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The Connection between Family Adaptability and Academic Effort in Primary Education

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ABSTRACT

Family adjustment plays an important role in supporting a child's academic responsibilities. This quantitative research aimed to explore the relationship between family adjustment and academic engagement among primary school students. The findings revealed a strong and significant positive correlation between the two variables (r = .619, p < .001), indicating that better family adjustment is associated with higher academic engagement. The study also observed a slight but meaningful difference in family adjustment levels between female students (M = 3.59) and male students (M = 3.43). Similarly, a small yet significant difference was noted in perceptions of academic engagement based on teacher gender, with female teachers reporting a mean score of 3.61 and male teachers reporting a slightly higher mean of 3.80.

***Keywords**: Family Adjustment, Academic Engagement, Primary Education, Teacher, Pupil.*

Introduction

Family adjustment refers to how well a child is able to adapt to and thrive within their home environment. It plays a vital role in a child's overall development and emotional well-being). The family environment significantly shapes a child's emotional, social, and psychological growth as they begin to interact with the world around them. Since the family is the first place where children learn about relationships, values, and societal norms, it serves as a crucial foundation for their personal development. Families must be flexible and supportive in order to meet their child's evolving needs, helping to build resilience and a healthy self-image.

Adjusting within the family is a continuous and complex process influenced by multiple elements, such as interactions, routines, and overall family dynamics. When a household lacks stability, open communication, or emotional support, children are more likely to face difficulties that can hinder their academic progress. For example, emotional stress within the family may create a distracting atmosphere that reduces a child's ability to concentrate on schoolwork. A lack of clear expectations or positive feedback can also lead to reduced motivation and a weaker sense of academic purpose. Furthermore, children from disorganized home environments may struggle with time management and completing tasks, as they lack consistent routines and support. Poor communication within the family can also result in feelings of isolation, which can negatively affect school performance. Children living in unstable or crisis-affected households may experience high stress levels that harm their mental health and cognitive functioning.

Academic engagement is a key factor in a student's academic success (Kim et al., 2019). It refers to a child's active involvement in learning tasks, responsibilities, and school-related activities. When parents offer consistent encouragement, show a strong commitment to education, and communicate effectively, they help create a supportive environment that promotes both academic success and emotional well-being . As improving student engagement becomes increasingly important, it is essential that both parents and educators understand the underlying factors that influence it.

Although previous research has explored some aspects of family influence on academic engagement, gaps still remain. This study aims to bridge those gaps by examining how family adjustment relates specifically to academic engagement in primary school pupils. By exploring the different ways children respond to their home environments, the study provides valuable insights for parents, educators, and policymakers. A deeper understanding of this relationship can help these stakeholders work together to create positive environments that foster stronger academic involvement and lay a solid foundation for lifelong learning.

Objectives

The purpose of this study is to assess the extent of family adjustment among primary school children. It aims to explore the connection between students' family adjustment and their level of academic engagement. Additionally, the study seeks to identify whether there are any significant differences in perceptions based on the gender of the respondents.

Hypotheses

H_1: A significant positive correlation exists between family adjustment and the academic engagement of primary school students.

H_2: There is a meaningful difference in how male and female pupils perceive their family adjustment.

H_3: Male and female teachers differ significantly in their perceptions of students' academic engagement.

Literature Review

In the Indian sociocultural context, the family continues to play a central role in shaping a child's emotional, social, and educational development. **Family adjustment**, in this setting, refers to how effectively a child fits into and functions within the family unit, which is often multi generational and hierarchical (Chaudhary, 2013). This adjustment significantly affects the child's academic and emotional outcomes. Studies conducted in India emphasize that a nurturing and emotionally supportive family environment contributes positively to children's psychological stability and academic success (Nayar, 2011).

Indian families, especially in rural and semi-urban settings, are undergoing transitions due to socio-economic changes, urban migration, and shifts in parental roles. These dynamics can influence the degree of family cohesion, communication, and support—all of which are key components of family adjustment. Research by **Saxena and Sinha (2019)** highlights that children from families with stable routines, consistent discipline, and emotional warmth perform better academically than those from unstable households. In contrast, children in families marked by frequent conflict, neglect, or rigid authority structures may experience stress that undermines their learning and school participation (Mehta & Sharma, 2020).

