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RESEARCH ARTICLE

Educational Big Data Analytic – A Mediation Analysis of the Covariates of Academic Performance

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ARTICLE INFO	ABSTRACT
	Family issues have been acknowledged a common challenge faced by students, with a significant impact on academic performance among the students. However, the world statistics revealed a decline in student's academic performance due to the increasing number of family issues and these causes are possibly linked to educational and individual factors in each student, affecting student's academic performance. This study investigates the influence of family-related factors on students' academic performance, focusing on parental socioeconomic status, mental health, distance from home to school, and environmental factors such as the place they lived. The educational big datasets were collected from ICPSR's National Longitudinal Study of Adolescent to Adult Health (>90,000 respondents, 42 datasets) in analysing family issues and its impacts on education, and statistical analyses were used to identify and examine the significant associations between these factors and academic outcomes. Three most relevant datasets between SPSS are used to analyse the correlation between academic performances with various factors. IBM SPSS 23.0 and macro PROCESS 4.2, and statistical analyses were used to identify significant associations between these factors and academic outcomes. The findings suggest that students of higher socioeconomic backgrounds, with better mental health, living closer to the school and in more developed countries tend to have better academic performance. Besides, negative correlation was found between mental health and academic performance. These findings are believed to provide important insights for the complex relationship between family-related factors and academic performance, contributing to better understanding and concerns about factors that affect students' academic success for educators and researchers.

INTRODUCTION

Assessing students' academic achievement is a crucial aspect of evaluating their performance and educational progress. It serves as a vital indicator of a student's knowledge, skills, and abilities acquired through academic coursework, and is often used to measure their level of understanding in various subjects. CGPA, also known as Cumulative Grade Point Average, is commonly used to evaluate a student's overall academic achievement. The CGPA is calculated by averaging the GPA of a student for each semester and dividing it by the total number of credits [1]. In this research, we found that academic performance of a student is a product of socio-economic, psychological, family involvement and environmental factors.

Family is one of the most significant social institutions, and its impact on children's academic performance cannot be underestimated. Hence, there are many factors that influence a student's academic performance, such as parental involvement, parent support, as well as family expectations. Nevertheless, the relationship between socioeconomic status and academic performance may depend on the social, economic, and cultural states. Therefore, the relevance of this relationship may not be adequately captured by a single study. To overcome this case, a meta-analysis is conducted between socioeconomic status and academic success using samples from all around the nation is necessary.

Next, the socioeconomic level of parents has a significant impact on children's academic performance and there are several factors that affect such as students' attendance, academic performance, and career goals. Based on research, it states that students from high socioeconomic status have better educational attainment while students from low socioeconomic status families have worse educational attainment [2], [3]. This is because parents who have attained higher levels of education have access to better employment opportunities, which may lead to a higher socioeconomic status, and consequently, they are more likely to ensure their children receive high-quality education [4]. The article indicates that families with a lower socioeconomic status encounter more difficulty in providing their children with high-quality education due to several challenges such as financial limitations, resource scarcity, and restricted prospects [5].

Focusing our eye to China, a study states that education serves as a fundamental means of improving the overall quality of a nation's population, and early childhood education lays the groundwork for cultivating a high-quality workforce. In addition, it states that educational inequality can arise from institutional structures that facilitate or hinder the impact of families with varying socioeconomic backgrounds on educational opportunities [6]. As a result, analyzing the relationship between family background and academic performance has become an important measure for evaluating educational equity.

Despite the advancements and success of our modern era, many students struggle with mental health issues due to the high level of pressure and expectations placed upon them in their academic pursuits. The intense competition and rigorous demands of today's educational system may lead to feelings of stress, anxiety, and even depression. Furthermore, transition to college life, being away from family and friends, and changing to a new environment can exacerbate students' mental health concerns. To ensure college students' well-being and academic achievement, it is critical to identify and address the underlying causes of these issues. According to the study conducted by Anwar [7], it is important to maintain a positive mental health for someone to stabilize their behaviors, emotions and thoughts. While nurturing mental health doesn't just help students to cope with daily stress in life, it could also help students to improve their self-esteem for greater learning desire and productivity. As reported by Bas [8], adolescents with good mental health are likely to have better academic achievement than those who display poor mental health [8].

In a nutshell, environmental factors will have an impact on a students' school performance, and where they live will play an important role in this. According to Mim [9], one of the most

significant barriers to academic success students face is the distance between their homes and their schools [9]. Besides, students' academic performance is not only affected by distance between their homes and schools, but also affected by other factors, such as their background, place of origin, and family circumstances. As stated by Yigermal [10], the academic performance of the students was significantly related to various factors, such as the previous academic experience of the students, study hours, their engagement in alcohol and chat activities, and their academic performance [10].

Problem Statements

Academic performance is an important component of a student's life because it affects their future possibilities and opportunities. Despite the tremendous efforts of educators and students alike, academic performance frequently falls short of expectations, and this can be related to a variety of factors, such as poor mental health, a lack of motivation, and insufficient parental involvement.

