivation, mediation analysis**

I. INTRODUCTION

The Problem and its Scope

Declining student motivation has become a significant global concern in education. Across various educational settings, studies have consistently documented a downward trend in student motivation over time (Katsantonis, 2023; Howard et al., 2023; Wild & Neef, 2023). Ongoing

educational disruptions have further accelerated the decline in student motivation, contributing to a sustained reduction in learners' drive toward academic tasks (Rajan, 2024).

Evidence from countries such as the United States, South Korea, and Australia indicates a consistent decline in student motivation over time. Gradual reduction in learners' drive and willingness to engage in academic tasks, reflecting a broader downward trend in motivation among adolescents. This ongoing decline in student motivation has been widely documented in the literature as a persistent concern across diverse educational systems (Benabou & Tirole, 2020; Wigfield et al., 2021).

Declining student motivation remains a growing concern among Filipino learners, with studies noting a downward trend in students' drive to engage in academic tasks (Bongco, 2023). Many students demonstrate low levels of academic motivation, which contributes to decreased classroom engagement, reduced academic persistence, and lower overall learning outcomes among Filipino students (Dela Cruz & Santos, 2024).

Declining student motivation has been increasingly observed across educational contexts, reflecting a steady reduction in students' drive, engagement, and persistence in learning (Rajan, 2024; Lee & Kim, 2024). Studies also highlighted a continuing downward trend in learners' motivation, marked by weakening self-regulation and sustained interest in academic tasks (Garcia & Torres, 2025). These patterns underscore the urgency of addressing the ongoing decline in student motivation as a critical educational concern; hence, this research was conducted.

II. METHODOLOGY

This section includes the research design, the study locale, the sample and sampling technique, the data-gathering technique, the data analysis technique, and ethical considerations.

Research Design

In this research, a predictive research design was utilized. It is a quantitative approach that uses existing or historical data to forecast future outcomes by identifying relationships among variables through statistical techniques such as regression and predictive analytics (Gonzalez-Nucamendi et al., 2023; Pacheco-Mendoza, 2023). It is applied when the goal of a study is to estimate future conditions, particularly in fields like education, business, healthcare, and the social sciences, where measurable variables and large datasets are available to support decision-making and intervention planning. This design offers several advantages, including its ability to anticipate trends, identify key predictors, support data-driven decisions, and improve the effectiveness of interventions by enabling early action (van Witteloostuijn et al., 2022; Zhang et al., 2024).

Locale of the Study

The study was conducted in Talacogon East District, located in Talacogon, a municipality in the province of Agusan del Sur known for its public schools that actively implement educational programs. The district was purposively chosen as the research setting because it offers the Mathematics component of the Department of Education Academic Recovery and Accessible Learning (ARAL) Program. Talacogon District comprises secondary schools serving diverse learners, making it a suitable setting for examining student preparedness to learn, parental involvement, and motivation within the context of the ARAL program.

Sample and Sampling Technique

A total of 218 students from Grades 7, 8, 9, and 10 comprised the study sample. They were enrolled in the ARAL Mathematics Program. Their number was determined using the Raosoft formula for sample size computation with a 95% confidence level and a 5% margin of error (E) to ensure statistical representativeness. To minimize sampling bias and ensure balanced representation across academic levels, the researcher employed proportionate stratified random sampling. It is a probability sampling technique in which the population is divided into

homogeneous strata, and participants are selected from each group in proportion to its size (Sharma, 2023; Singh & Masuku, 2024).

Data Gathering Technique

The survey technique was used in gathering data. It is a quantitative method that collects information through structured questionnaires to describe participants' attitudes, behaviors, and characteristics (Siedlecki, 2023). It is applied when data needs to be gathered from a large group efficiently without manipulating variables. This technique is suitable for the study, as it examines student preparedness, parental involvement, and motivation in a natural setting and offers advantages such as cost-effectiveness, time-efficiency, and data that are easy to analyze (Siedlecki, 2023; Sharma, 2023).

Three questionnaires were adapted and modified for this research. The first questionnaire, the student preparedness questionnaire, is adapted from Dray et al. (2011). It consists of 12 items intended to measure students' preparedness for learning. The second questionnaire is the parental involvement questionnaire, an adapted version of Kleanthous and Williams (2013), consisting of 12 items designed to measure parental engagement in supporting children's academic learning. The third questionnaire is an adapted version of Tuan et al. (2005) with 12 items and is intended to measure student motivation in terms of intrinsic and extrinsic factors, self-efficacy, and goal orientation.

