The Impact of Family Type on Bhutanese Secondary Students' Academic Performance.

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Abstract

Family support has played an influential role in a child's development, particularly in education and learning. However, little research is undertaken in developing countries related to student academic achievement and their family type. This current study aimed to study the differences and similarities in students' academic achievement scores between broken and intact families. Family type in this study refers to either broken or intact. The broken family in this study has particular reference to children from divorced families only.

This study used a quantitative approach to collect information about children's family status, and a secondary source was used to collect the overall grade point average from respective schools. A total of 312 students participated in this study, and their age ranged from 11- 19 years. The findings showed that the Bhutanese Secondary students from broken families outperformed those living with both parents. There was a statistically significant mean difference of |28%| between the broken and intact families. The results of the Pearson correlation showed that there was no statistical relationship between academic achievement, gender, and age. However, a positive small-sized relationship was found between the family type and academic achievement |r=0.11, p=0.05|.

Similarly, after adjusting for 'age' as a covariate, a one-way analysis of covariance showed no statistically significant difference in academic score. The stream and the effect size was |η² = 0.001|.

Keywords— Academic Achievement, Family Type, Broken homes, Secondary students.

I. INTRODUCTION

The problem of the broken home has become a global phenomenon with multiple social, emotional, and psychological consequences. Bhutan, a country with a small population and resources constraints, needs to pay detailed attention to the undesirable implications of such social issues in raising a well-educated and potential future citizen. From the survey conducted by National Statistics Bureau (NSB) in 2013, the divorce rate in Bhutan was reported at 1.85%. However, in 2017 the national divorce rate was recorded at 2.4% (NSB, 2018), a rise of 0.55% in 4 years. Based on the data, Wangchuk and Zangmo (2019) reported the rising trend of a broken home as a severe cause of concern in Bhutan, which impedes many school-going children's learning and academic performances. Although

contextually relevant, the small sample size in their study and analytical constraint limits generalisation scope.

As a place for the family to settle and thrive, the home is the basic unit of society. Indeed, it is the fulcrum on which society revolves (Yahaya, 2012). The home influences the earliest possible time of a child's life by providing the first impression of the world, which may have a lasting impact on the whole life (Felisilda & Torreon, 2020). The child's initial education and socialization begin with significant family members, particularly the parents (Abrantes & Casinillo, 2020). The home is attributed as the child's first learning environment (Isa & Gaya, 2019).

Further, Bice et al. (2021) advocated that the family a person lives with has a close relationship with a person's achievements, attitude, attributes, honour, and

whole being. Therefore, the home as a residing place of the family plays a crucial role in the child's development, including academic achievement. The home, whether intact or broken, has multiple impacts on the development of a child. It has the potential to either promote or diminish a child's self-worth and academic performance (Felisilda & Torreon, 2020) and forms the basis of a child's success throughout school years and beyond (Organization for Economic Cooperation and Development [OECD], 2012).

While many studies are related to the family type and academic achievement, many studies were undertaken in developed countries (Abrantes & Casinillo, 2020; Bice et al., 2021; Yahaya, 2012). Also, past studies did not use age as a control variable, and children's subject (stream) was not considered for investigation. Therefore, this study aims to examine the impact of family type on the academic performance of secondary students in Bhutan, a developing country. The following questions and hypotheses formulated for study shall be tested:

1. Are there statistically significant differences in academic achievement scores by gender and family type?
   $H_0 1$: There is no significant difference in students' academic achievement based on gender and family type.
2. Is there a relationship between academic achievement, gender, family type and age?
   $H_0 2$: There is no statistical relationship between academic achievement, gender, family type and age
3. Is there a statistical difference after using age as a covariate between the academic achievement and respective streams of participants?
   $H_0 3$: There is no difference in academic achievement score after controlling for age.

Apart from establishing closer facts on the issue of a broken family and its consequences in the schools where this research is undertaken, the findings of this study may be helpful that would serve as a point of reference for the development and implementation of policies regarding post-divorce psychosocial adjustments and the academic performance of adolescents from a broken family. The study will also inform the Counselling Division, the Department of Youth, and other non-governmental organizations to plan intervention programs to enhance students' academic performance with broken families. The findings of this study would also serve as the basis for further studies in the effects of divorce on the academic performance and psychosocial adjustment of adolescents of a divorced family. Further, the findings will be an

effective tool for school counsellors and teachers to provide immediate support and facilitation.