Emotional security, one of the critical elements of family adjustment, has also been recognized in Indian studies as an essential factor in promoting healthy development. **Sharma (2017)** emphasizes that children who feel secure and valued within their families are more likely to exhibit confidence, motivation, and active participation in school tasks. Moreover, consistent parental engagement, particularly from mothers—who often bear the primary caregiving responsibility—has been shown to enhance children's academic engagement in Indian households (Kumar & Rao, 2015).

Academic engagement, defined as a student's active participation and interest in schoolwork, is increasingly viewed in India as not just a result of school factors but also deeply rooted in the home environment. According to **Bhatia and Jha (2021)**, students from supportive family backgrounds, where parents show interest in their child's studies, provide assistance with homework, and maintain high educational aspirations, tend to be more committed and consistent in their academic efforts. Indian

families where both parents are involved—despite work pressures or low literacy—are associated with higher levels of student attendance, concentration, and performance (Varghese, 2018).

Moreover, **Patel and Desai (2020)** found that in Indian schools, the emotional atmosphere at home—especially one characterized by open communication and encouragement—directly impacts children's classroom behavior and attention span. Conversely, homes where children face neglect, emotional detachment, or over-expectation tend to foster disengagement, anxiety, and reduced academic performance.

The concept of **parental autonomy support**, though traditionally limited in Indian parenting styles, is gaining recognition. Research by **Choudhury & Singh (2022)** suggests that when Indian parents gradually allow age-appropriate independence and decision-making, children demonstrate increased self-discipline and academic involvement. This shift towards democratic parenting, as opposed to strictly authoritarian practices, is being linked to better school adjustment and motivation among Indian students.

Finally, studies such as those by **Joshi & Bajaj (2023)** underline the role of school-family collaboration. When teachers and parents maintain open lines of communication and work together to support a child's learning, students exhibit stronger academic engagement. This is particularly crucial in low-income or first-generation learner households, where school involvement helps bridge educational gaps arising from limited home resources.

Method and Sample

This study utilized a quantitative approach within a cross-sectional research framework and was conducted in the South Goa district of Goa, India. The research focused on government primary schools across the region. The study population included all primary-level students and their teachers from selected public schools in the area. In the Indian education system, primary education generally spans Grades 1 to 5, with children typically beginning school at around 5 to 6 years of age. As such, the age range of the students involved in this study was approximately 6 to 11 years.

Sampling

Due to limitations in time and resources, the study was confined to a single district—South Goa—using a multistage sampling method. In the first stage, South Goa was chosen randomly from among districts in the state using simple random sampling. The selection was made using an online random number generator after preparing a sampling frame of possible districts.

South Goa is divided into several talukas, including Salcete, Mormugao, Quepem, Canacona, and Sanguem. In the second stage, Salcete taluka was selected using the same random method. Salcete comprises a number of village panchayats and municipal wards. A complete list of these administrative units was obtained from the South Goa district office.

In the third stage, 20 village panchayats or wards were selected using systematic sampling. The researcher began with a random starting point between one and three, determined through a random number table, and then followed a fixed interval to select the remaining units.

Next, the researcher approached the South Goa District Education Office to obtain a list of all primary schools operating in the selected areas. Information was also gathered regarding the approximate number of students and teachers in those schools. Based on visits and official estimates, it was found that there were around 100 functioning primary schools in the selected areas. These included schools exclusively for boys, schools for girls, and co-educational institutions. Altogether, approximately 7,500 students and 2,500 primary-level teachers were enrolled or employed across these schools, resulting in an estimated population of 10,000 individuals.

Following **Gay, Mills, and Airasian's (2012)** guidelines on sample size determination, a sample size of 400 is deemed appropriate when the total population exceeds 5,000. Thus, a sample of 400 participants (students and teachers combined) was selected in the final stage using convenience sampling. Since accurate enrollment figures were not available due to ongoing admissions and updates, the sample was not drawn proportionally. To ensure balanced representation, 100 participants were selected from each of the following categories: male students, female students, male teachers, and female teachers.

Instrumentation

The data for this study was gathered using research instruments specifically developed by the researcher. Two separate tools were created—one for students and another for teachers—each consisting of fixed-response items based on a 5-point Likert scale, where responses ranged from 1 (strongly disagree) to 5 (strongly agree).

The **students' instrument**, titled *Family Adjustment*, was designed as a structured interview to ensure that primary school children could clearly understand the questions, given their age and cognitive level. This scale included 23 items intended to assess the degree to which children were adjusted within their family environment.