Finally, all these questionnaires were adapted, modified, and validated to suit the local context and address the research objectives. All of them have a scale (Likert-type) with specific indicators describing the current conditions of respondents. Moreover, the questionnaires underwent reliability testing. All the items included had Cronbach's alphas greater than 75%, indicating that the three tools are reliable.

Data Analysis Technique

In this study, the data analysis techniques used were descriptive, correlation, and mediation analyses. Descriptive analysis helps organize and summarize large amounts of data, making it easier for researchers to understand real-world patterns while saving time, no matter the situation or field of study (Costa, 2024). In this study, the *Mean and Standard Deviation* statistical tools were used. These measures represent the average of all values and the dispersion of those values, respectively (Bhandari, 2023). Moreover, the correlation analysis examines the strength and direction of the relationship between two continuous variables (Rizk, 2023). The *Pearson Product-Moment Correlation* statistical tool was used. Lastly, mediation analysis is a statistical method used to examine how an independent variable influences a dependent variable through a mediating variable, explaining the underlying process of their relationship (Hayes, 2023; Zhao et al., 2024). The beta-estimate statistical tool was used to estimate the direct, indirect, and total effects of the determinant.

The following standard scheme was the basis for interpreting the descriptive level of the variables:

<i>Scale</i>	<i>Level</i>	<i>Students Preparedness</i>	<i>Parental Involvement</i>	<i>Students Motivation</i>
1.00 - 1.74	Very low	Not Prepared	Very weak	Very weak
1.75 - 2.49	Low	less prepared	Weak	Weak
2.50 - 3.24	High	More prepared	Strong	Strong
3.25 - 4.00	Very high	Much prepared	Very strong	Very Strong

The following is the Standard Deviation Value Interpretation:

<i>Range</i>	<i>Description</i>	<i>Interpretation</i>
$SD \leq 0.50$	High Consistent Responses	Strong and uniform perception
$SD = 0.51-1.00$	Moderate Consistent Responses	acceptable consistency
$SD = 1.01-1.50$	Low Consistency Responses	Differing views or experiences
$SD > 1.50$	Very low Consistency Responses	High variability and lack of consensus

For the interpretation of the strength of the correlation, the following scheme was used:

<i>Computed r</i>	<i>Descriptive Interpretation</i>
± 1.00	Perfect correlation
Between $\pm 0.75 - \pm 0.99$	High correlation
Between $\pm 0.51 - \pm 0.74$	Moderately high correlation
Between $\pm 0.31 - \pm 0.50$	Moderately low correlation
Between $\pm 0.01 - \pm 0.30$	Low correlation
0.00	No correlation

The following standard scheme was the basis for interpreting the strength of the mediation:

<i>Proportion Mediated</i>	<i>Interpretation</i>
< 0.20	Weak Mediation
0.20 – 0.50	Moderate Mediation
>0.50	Strong mediation

Ethical Considerations

Respondents were informed about the study's purpose and procedures, and informed consent was obtained prior to data collection, with the right to withdraw at any time. All responses were kept confidential, anonymized, and securely stored. The study ensured no harm, upheld honesty and respect, and protected participants' privacy. Ethical approval was obtained from the Society for Moral Integrity and Legal Ethics (SMILE) Ethics Board, with permission granted by the Department of Education (DepEd), and findings were reported transparently to maintain research integrity.

III. RESULTS

Included in this discussion are descriptive, correlation, and mediation analyses, along with interpretations of the statistical results. The summary of findings is also presented.

Descriptive Results

Table 1 is a descriptive table. It contains the variables involved in the study, namely, parental involvement, student preparedness to learn, and motivation, with their respective indicators; and the number of samples, standard deviation, mean, and descriptive level specifically corresponding with each of the variables.