Firstly, the study concludes that there is a considerable relationship between students' mental health and academic achievement. The study's findings showed that mental health is negatively correlated with academic achievement factors. For example, students with good mental health performed well in their academic, whereas students with poor mental health had poorer academic achievement [11]–[15]. Besides that, there is a study that is also being conducted to investigate the association between mental health, self-efficacy, and academic performance. The study discovered that self-efficacy was a major predictor of the outcome. For example, students with poor mental health had less self-efficacy and performed poorly in academic achievement [16]. Other than that, another study made use of information from a longitudinal birth cohort of 1700 kids. It showed that the mother's assessments at the age of three and the child's self-reports at the ages of 12 and 20 were used to assess the child's mental health. Based on teacher comments on educational results at age 12, as well as final grades from obligatory and upper secondary school at ages 15–16 and 18–19, respectively, academic achievement was assessed [11]. According to a study conducted by Healthy Minds Study [17] that has collected data from 373 campuses across the United States, the results showed that more than 60% of college students satisfied the threshold for at least one mental health concern during the 2020 to 2021 academic year [18].

Next, lack of motivation is also considered a factor affecting a student's academic performance. The study by Foong et al. [19] shows that motivation, is especially intrinsic motivation, positively correlated with academic performance. Other studies also found that motivation was positively related to academic performance [15], [19]–[23]. However, students often lose academic motivation during their studies due to their lack of interest in the subject matter. Not only that, but they also lack a proper, supportive learning environment and efficient teaching methods [24]. To enhance and encourage the student's academic motivation, Mauliya et al. [24] advised to provide a positive learning environment, improve student self-esteem, and implement effective teaching methods to promote student motivation toward learning. Foong et al. [19] also suggested that the teacher should provide more opportunities for students to develop the self-determination theory which is autonomy, mastery, and purpose to improve the motivation of students. Other than that, Ajileye [20] suggested that the parent-teacher collaboration should be encouraged to allow them to participate in the challenges the students face and provide positive feedback in time. Yahya et al. [23] discovered that parental support and achievement motivation were positively associated with academic performance, showing the importance of parent involvement in their children.

Lastly, insufficient parental involvement can also affect a student's academic performance. According to Bennner and Quirk [25], the research showed that 89% of parents attended a parent-teacher conference in 2016. However, the study shows a declining rate of parent-teacher conferences, helping with homework and communicating with teachers outside of a

conference since then. In 2018, only 61% of parents reported attending a parent-teacher conference. The study conducted by Lara and Saracostti [26] found that parental involvement is positively associated with students' academic performance, especially in lower-income families. Hence, parents' involvement in academic activities is a crucial factor on students' academic performance. Additionally, based on the study by Esperance [27] found that parents who attend school meetings, help with their children's homework as well as having regular communication with teachers will have children who can achieve better academic achievement. On the other hand, parental support is a critical influence to students' academic achievement. Last but not least, the study by Yahya et al. [23] also found that students with positive parental support may result in higher academic achievement and interest, whereas parents with poorer parental involvement may have lower academic achievement.

Conceptual Framework

This study proposes a conceptual framework based on the literature review in the previous sections. Hypotheses are developed according to the conceptual framework as follows:

H1:   Family background correlates positively with academic performance.

H2:   Sport correlates positively with academic performance.

H3:   Mental health correlates negatively with academic performance.

H4:   Sport mediates the relationship between family condition and academic performance.

H5:   Mental Health mediates the relationship between family background and academic performance.

H6:   Family condition correlates positively with academic performance.

H7:   Family condition mediates the relationship between habit and academic performance.

H8:   Family condition mediates the relationship between family background and academic performance.
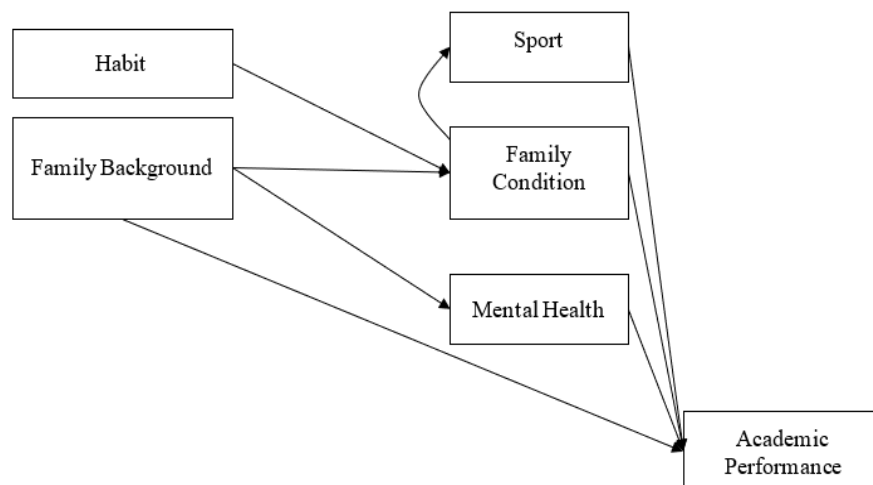
Figure 1. The research conceptual framework.

LITERATURE REVIEW

Family Condition

Academic performance was specifically positively affected by family support in the form of homework monitoring, emotional support, and communication. A study by Mim [9] states that the relationship between the distance a student lives from their house and their academic performance. The study also emphasizes that distance from home to school is not the only factor influencing academic achievement, but that additional issues such as transportation difficulties, time management, and access to resources also play a role which can have a negative impact on academic performance. However, the article emphasizes the importance of considering the impact of distance from home on academic success when designing policies and interventions to support student achievement. Overall, the article suggests that reducing the distance between the home and school can have a positive impact on his academic success [9].