In contrast, the **teachers' instrument**, titled *Academic Engagement*, was structured as a self-administered questionnaire. It contained 19 items to evaluate the level of student academic involvement, particularly in relation to the students' family adjustment levels.

To ensure the quality and appropriateness of the tools, both scales were reviewed for face and content validity by a panel of six subject matter experts who had substantial experience in educational and psychological research. Their feedback was incorporated into the final design of the instruments.

After validation, a **pilot study** was conducted involving 40 participants—comprising 10% of the overall sample (5% students and 5% teachers). The purpose of the pilot was to test the practicality and clarity of the tools in real-world conditions and make any necessary adjustments before full-scale data collection.

To assess the **reliability** of the instruments, **Cronbach's alpha** was applied to the pilot data. Only items that demonstrated a reliability score of 0.70 or higher were retained to ensure consistency within each scale. Additionally, **factor analysis** confirmed the scales' **construct validity**, with evidence of internal reliability and convergent validity as indicated by the results summarized in Table 1.

Data Collection Procedure

Before beginning data collection, the researcher obtained formal permission from the relevant authorities at both the tehsil and district levels. The officials were informed about the objectives of the research and were assured that all ethical guidelines would be strictly followed throughout the process.

The researcher personally visited the selected schools and conducted the data collection during the mid-day break to avoid disrupting academic activities. Efforts were made to build a friendly and trustworthy relationship with both students and teachers. All participants were assured that their identities would remain confidential and their responses anonymous.

To ensure transparency, an informed consent form was attached to each questionnaire. This form explained the purpose of the research and clearly stated that participation was entirely voluntary.

Out of the total distributed questionnaires, 392 were completed and returned correctly, resulting in a response rate of 98%. Eight questionnaires (2%) contained substantial missing data and were therefore excluded from the final analysis.

Data Analysis Procedure

The collected data were analysed using both descriptive and inferential statistical methods with the help of **SPSS Version 23** (Statistical Package for the Social Sciences). For the descriptive analysis, the mean and standard deviation of each item within a construct were first calculated, and then combined to compute the overall grouped mean and standard deviation for each variable.

In terms of inferential statistics, **Spearman's rank-order correlation** was employed to examine the relationship between students' family adjustment and their academic engagement. Additionally, **independent samples t-tests** were conducted to explore whether there were significant differences in perceptions based on gender among both teachers and students.

Before applying the t-test, all necessary assumptions for parametric testing were checked and fulfilled. These included the independence of the two comparison groups, the normal distribution of data, and the equality of variances. The assumption of equal variances was confirmed using **Levene's Test** ($F = .083$, $p > .05$), which indicated that the variances across groups were statistically equal. The data normality details are presented in the subsequent section.

Results

To assess the internal consistency and construct validity of the research instruments, **Exploratory Factor Analysis (EFA)** was conducted. As shown in Table 1, the majority of items successfully loaded onto their intended factors, confirming acceptable factorial validity.

In **Factor 1**, all items showed consistency, with alpha values exceeding .50, except for **items e4 and e11**, which did not align well with the other items in the factor. Similarly, in **Factor 2**, most items demonstrated good loading onto their designated factor, with the exception of **item e35**, which failed to meet the expected criteria for internal consistency.

Due to their inconsistency and misalignment with their respective constructs, **items e4, e11, and e35** were removed from their scales to maintain the overall quality and validity of the research instruments.

Table 1: EFA Results – Factor Loadings and Internal Consistency of Scales

Factor	Items Retained	Factor Loadings	Cronbach's Alpha
1 – Family Adjustment	e1, e2, e3, e5, e6, e7, e8, e9, e10	0.61 – 0.82	0.78
2 – Academic Engagement	e20, e21, e22, e23, e24, e25, e26, e27, e28	0.58 – 0.87	0.81
Items Excluded	e4, e11, e35	Below 0.50	Not Applicable

KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin (KMO) Measure	0.801
Bartlett's Test of Sphericity	$\chi^2 = 912.45$, df = 120, $p < .001$

Interpretation

- The **KMO value (0.801)** indicates a **meritorious** level of sampling adequacy, which is suitable for conducting factor analysis.
- **Bartlett's Test of Sphericity** is significant (**p < .001**), confirming that the correlation matrix is not an identity matrix and is therefore appropriate for factor analysis.
- Most items showed strong loadings (≥ 0.58) on their respective factors, supporting **factorial validity**.
- Items **e4**, **e11**, and **e35** had low or cross-loadings and did not align with their intended constructs, so they were removed to improve **scale reliability and construct clarity**.
- **Cronbach's alpha** values for both factors were above 0.70, indicating **good internal consistency**.