TABLE 1
DESCRIPTIVE STATISTICS (N = 218)

Variables	Number of Samples (N)	Standard Deviation	Mean	Descriptive Level
Parental Involvement	218	0.239	2.81	High
<i>Expectation on academic values</i>	218	0.41	3.05	High
<i>Communication and Monitoring</i>	218	0.41	2.77	High
<i>Support and Participation</i>	218	0.43	2.60	High
Student Preparedness to Learn	218	0.352	2.63	High
<i>Conceptual Mastery</i>	218	0.43	2.60	High
<i>Study Habits</i>	218	0.50	2.77	High
<i>Learning Resources</i>	218	0.44	2.61	High
<i>Confidence on Engagement</i>	218	0.41	2.52	High
Student Motivation	218	0.230	2.86	High
<i>Intrinsic motivation</i>	218	0.50	2.70	High
<i>Extrinsic Motivation</i>	218	0.43	3.00	High
<i>Self- efficacy</i>	218	0.45	2.83	High
<i>Goal orientation</i>	218	0.45	2.83	High

Specifically, the table shows that the parental involvement variable had a mean of 2.81, indicating high parental involvement. This indicates that parental involvement, as perceived by the respondents, is strong. All its indicators are described as high. The corresponding standard deviation of 0.239, indicative of high consistency, indicates strong and uniform perception.

Moreover, the student preparedness to learn variable had a mean of 2.63, indicating high preparedness. This indicates that the student preparedness to learn, as perceived by the respondents, is greater. All its indicators are described as high. The corresponding standard deviation of 0.352, indicative of high consistency, indicates strong and uniform perception.

Finally, the student motivation variable had a mean of 2.86, indicating high motivation. This indicates that the student motivation, as perceived by the respondents, is strong. All its indicators are described as high. The corresponding standard deviation of 0.230, described as highly consistent responses, indicates strong and uniform perception.

The results indicate that parental involvement, student preparedness to learn, and student motivation are all perceived as high, reflecting strong, positive conditions across these areas. Among the variables, student motivation is the most strongly demonstrated, followed by parental involvement, while student preparedness, although still high, is relatively lower.

Correlation Results

Table 2 is a correlational table. It presents the determinant and criterion variables. It shows the r-value, p-value, decision on the null hypothesis, and the corresponding interpretation.

TABLE 2
CORRELATIONAL TABLE (N =218)

Variables	Student Motivation			
	r-value	p-value	Decision	Interpretation
				on <i>H₀</i>
Parental involvement	0.306	0.000	Reject <i>H₀</i>	Moderately low
				Significant correlation
Student Preparedness	0.369	0.000	Reject <i>H₀</i>	Moderately low
				Significant correlation

The table specifically shows that the correlation between parental involvement and student motivation obtained a p-value of 0.000, which is less than 0.05 degree of confidence; hence, the null hypothesis was rejected. It indicates that the correlation is significant. The corresponding r-value of 0.306 indicates a moderately low correlation. This implies that for every unit change in parental involvement, there is a corresponding unit change in student motivation.

Similarly, the correlation between student preparedness to learn and student motivation obtained a p-value of 0.000, which is less than 0.05 degree of confidence; hence, the null hypothesis was rejected. It indicates that the correlation is significant. The corresponding r-value of 0.369 indicates a moderately low correlation. This implies that for every unit change in student preparedness to learn, there is a corresponding unit change in student motivation.

These results provide empirical evidence that both parental involvement and student preparedness to learn are significantly related to student motivation, indicating that changes in these variables are associated with changes in motivation. However, student preparedness to learn shows a slightly stronger relationship with motivation than parental involvement, although both are interpreted as moderately low.

Mediation Results

Table 3 is a mediation table. It contains path/effect, estimate Beta, standard error, Z-value, p-value, decision on null hypothesis, and corresponding interpretation.

TABLE 3
MEDIATION TABLE (N =218)

Label	Path/Effect	Estimate	SE	Z-	p-value	Decision	Interpretation
value							
a	Student Preparedness→						
	Parental Involvement	0.26	0.04	6.43	0.000	Reject Ho	Significant
b	Parental Involvement→						
	Student motivation	0.186		0.08	2.41	0.016	Reject Ho Significant
c'	Student Preparedness→						
	Student motivation	0.193	0.05	3.65	0.000	Reject Ho	Significant
a x b	Indirect effect (Mediation)	0.05	0.02	2.15	0.032	Reject Ho	Significant
c (Total	Student Preparedness→						
Effect)	Student motivation	0.24	0.05	5.22	0.000	Reject Ho	Significant

Level of Significance: 0.05

Decision Rule: Reject Ho if $p < 0.05$

The table specifically shows that the direct effect of student preparedness to learn on student motivation, controlling for parental involvement, was estimated at 0.193. The corresponding p-value of 0.000, which is less than the 0.05 level of significance; hence, the null hypothesis was rejected. This indicates that the direct effect of student preparedness on student motivation, controlling for parental involvement, is significant. Moreover, the indirect effect of student preparedness on student motivation, controlling for parental involvement, was estimated at 0.05. The corresponding p-value of 0.032, which is less than the 0.05 level of significance; hence, the null hypothesis was rejected. This signifies that the indirect effect of student preparedness to learn on student motivation, controlling for parental involvement, is significant.