Not only that, according to several studies that have been conducted by various researchers, one of the factors that can heavily affect academic performance is being homeless. According to the study by Manfra [28], children facing homelessness often are accompanied by limited access to educational resources. Because of this, this can negatively impact academic achievement. Besides, another study also showed that children who experienced homelessness had worse academic performance than those who did not. This study also showed that attendance played an important key role in academic performance. Children who had stable housing had better academic performance because they tend to attend school regularly compared to those who did not [29]. Additionally, the other study also showed that children experiencing homelessness do attend schools but high-poverty schools. These schools often lack resources and have lower academic outcomes when compared to those with low to no poverty schools [30]. The study conducted by Mike Cassidy [31] showed that the proximity of homeless shelters to the school directly affects academic performance. It states that the closer the homeless shelter is, the greater the academic performance. Moreover, according to Ramakrishnan and Masten [32], homelessness issue directly affects students' academic performance. This is due to students who experience homelessness showing significant emotional and behavioral problems than other students who do not. Thus, this can lead to lower levels of mastery motivation and can impact their school readiness.

In addition, several studies indicated that students' academic performance varies depending on parental involvement during children's education. Those studies state that low parental involvement in students' education may lead to lower academic achievement among students [26], [33]–[35]. Aside from that, an article which was conducted by Lara and Saracostti [26] also mentioned that the students who were being supported and getting parents involved in their education usually behaved nicely with a stronger personality and attitude toward their education. Furthermore, a study conducted by Jackson [36] has shown a highly positive association between parental involvement and student academic performance. The author stated that parental involvement was crucial for education and significantly beneficial to the students, especially their academic performance. The author had also clarified that the meaning of parental involvement remained unclear due to inconsistent definition throughout the whole literature study, but it had been defined as students' parental aspiration, parental participation in students' education, as well as communication between parents and educators. In addition to what the author has found, the diminish of parental involvement in communication with educators might be the biggest concern to affect the effectiveness of keeping track of students' academic progress, leading to a lower academic performance of students. Besides that, Ding and Subadrah [34] observed that parental involvement can promote student's positive attitude towards their learning and social interaction skills in academics, allowing children to discover positive matters and hence improving their learning in academics. Therefore, it can be summarized that academic performance and parental involvement have a positive correlation. Moreover, another finding by Sujarwo and Herwin [35] was that parents played the biggest role in determining the students' academic

performance. To achieve the greatest learning outcome, parents should ensure themselves involved in supporting their children not solely economically, but emotionally as well during students' learning phase. An exceptional study by Susan [37] stated that there was in fact a positive association between parental involvement and academic achievement among middle grade students, students care for parental involvement. However, it only applied to home-based parental involvement, which is beneficial to students' academic achievements only if parents help the students at home but not in school.

Mental Health

Aside from that, several studies indicate a significant negative association between depression and academic achievement. Few studies discovered that students with higher levels of depression had worse CGPAs than those with lower levels of depression [11], [38], [39]. Other than that, there are also some studies found that the relationship between depression and academic performance was more significant among the female students than male students [11], [38]–[43]. According to the findings of the systematic review, the total pooled prevalence of depression was 27.5%, with higher rates among women (31.7%) compared to males (21.6%) [44]. The study highlights the importance of addressing mental health issues among university students, particularly depression, in order to improve academic performance. Furthermore, Juguilon [45] discovered that the academic performance of female students was more affected by family assistance than that of male students.

Sports

Other than family conditions and mental health, several recent studies have used longitudinal data to examine the relationship between the sport and academic achievement. According to Maciel et al. [46], sports practice has a good impact on student-athlete academic achievement and there is a positive association between study and athletics. In addition, another systematic review implemented meta-analyses to investigate the relationship between children and adolescents' participation in sports and scholastic achievement. The review concluded that participation in sports was linked to improved academic results [47]. Not only that, Khan et al. [48] also found that adolescents who performed well in terms of fitness were shown to succeed more in school. Besides, according to a study done at the University of Utah, the result shows that teenagers who participated in regular sports activities outperformed non-participants in terms of their academic performance [49]. However, several studies found that involvement in sports has no significant impact on student CGPA [50]–[52]. Moreover, a study had investigated how well students who participated in sports and physical exercise in primary and secondary school performed academically. The research discovered that there was no significant distinction in academic performance between student-athletes and non-athletes. Therefore, student-athletes participated in more physical activity and sports.

Habit

Other than the factors above, Kibona and Mgaya [54] discovered that those who always use their smartphones during class time are overly engaged in other activities besides studying. Furthermore, there are other results similar with the previous which were obtained by Fu et al. [55]. He has also noticed that the use of smartphones will affect academic performance, because using smartphones during class will disturb the students' attention and pull them away from listening class. Therefore, based on the studies of the researcher, phone addiction will have an impact on academic performance. Furthermore, according to Stancheva [56], statistics show that mobile devices have more than 75% of all video views and normal people will spend a total of 6 hours and 48 minutes watching videos per week. It proves that most people will prefer to watch a video on their mobile phone.