II. LITERATURE REVIEW

There are many context-based definitions of a broken home. More recently, Felisilda and Torreon (2020) considered a home as a broken home if it is not structurally intact due to divorce, separation, death of one parent, and illegitimacy. However, contrary to the above definition, Polanen (1990) proposed that a home can still be broken with both parents present if there is no communication, interaction, or investment in each other's lives by the couple, the home is broken and becomes a house with roommates. In the purview of this study, a broken home is the separation of children and their parents because of divorce, thus leaving the care and responsibility of the children to either one of the parents.

There are powerful reasons to be alarmed about the impact of a broken home on children, as children are often the worst victims of family breakup (Felisilda & Torreon, 2020). It is mainly due to the distortion of stability in the family, which is the building block for children to progress in life. Yahaya (2012) sums up that the broken home produces children deprived of quality education, adequate parental care and broader opportunities, which turns out to be social deviants and delinquents, a nuisance in the society. So, in such a dire situation, one cannot rule out the grave consequences of a broken family on the child's holistic development through proper education.

Education as the social equalizer is the means to actualize true human potential. More often than not, academic performance takes the central stage in education. The measurement of student achievement across various academic disciplines is considered an important indicator of student learning by Abrantes and Casinillo (2020). However, seeking a response to the multiple determinants of academic performance raises more questions than answers. Nevertheless, in this attempt to seek answers, the weight of literature points towards broken homes as one of the determining factors of academic performance.

Researches revealed that the majority of the students who are products of the broken family are affected academically and socially (Bice et al., 2021; Felisilda & Torreon, 2020; Isa & Gaya, 2019; Ogbeide et al., 2013). Some findings revealed a negative impact of broken families on academic performance, while others recorded the broken family as an antecedent to poor academic outcomes. For instance, Achilike (2017) noted that the broken homes have a severe negative effect on students' regular attendance to schools, thus impacting the good result, while Felisilda and Torreon (2020) revealed the

poor attitude and behaviour of the learner as a precursor for low academic success.

Uwaifo (2008) found out that the home environment directly relates to students' academic performances. The study suggests that children from single-parenting homes exhibit lower self-esteem, lower achievement motivation, lower tolerance for delay of gratification, and lower academic achievement than those from intact homes where both father and mother are present. Similarly, Potter (2010) investigated children's psychosocial wellbeing and the relationship between divorce and academic achievement. His study found an academic gap between children of divorced and non-divorced parents widening as they progressed from lower to higher grades. This study also found disparities in psychosocial wellbeing between children of divorced and non-divorced parents.

In Bhutan, Wangchuk and Zangmo (2019) study revealed that children experienced sadness, neglect, abandonment, and loneliness after their parents got separated. Further, the study also showed that children were deprived of both emotional and financial supports from their parents, especially after their remarriage, which has resulted in a sharp decline in participants' academic performances and achievements.

They found out that there is no significant difference between students' academic performance from broken homes and intact homes; on the contrary, Abrantes and Casinillo (2020) claim that students from broken homes do not affect their studies and learning attitudes. They supported their claim by suggesting the positive view of the students in embracing problems due to broken homes as a motivational tool to work hard and become successful.

Further, in terms of gender, numerous studies have reported the significant difference in the academic performance of broken home children (Isa & Gaya, 2019; Uwaifo, 2008). However, Felisilda and Torreon (2020) refute the impact of age, sex, grade level, number of siblings, and the person stays with on children's behavioural development, which according to them, is the antecedent for academic success. The study's findings would add to the existing literature on the effect of broken homes on students' academic achievement by considering variables such as gender, age, and subject choices.

III. METHODOLOGY

This study employed a descriptive-correlational design to establish the effects of family type on secondary school student's academic performance based on gender, age, and stream.

3.1 Target participants

The sample for this study was drawn from two Secondary schools in the western district of the country using the convenience sampling method. The Ministry of Education, the District Education Office, and the school principals approved ethical clearance for this study. The total number of participants was (n=312). The mid-term examination marks of the selected students were obtained from the respective school examination coordinators with student consent. Further, the participants were informed about the purpose of the study and were assured about their anonymity and confidentiality of their information. The demographic details of the participants are shown in Table 1.