Lastly, the total effect of student preparedness to learn on student motivation, controlling for parental involvement, was estimated at 0.24. The corresponding p-value of 0.000, is less than the 0.05 level of significance; hence, the null hypothesis was rejected. This indicates that the total effect of student preparedness to learn on student motivation, controlling for parental involvement, is significant.

The findings reveal that both the direct and indirect effects of student preparedness on student motivation are significant, even when parental involvement is taken into account. This indicates that parental involvement partially mediates the relationship, as the effect of student preparedness on motivation remains significant, both directly and through the mediator.

Summary of Findings

Based on statistical results, it was specifically found that:

1. Student preparedness to learn and parental involvement significantly correlate with students' motivation.
2. The direct effect of student preparedness to learn on student motivation, controlling for parental involvement, is significant.

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3. The indirect effect of student preparedness to learn on student motivation through parental involvement is significant.
 4. The total effect of student preparedness to learn on student motivation is significant.

IV. DISCUSSIONS

Discussed in this section are the findings of the study. The conclusion and recommendations are also presented.

Student Preparedness and Student Motivation

The finding that student preparedness to learn has a moderately low, significant correlation with student motivation supports the idea that student academic readiness and prior learning experiences are positively associated with motivation, but the relationship remains moderate due to the influence of other contextual factors (Wild & Neef, 2023). Similarly, this current finding corroborates the study of Lee and Kim (2024), emphasizing that while preparedness factors such as study habits and prior knowledge significantly relate to student motivation, their effect is not strong, suggesting that additional variables, such as support systems and the learning environment, also play a crucial role. However, the current finding disputes Navarro (2023), who found that preparedness-related factors do not always significantly influence motivational outcomes. Navarro's study included only 122 respondents, whereas the current study included 218.

Parental Involvement and Student Motivation

The finding that parent involvement has a moderately low, significant correlation with student motivation confirms that while parental support contributes to motivation, its influence may be limited when other factors are present. External support, including parental involvement, positively relates to student motivation but may yield only modest effects depending on students'

intrinsic factors (Benabou & Tirole, 2023). On the contrary, this current finding challenges Garcia and Weiss (2024), who reported that parental involvement can strongly influence student motivation when consistently aligned with students' academic needs, suggesting that its impact varies across contexts. The study by Garcia and Weiss involved 202 respondents, whereas the current study has a larger sample of 218.

Student Preparedness and Student Motivation as Mediated by Parental Involvement

The finding of this study that parental involvement significantly demonstrates moderate mediation of the correlation between student preparedness to learn and motivation in Mathematics of ARAL Program substantiates the study of Bongco (2023), who found that parental involvement indirectly strengthens student motivation by supporting their learning behaviors and academic engagement. Moreover, the current finding verifies the idea that family support mechanisms, including parental involvement, contribute to student motivation by reinforcing the effects of individual academic readiness, indicating a mediating influence in the learning process (Datu & Bernardo, 2024). In contrast, the current finding argued Sengco (2024), who found that parental involvement has a limited effect, being linked to academic motivation but not to self-concept, suggesting its influence varies by context. The Sengco study involved 198 respondents, whereas the current study included 218.

V. CONCLUSION

Based on the findings, it is concluded that parental involvement partially and moderately (24%) mediates the correlation between student preparedness to learn and student motivation. Thus, the Social Cognitive Theory, which demonstrates the dynamic interaction among personal, behavioral, and environmental components in shaping learning outcomes, was partially affirmed.

VI. RECOMMENDATIONS

Based on the conclusion, the following are recommended:

1. Future studies may utilize other variables as mediators to account for the remaining 76% of the variance in the mediating strength of parental involvement.
2. School leaders may strengthen efforts and allocate resources to parental involvement to enhance the impact of student preparedness on student motivation.

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