Not only that, Hegde et al. [57] conducted a quantitative study in which it was discovered that nearly 70% of 240 students aged 12 to 16 will not feel well due to the habit of using smartphones before going to sleep. For instance, 59% of students will have headaches when they wake up, and 53% will be unable to concentrate or feel sleepy in class. Furthermore, if students overuse of their smartphone can have a negative impact on their academic performance and activities related to academic performance, especially when students have more freedom in terms of time management and phone use at university [58]. Next, according to MacKay [59], he found that when people are stressed, they will check their Instagram for a few minutes to take their mind off things. MacKay [59] also mentioned that we will usually spend 3 hours and 15 minutes on our cell phones, including working, viewing videos, and other forms of entertainment. Besides that, we will check our phone screens 58 times per day on average. This research demonstrates how important the smartphone is to us in our daily life. Furthermore, according to researchers, the average score drops by one point for every percentage point increase in smartphone usage out of a total of 20 standard deviations [60]. Furthermore, Han and Yi [61] discovered that because we can use our smartphones 24/7, it becomes a distraction and a way for the younger generation to release stress, resulting in lower exam scores, which was correlated with video or the overuse of smartphones.

RESEARCH METHOLODY

The data were collected from ICPSR's National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994-2018 [Public Use] datasets in analyzing family issues and its impacts on education, and statistical analyses were used to identify and examine the significant associations between these factors and academic outcomes. The datasets (RM16: DS8 - In-Home data. DS16 - education data, DS17 - graduation data) are used and merged using SPSS, to analyze the correlation between academic performance with various factors (15 variables). The data analyses were conducted using IBM SPSS 23.0, the macro PROCESS 4.2 for mediation analysis. First, we calculated descriptive statistics and correlations between measures. For mediation analyses, we used the macro PROCESS with show total effect model, standardized effects, heteroscedasticity-consistent inference of none, decimal places in output of 4, mean center for construction of products of no centering, moderation and conditioning with probe interactions of "if p < 10" and conditioning values of 16th, 50th, 84th percentiles.

Figure 2 shows the steps in obtaining the cleansed sample data for research which referred to previous datasets from RM16: DS8 - In-Home data. DS16 - education data, DS17 - graduation data, with 135 variables and 3921 cases are finalized in the dataset for our research work. To obtain high quality and accurate data for research use, sample data elimination should be carried out. Firstly, we have to check for any missing value from the data. Missing or incomplete data occurs whenever data collected from surveys or studies is not related to the research, leading to biased or inaccurate results that affect the quality of the research work. If a missing value exists, the data will be replaced by 1 and will not be adopted into research. In cases where >10 missing variables, the respective case will be removed while the variables with more than > 10% missing value will be removed as well to avoid any potential criticism or skepticism regarding our research.

Table 1: Present Study Dataset Detail Variables.

| Category	ID	Dataset	Variable	Questionnaire
Habit	H3DA3	DS8	Watch Video	In the past seven days, how many times did you watch a movie, play video or computer games, or use a computer for surfing the Web, exchanging email, or participating in a chat room?
	H3DA6		Watch Tv	In the past seven days, how many times did you watch television?
Sport	H3DA11	DS8	Play Individual Sport	In the past seven days, how many times did you participate in individual sports such as running, wrestling, swimming, cross-country skiing, cycle racing, or martial arts?
Family Condition	H3HR2	DS8	Where Respondent Live at	Where do you live now? That is, where do you stay most often?
	H3HR23		Ever run away from home	[If Q.2=1, ask:] Have you ever run away from home? [If Q.2>1, ask:] Did you ever run away from home?
	H3HR25		Ever Stayed Homeless Shelter	Have you ever stayed in a homeless shelter?
	H3HR26		Parent Ever ordered to move out	[If Q.2=1, ask:] Have your parents ever ordered you to move out of their house? [If Q.2>1, ask:] Did your parents ever order you to move out of their house?
	H3MA2		Need not taken care	How often had your parents or other adult care-givers not taken care of your basic needs, such as keeping you clean or providing food or clothing?
Family Background	H3CJ160	DS8	Have biological father served time	Has your biological father ever served time in jail or prison?
	H3OD7A		Family Ancestry - 1st Country	What are your family ancestries? First country selected.
	H3OD7B		Family Ancestry - 2nd Country	What are your family ancestries? Second country selected.
Mental Health	H3SP8	DS8	Past 7 days trouble concentrating	You had trouble keeping your mind on what you were doing, during the past seven days.
	H3SP9		Past 7 days were depressed	You were depressed during the past seven days.
Academic Performance	EAOGPAC	DS16	Cumulative GPA Across All Years	Overall GPA for all courses taken in each year (EAOGPA1-6) and cumulatively (EAOGPAC).
	EAOFIXC		Overall Failure Index	Proportion of all courses that students failed in each year (EAOFIX1-6) and cumulatively (EAOFIXC).
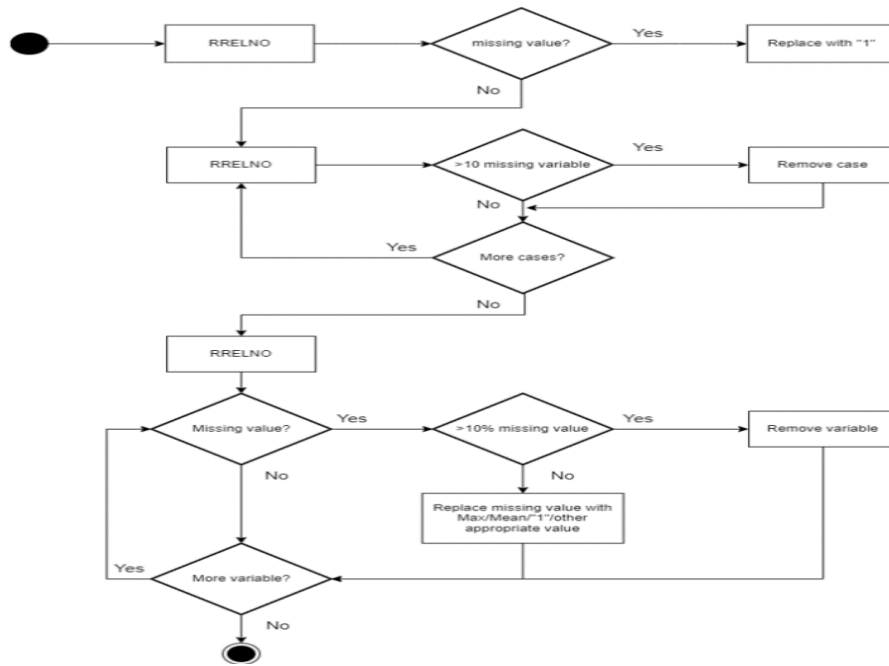
Figure 1: Dataset Cleaning and Transformation Process