Table 1: Descriptive statistics

		Mean	SD	N
Family Type	Broken	3.82	8.614	170
	Intact	2.41	0.9	142
	Total	3.18	6.418	312
Gender	male	2.86	157	4.738
	female	3.49	155	7.761
	Total	3.18	312	6.418
Age	11-13yrs	2.55	38	1.083
	14-16yrs	2.74	134	3.302
	17-19yrs	3.76	140	8.988
	Total	3.18	312	6.418

3.2 Data collection and Data Analysis

This study employed a quantitative design and followed a convenience sampling technique to select the participants. The researchers sought the participant's family type status individually from the students, and care was also given to validate the data based on available school records. The mid-examination marks were scored out of 100 for all the students. The coding scheme were based on overall percent achieved.1 was given to <40, 2=41-50, 3= 51-60, 4=61-70, 5=71-80, and finally 6= 81>.

To test for data normality, Kolmogorov-Smirnov($p > .05$) and Levene's Test for Equality of Variances test method of normality was applied based on the recommendation of Allen et al. (2014). Additionally, the data set was further inspected for potential outliers using the boxplot. The collected data were analysed using SPSS version 23 and Microsoft Excel 2019 software. Then a series of independent samples t-test, a Pearson's Bivariate correlation, and one-way analysis of covariance (ANCOVA) was performed to test the hypotheses considered in this study. The primary dependent variable considered was the academic achievement score, while demographic variables were treated as independent variables depending on the appropriateness of the test.

IV. RESULTS

In most cases, the test results were expressed in terms of (Mean ± Standard Deviation), and the probability value (the alpha) to determine statistical test significance was set at |0.05|.

$H_0$1: There is no significant difference in the academic achievement of students based on gender and family type.

In order to test $H_0$1 for gender, an independent-samples t-test first was run to determine if there were differences in academic achievement scores between males and females. There were no outliers in the data, as assessed by inspection of a boxplot. Academic scores for each level of gender were normally distributed, as assessed by Kolmogorov-Smirnov ($p > .05$), and there was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = 0.201$). The academic achievement score was higher for females (3.49 ± 7.7) compared to males (2.86 ± 4.7); however, there was no statistically significant difference in academic achievement score (95% CI, -2.063 to .797), $t(310) = -.871$, $p = 0.385$. Therefore, this hypothesis that there is no difference between the gender and academic achievement score is accepted (see Table 2).

Further, to test for differences between the family type, the assumption of homogeneity of variances was violated and thus, a Welch t-test was run to determine if there were differences in academic achievement score between broken and intact family types; as assessed by Levene's test for equality of variances ($p = 0.005$) (see Table 2). As assessed by inspection of a boxplot, there were no outliers in the data, and academic achievement scores for each level of family type were normally distributed, as assessed by Kolmogorov-Smirnov ($p>0.05$).The academic achievement score was higher in broken family (3.82 ± 8.6) than the intact family (2.41 ± 0.9), a statistically significant difference (95% CI, .097 to 2.72), $t(310) = 2.11$, $p = 0.036$. A statistically significant difference between the family type and academic achievement thus leads to this hypothesis being rejected.

Table 2: Results of independent samples t-test by gender

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig(2-tailed)	Mean Difference
Academic Achievement (Family Type)	Equal variances assumed	7.87	0.005	1.94	310	0.054	1.409
	Equal variances not assumed			2.11	173.414	0.036	1.409
Academic Achievement (Gender)	Equal variances assumed	1.64	0.201	-0.87	310	0.385	-0.633
	Equal variances not assumed			-0.86	254.181	0.386	-0.633

$H_0$2: There is no statistical relationship between academic achievement, gender, family type and age

A Pearson's product-moment correlation (r) was run to assess the relationship between academic achievement scores and demographic variables of the participants. The magnitude of the Pearson correlation coefficient is based on general guidelines provided by Cohen (1988). Preliminary analyses suggest that the relationship is linear and normally distributed, as assessed by Kolmogorov-Smirnov ($p > .05$). The correlation coefficients presented in Table 3 showed no statistically significant correlation between academic achievement gender |$r=0.049$, $p=0.385$|, age |$r=0.07$, $p=1.72$|. However, a statistically significant correlation existed between academic achievement and family type |$r=0.11$, $p=0.05$| with a small correlation size. Therefore, the hypothesis for gender and age is accepted, while for family type is rejected.