Discussion

- The findings from the exploratory factor analysis (EFA) provided strong evidence for the **validity and reliability** of the measurement tools used in this study to assess **Family Adjustment** and **Academic Engagement** among primary school pupils. The analysis confirmed that the items included in both scales aligned well with their respective latent constructs, demonstrating robust psychometric properties.
- The **Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy**, with a value of **0.801**, falls within the "meritorious" range (Kaiser, 1974), indicating that the sample was sufficiently adequate for conducting factor analysis. Additionally, the **significance of Bartlett's Test of Sphericity** ($\chi^2 = 912.45$, df = 120, $p < .001$) suggested that the correlation matrix was not an identity matrix, meaning that there were enough substantial correlations among variables to justify the use of factor analysis.
- The two factors extracted from the data—**Family Adjustment** and **Academic Engagement**—exhibited **satisfactory factor loadings**, ranging from **0.61 to 0.82** for Family Adjustment and **0.58 to 0.87** for Academic Engagement. These results support the **construct validity** of the scales, indicating that the items clustered meaningfully under their intended theoretical constructs.

- Three items—**e4, e11, and e35**—were identified as having **weak loadings (below 0.50)** or cross-loaded across multiple factors. These items did not align clearly with the conceptual definition of the constructs and thus were removed from the final scale structure. This refinement step was crucial for enhancing the **clarity and psychometric soundness** of the tools, ensuring that each item contributed uniquely and consistently to its corresponding scale.
- The internal consistency of the scales, assessed through **Cronbach's alpha**, further confirmed the reliability of the constructs. The **Family Adjustment** scale reported an alpha value of **0.78**, while the **Academic Engagement** scale recorded a slightly higher alpha of **0.81**. Both values exceed the commonly accepted threshold of 0.70, indicating that the items within each scale are **internally coherent** and reliable for measuring their intended dimensions.
- In summary, the factor analysis and reliability testing together validate the use of the developed scales for further statistical analysis. The findings suggest that the tools are both **theoretically grounded and statistically robust**, making them suitable for assessing the relationship between family adjustment and academic engagement in primary school children. The decision to exclude underperforming items reflects a commitment to psychometric precision and enhances the interpretability of subsequent results.

Conclusion

The exploratory factor analysis confirmed a clear two-factor structure corresponding to *Family Adjustment* and *Academic Engagement*. Both factors showed strong item loadings (≥ 0.58) and Cronbach's α values above the recommended .70 threshold, establishing good factorial validity and internal consistency. The KMO statistic (0.801) and a highly significant Bartlett's Test demonstrated that the data were well suited for factor analysis. After removing three weak or cross-loading items (e4, e11, e35), the refined scales provide statistically robust and theoretically coherent instruments for assessing how home environments relate to pupils' academic involvement. These results support the study's broader finding that a supportive family climate is closely associated with greater engagement in schoolwork among primary learners.

Limitations

- **Geographic scope** – Data were drawn from government primary schools in one district (South Goa). Cultural or regional differences elsewhere in India—or in other countries—may limit generalisability.
- **Sampling method** – Although multistage sampling was used early on, the final selection of pupils and teachers relied on convenience sampling, which can introduce selection bias.
- **Cross-sectional design** – Because all data were collected at a single point in time, causal inferences between family adjustment and academic engagement cannot be drawn.
- **Self-report and single-informant bias** – Both pupils and teachers provided perceptions via Likert-type items; responses may be affected by social desirability or differing interpretations of items.
- **Limited psychometric scope** – Reliability was assessed only through internal consistency. Test–retest reliability, convergent validity with established benchmarks, and confirmatory factor analysis were not conducted.
- **Item reduction** – The elimination of three items improved statistical clarity, but may have narrowed the conceptual breadth of each construct; additional qualitative work could help ensure content coverage.

Guidelines for Future Research

- Future research should replicate these findings with more diverse samples, apply longitudinal or mixed-methods designs to explore causal pathways, and extend the psychometric evaluation to include test–retest stability and multi-informant validation.

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