RESULTS AND DISCUSSION

Preliminary Analysis

The descriptive statistics and correlations between measures are reported in Table 2. A significantly positive correlation between family background and academic performance ($r = 0.099$, $p < 0.01$) were found and analyzed based on Table 2. From the result, we can conclude that the hypothesis H1 is accepted. In the correlations among variables, academic performance was positively associated with the student's habit ($r = 0.087$, $p < 0.01$). From the result, it can be concluded that the hypothesis, H2, is accepted. Next, there was also a significantly positive correlation between the family condition and academic performance ($r = 0.142$, $p < 0.01$). It can be concluded that the hypothesis, H6, is accepted. However, there was an exception where the results show that mental health was significantly negatively correlated with academic performance ($r = -0.108$, $p < 0.01$). Our result, therefore, supports hypothesis H3

Table 2. Scale Means, Standard Deviation, Reliability Coefficients, and Correlations (N = 3921).

Variables	1	2	3	4	5	6
1. AP	-					
2. FB	0.099**	-				
3. SP	0.087**	0.093**	-			
4. MH	-0.108**	0.037*	-0.340*	-		
5. HB	0.041*	0.014	0.032*	-0.019	-	
6. FC	0.142**	0.007	0.000	-0.008	0.013	-

Note: AP = Academic performance; FB = Family Background; SP = Sport; MH = Mental Health; HB = Habit; FC = Family Condition. * $p < 0.05$; ** $p < 0.01$. Reliabilities are provided along the diagonal in italic format.

Mediation Analysis

To examine whether sport is a significant mediator of the associations between each family factor and academic performance (that is, Cumulative GPA Across All Years and Overall Failure Index), mediation analyses are performed and the result is presented in Table 3. The results show that family condition partially mediates the relationships between habit and academic performance (indirect effect = 0.000, 95% CI = [-0.001, 0.001]) or family background and academic performance (indirect effect = 0.000, 95% CI = [-0.000, 0.000]). Thus, hypothesis H7 and H8 were supported. Also, sport partially mediates the relationship between family condition and academic performance (indirect effect = 0.000, 95% CI = [-0.002, 0.003]). This result, therefore, supports hypothesis H4. In addition, mental health mediates the relationship between family background and academic performance. As a result, hypothesis H5 was supported.

Table 3. Unstandardized direct and indirect effects with bootstrapped 95% confidence interval for mediation analyses.

Predicator	Mediator	Dependent Variable	Direct Effect	Indirect Effect (95% CI)
FC	SP	AP	0.001	0.000 (-0.002, 0.003)
HB	FC	AP	0.014	0.000 (-0.001, 0.001)
FB	FC	AP	0.000	0.000 (-0.000, 0.000)
FB	MH	AP	0.000	0.000 (-0.007, 0.007)

Note: FC = Family Condition; FB = Family Background; HB = Habit; SP = Sport; MH = Mental Health; AP = Academic performance. Results based on 5000 bootstrap samples: CI—bias-corrected 95% confidence interval for the indirect effects. * p < 0.05.

DISCUSSION

The outcomes of this study suggest that student academic performance may be influenced by their family background, family condition, mental health, and involvement in sports. This is consistent with the findings of several studies that highlight the significant negative correlations between mental health and academic performance and the strong positive correlations between academic performance and family condition. The study shows a beneficial relationship between academic achievement, sport, and family background. It is undeniable that a student's family background has a significant impact on how well they perform academically. This is mainly because families often provide students with the resources they need as well as emotional and academic support.

The findings also demonstrate a positive correlation between students' participation in individual sports and academic achievement, fully supporting the second hypothesis (H2). The findings are consistent with several studies showing how playing sports improves memory and other cognitive functions in the brain [46]–[49].

Nonetheless, the findings demonstrate a negative association between mental health and academic achievement. This outcome was consistent with studies that highlight the inverse relationship between mental health and English proficiency [62]. As a result, the third hypothesis (H3) is confirmed. It suggests that a student's academic performance would drop if they experienced extreme anxiety, depression, or stress due to their poor academic performance. Consequently, sport can mediate the relationship between family condition and academic performance.

Moreover, the obtained results show a positive relationship of family condition and academic performance. In fact, students with stable family conditions and perceived greater parental support would have higher levels of academic motivation, which tended to perform better

academically. Several studies also agree on the indication of a positive relationship between family background and academic achievement [23], [63].

In addition, the findings emphasize the mediator role of mental health between family background and academic achievement, and other comparable studies also further highlight the conclusions that other elements including motivation are also considered [15]. Therefore, encouraging academic performance motivation may be a useful approach for enhancing academic achievement and potentially reducing student mental health issues.

CONCLUSION

This study was conducted with the purpose of determining and analyzing the family-related covariates that will affect the student's academic performance. With sufficient evidence to support this research work, it can be summarized on the few factors: sport, mental health, family background and condition toward academic performance have significant correlation with the students' academic performance. It can be perceived that family-related factors are undeniably the most influential to how the students could achieve academic success and keep their motivation on pursuing their knowledge during their learning period, followed by other factors such as sport and mental health which appealed to be less significant to students' academic performance. Therefore, parents hold a great responsibility in improving the students' academic performance and tremendous efforts should be made to help students achieve academic success. Firstly, the parents should create a supportive and healthy learning environment for students by setting a distraction-free space where students can concentrate on their learning, while constantly helping students whenever they are struggling with their homework. Besides, providing sufficient resources and needs for students is an essential step that should be taken by parents to encourage their motivation and let them stay focused on their studies. The students who are prepared emotionally or physically are usually equipped with greater confidence and personality compared to students who are not being provided needs for their education.

REFERENCES

[1] Team Leverage Edu, "Difference Between GPA and CGPA," Leverage Edu, Mar. 16, 2023.

[2] T.-H. Chiang, C.-W. Toh, R. Zhang, A. Thurston, and A. MacKenzie, "The embeddedness of visionary agency within the economic-cultural-capital formation: A case of Sino-Malaysian high school graduates," Int J Educ Res, vol. 112, p. 101946, 2022.

[3] W. Tomaszewski, N. Xiang, and M. Western, "Student engagement as a mediator of the effects of socio-economic status on academic performance among secondary school students in Australia," Br Educ Res J, vol. 46, no. 3, pp. 610–630, 2020.

[4] A. D. Silva, J. Vautero, and C. Usssene, "The influence of family on academic performance of Mozambican university students," Int J Educ Dev, vol. 87, p. 102476, 2021.

[5] A. Abid, A. Jan, I. U. Khan, A. Zeb, and M. Ahmad, "Role of parental socioeconomic status on their children's education at District Mardan of Khyber Pakhtunkhwa, Pakistan," Geografia, vol. 17, no. 2, 2021.

[6] Z. Li and Z. Qiu, "How does family background affect children's educational achievement? Evidence from Contemporary China," The Journal of Chinese Sociology, vol. 5, no. 1, pp. 1–21, 2018.

[7] B. Anwar, "The Importance of Mental Health," Talkspace, Nov. 24, 2021.

[8] G. Bas, "Relation between student mental health and academic achievement revisited: A meta-analysis," in Health and Academic Achievement-New Findings, IntechOpen, 2021.

[9] M. Mim, "EFFECT OF HOME DISTANCE ON CGPA," 2019.

[10] M. E. Yigermal, "Determinant of Academic Performance of Under Graduate Students: In the Cause of Arba Minch University Chamo Campus.," Journal of Education and Practice, vol. 8, no. 10, pp. 155–166, 2017.

[11] S. Agnafors, M. Barmark, and G. Sydsjö, "Mental health and academic performance: a study on selection and causation effects from childhood to early adulthood," Soc Psychiatry Psychiatr Epidemiol, vol. 56, pp. 857–866, 2021.

[12] I. B. Vedøy, S. A. Anderssen, H. E. Tjomsland, K. R. Skulberg, and M. Thurston, "Physical activity, mental health and academic achievement: a cross-sectional study of Norwegian adolescents," Ment Health Phys Act, vol. 18, p. 100322, 2020.

[13] V. Jeffries and M. S. Salzer, "Mental health symptoms and academic achievement factors," Journal of American College Health, vol. 70, no. 8, pp. 2262–2265, 2022.

[14] M. J. Duncan, K. A. Patte, and S. T. Leatherdale, "Mental health associations with academic performance and education behaviors in Canadian secondary school students," Can J Sch Psychol, vol. 36, no. 4, pp. 335–357, 2021.

[15] M. Uji and M. Kawaguchi, "Academic performance motivation: assessment and relationship to mental health and academic achievement," Psychology, vol. 12, no. 3, pp. 374–391, 2021.

[16] K. Grøtan, E. R. Sund, and O. Bjerkeset, "Mental health, academic self-efficacy and study progress among college students–The SHoT study, Norway," Front Psychol, vol. 10, p. 45, 2019.

[17] H. M. Network, "Healthy minds study among colleges and universities, year [HMS 2020-2021]." Healthy Minds Network, University of Michigan, University of California Los~…, 2021.

[18] S. K. Lipson et al., "Trends in college student mental health and help-seeking by race/ethnicity: Findings from the national healthy minds study, 2013–2021," J Affect Disord, vol. 306, pp. 138–147, 2022.

[19] C. C. Foong, P. Y. Liew, and A. J. Lye, "Changes in motivation and its relationship with academic performance among first-year chemical engineering students," Education for Chemical Engineers, vol. 38, pp. 70–77, 2022.

[20] O. B. Ajileye, "Nigerian Parents' and Teachers' Perceptions of Students' Study Habits, Motivation to Learn and Academic Performance," Trident University International, 2021.

[21] E. S. Alvarado, C. Adriatico, and others, "Reading motivation vis-s-vis academic performance," Open J Soc Sci, vol. 7, no. 06, p. 92, 2019.

[22] R. Trigueros, J. M. Aguilar-Parra, A. J. Cangas, R. Bermejo, C. Ferrandiz, and R. López-Liria, "Influence of emotional intelligence, motivation and resilience on academic performance and the adoption of healthy lifestyle habits among adolescents," Int J Environ Res Public Health, vol. 16, no. 16, p. 2810, 2019.

[23] I. O. Yahya, O.-S. Khadijah, and A. U. Adekunle, "Influence of Parental Support and Achievement Motivation on Academic Performance of Secondary School Islamic Studies Students in Lagos State," Journal of Applied Science, Engineering, Technology, and Education, vol. 4, no. 2, pp. 236–245, 2022.

[24] I. Mauliya, R. Z. Relianisa, and U. Rokhyati, "Lack of motivation factors creating poor academic performance in the context of graduate English department students," Linguists: Journal Of Linguistics and Language Teaching, vol. 6, no. 2, pp. 73–85, 2020.

[25] Benner M and Quirk A, "One Size Does Not Fit All," The Center for American Progress, Feb. 20, 2020. https://www.americanprogress.org/article/one-size-not-fit/ (accessed Apr. 04, 2023).

[26] L. Lara and M. Saracostti, "Effect of parental involvement on children's academic achievement in Chile," Front Psychol, vol. 10, p. 1464, 2019.

[27] I. ESPERANCE, "PARENTAL INVOLVEMENT AND ACADEMIC PERFORMANCE IN RWANDA," Mount Kenya University Rwanda, 2019.

[28] L. Manfra, "Impact of homelessness on school readiness skills and early academic achievement: A systematic review of the literature," Early Child Educ J, vol. 47, pp. 239–249, 2019.

[29] L. E. Stargel and M. A. Easterbrooks, "Children's early school attendance and stability as a mechanism through which homelessness is associated with academic achievement," J Sch Psychol, vol. 90, pp. 19–32, 2022.

[30] T. K. Dhaliwal, S. De Gregorio, A. Owens, and G. Painter, "Putting homelessness in context: The schools and neighborhoods of students experiencing homelessness," Ann Am Acad Pol Soc Sci, vol. 693, no. 1, pp. 158–176, 2021.

[31] M. Cassidy, "A closer look: Proximity boosts homeless student performance in New York City," 2020.

[32] J. L. Ramakrishnan and A. S. Masten, "Mastery motivation and school readiness among young children experiencing homelessness.," American Journal of Orthopsychiatry, vol. 90, no. 2, p. 223, 2020.

[33] M. Otani, "Relationships between parental involvement and adolescents' academic achievement and aspiration," Int J Educ Res, vol. 94, pp. 168–182, 2019.

[34] D. B. S. M. NAIR, "RESEARCH ON PARENTAL INVOLVEMENT AND CHILDREN'S LEARNING PERFORMANCE," International Journal of Research in Education Humanities and Commerce, vol. 03, no. 05, 2022.

[35] S. Sujarwo and H. Herwin, "Parental involvement and student achievement: A meta," analysis of publications in the scopus database. International Journal of Instruction, vol. 16, no. 2, pp. 107–124, 2023.

[36] L. B. Jackson, "Where Are The Parents? The Lack of Parental Involvement In Students' Academic Achievement," Scholar Chatter, vol. 3, no. 1, 2022.

[37] S. Szabo, "Parental involvement: It looks different for middle-school students," Delta Kappa Gamma Bulletin, vol. 85, no. 3, pp. 42–51, 2019.

[38] M. F. Khesht-Masjedi et al., "The relationship between gender, age, anxiety, depression, and academic achievement among teenagers," J Family Med Prim Care, vol. 8, no. 3, p. 799, 2019.

[39] S. Awadalla, E. B. Davies, and C. Glazebrook, "A longitudinal cohort study to explore the relationship between depression, anxiety and academic performance among Emirati university students," BMC Psychiatry, vol. 20, pp. 1–10, 2020.

[40] H. A. Razzak, A. Harbi, and S. Ahli, "Depression: prevalence and associated risk factors in the United Arab Emirates," Oman Med J, vol. 34, no. 4, p. 274, 2019.

[41] K. Cheung, K. Y. Tam, M. H. Tsang, L. W. Zhang, and S. W. Lit, "Depression, anxiety and stress in different subgroups of first-year university students from 4-year cohort data," J Affect Disord, vol. 274, pp. 305–314, 2020.

[42] S. Asif, A. Mudassar, T. Z. Shahzad, M. Raouf, and T. Pervaiz, "Frequency of depression, anxiety and stress among university students," Pak J Med Sci, vol. 36, no. 5, p. 971, 2020.

[43] S. H. Hamaideh, H. Al-Modallal, M. Tanash, and A. Hamdan-Mansour3, "Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and" home-quarantine"," Nurs Open, vol. 9, no. 2, pp. 1423–1431, 2022.

[44] L. Gao, Y. Xie, C. Jia, and W. Wang, "Prevalence of depression among Chinese university students: a systematic review and meta-analysis," Sci Rep, vol. 10, no. 1, pp. 1–11, 2020.

[45] I. D. Juguilon, "Impact of Family Support System in the Academic Performance of Grade 3 Pupils at a Public Elementary School in Rizal, Philippines," International Journal of Multidisciplinary: Applied Business and Education Research, vol. 4, no. 1, pp. 174–187, 2023.

[46] L. F. P. Maciel, G. O. Farias, E. J. Dallegrave, M. C. Flach, J. V. do Nascimento, and A. Folle, "Sports and school involvement and performance: a systematic review of literature,"

Retos: nuevas tendencias en educación f\'\isica, deporte y recreación, no. 47, pp. 12–24, 2023.

[47] K. B. Owen, B. C. Foley, K. Wilhite, B. Booker, C. Lonsdale, and L. J. Reece, "Sport participation and academic performance in children and adolescents: a systematic review and meta-analysis," Med Sci Sports Exerc, vol. 54, no. 2, pp. 299–306, 2022.

[48] F. Khan, K. Naseem, S. A. Ali, and R. Batool, "Sport participation and academic performance among medical students," Rawal Medical Journal, vol. 47, no. 4, p. 992, 2022.

[49] R. D. Burns, T. A. Brusseau, C. D. Pfledderer, and Y. Fu, "Sports participation correlates with academic achievement: Results from a large adolescent sample within the 2017 US National Youth Risk Behavior Survey," Percept Mot Skills, vol. 127, no. 2, pp. 448–467, 2020.

[50] M. M. I. Sabuj, R. K. Datta, M. N. Rafiq, and others, "The effect of extracurricular activities on the academic performance of the university students: Evidence from Hajee Mohammad Danesh Science and Technology University (HSTU), Dinajpur, Bangladesh," International Journal of Science and Business, vol. 2, no. 3, pp. 372–387, 2018.

[51] X. Guo, C. D. Meyerhoefer, and L. Peng, "Participation in school-sponsored sports and academic spillovers: new evidence from the early childhood longitudinal survey," Appl Econ, vol. 51, no. 15, pp. 1602–1620, 2019.

[52] J. Jakiwa, S. A. Atan, M. S. Azli, S. Rustam, N. Hamzah, and A. A. Zainuddin, "The Level of Sports Participation and Academic Success among Malaysian Student-Athletes," International Journal of Learning, Teaching and Educational Research, vol. 21, no. 6, pp. 122–137, 2022.

[53] E. R. Pestana, W. R. G. de Carvalho, L. A. de Menezes Nunes, F. de A. da S. Almeida Junior, and E. P. Salvador, "Sports practice and factors associated with school performance in grade and high school: comparison between athletes and non-athletes," Sport Sci Health, vol. 14, pp. 639–644, 2018.

[54] L. Kibona and G. Mgaya, "Smartphones' effects on academic performance of higher learning students," Journal of multidisciplinary engineering science and technology, vol. 2, no. 4, pp. 777–784, 2015.

[55] S. Fu, X. Chen, and H. Zheng, "Exploring an adverse impact of smartphone overuse on academic performance via health issues: a stimulus-organism-response perspective," Behaviour & Information Technology, vol. 40, no. 7, pp. 663–675, 2021.

[56] T. Stancheva, "24 Noteworthy Video Consumption Statistics [2023 Edition]," Techjury, Jan. 12, 2023. https://techjury.net/blog/video-consumption-statistics/ (accessed Apr. 16, 2023).

[57] A. M. Hegde, P. Suman, M. Unais, and C. Jeyakumar, "Effect of electronic gadgets on the behaviour, academic performance and overall health of school going children-a descriptive study," Journal of Advanced Medical and Dental Sciences Research, vol. 7, no. 1, pp. 100–103, 2019.

[58] N. S. Hawi and M. Samaha, "Relationships among smartphone addiction, anxiety, and family relations," Behaviour & Information Technology, vol. 36, no. 10, pp. 1046–1052, 2017.

[59] J. MacKay, "Screen time stats 2019: Here's how much you use your phone during the workday," RescueTime: Blog, Mar. 21, 2019. https://blog.rescuetime.com/screen-time-stats-2018/ (accessed Apr. 16, 2023).

[60] S. Baert et al., "Smartphone use and academic performance: correlation or causal relationship?" Kyklos, vol. 73, no. 1, pp. 22–46, 2020.

[61] S. Han and Y. J. Yi, "How does the smartphone usage of college students affect academic performance?" J Comput Assist Learn, vol. 35, no. 1, pp. 13–22, 2019.

[62]   H. Nur, "The Correlation of Students' Mental Health and English Learning Achievement," Indonesian Journal of Integrated English Language Teaching, vol. 8, no. 2, pp. 1–11, 2022.

[63]   M. Hsieh, "The Relationships Between Home-Based Parental Involvement, Study Habits and Academic Achievement among Adolescents," J Early Adolesc, vol. 43, no. 2, pp. 194–215, 2023.