Table 3: Correlation between Student Demographics Variable and Average Score

		1	2	3	4
1. Family Type	r	1			
	Sig. (2-tailed)				
2. Academic Achievement	r	0.110	1		
	Sig. (2-tailed)	0.050			
3. Age	r	0.100	0.077	1	
	Sig. (2-tailed)	0.050	0.172		
4. Gender	r	0.080	0.049	0.031	1
	Sig. (2-tailed)	0.130	0.385	0.582	

Note: $0.1 < |r| < .3$= Small correlation, $0.3 < |r| < .5$= Medium/moderate correlation, $|r| > .5$= Large/strong correlation.

$H_0$3: There is no difference in academic achievement score after controlling for age.

A one-way analysis of covariance (ANCOVA) was used to determine whether there were statistically significant differences between the academic achievement and four streams using age as a covariate. There were no outliers in the data, as there were no cases with standardized residuals greater than ±3 standard deviations. Several assumptions were tested to check the appropriateness of ANCOVA based on the recommendation of Allen et al. (2014). A linear relationship was present between age and academic achievement, as assessed by visual inspection of a scatterplot. Further, regression slope homogeneity was homogeneous as the interaction term was not statistically significant, $F(3,304) = 0.013$, p = 0.99. Standardized residuals for the interventions and the overall model were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances, as assessed by Levene's Test of Equality of Error Variances $F(3,308) = 1.146$, p = 0.331. After adjustment for 'age' as a covariate, there was no statistically significant difference in academic score and the stream $F(3,304) = 1.49$, p = 0.77, partial $\eta^2 = 0.001$; (see Table 4). Participants from the commerce stream exhibited the highest adjusted as well as in adjusted mean. In contrast, participants in the general stream had the lowest mean in both the adjusted and unadjusted mean. Based on the results, this hypothesis is hence accepted.

Table 4: Adjusted and unadjusted means and variability between academic achievement and stream with age covariate.

	Unadjusted			Adjusted	
	N	*M*	*SD*	*M*	*SE*
Arts	57	3.23	7.72	2.82	1.96
Commerce	41	4.38	10.63	3.47	3.09
Science	16	3.25	0.85	3.30	2.57
General	198	3.18	4.96	3.12	0.524

Note: *N*= number of participants, *M*= Mean, *SD*= Standard Deviation, *SE*= Standard Error.

V. DISCUSSION AND CONCLUSION

The purpose of this current study was to study the differences and similarities in academic achievement scores of students who are from a broken and intact families. The broken family in this study has particular reference to children from a divorced families. The data for participants who live with either parent because of death is eliminated from the study. The academic achievement score considered for this study was the overall average performance during the mid-examination. The study also examined the relationship between the participant's demographic variables like gender, age and family type with the academic score. Further, the study also used age as a controlling variable between the dependent variable (Academic achievement) and the independent variable (streams).

The findings of this study contradict the study carried out by Wangchuk and Zangmo (2019). The findings showed that the Bhutanese Secondary students from broken families had done better than those living with both parents. Therefore, the statistically significant mean difference between the broken and intact family of |28%| is surprising. However, such a finding is not a standalone paper with no similar result. A correlational study conducted by Abrantes and Casinillo (2020) revealed no significant difference between students' academic performance from single-parent homes and two-parent homes.

Moreover, this finding may be reliable as most of the participants avail boarding facilities. The care and support these children receive from school administrators, teachers and other staff within the school ecosystem may be another plausible reason. Also, since students are adolescents themselves, they have proper directions and could be resilient. These attributes may have resulted in Secondary students from broken families doing well.

However, regarding gender, although female participants were said to have performed better than males, the result was not statistically significant. The non-significant academic achievement score between the gender is suggestive of the fact that both genders are equally making efforts in the learning process. Similar findings were reported by Isa and Gaya (2019) and Felisilda and Torreon (2020). Such a marginal difference may also be because of Bhutanese values and the gender equality policies of the Royal Government of Bhutan. Similarly, a Pearson's product-moment correlation (r) was run to assess the relationship between academic achievement scores and demographic variables of the participants. The results of the Pearson correlation showed that there was no statistical relationship between academic achievement, gender, and age. However, a positive small-sized relationship was found between the family type and academic achievement |$r=0.11$, $p=0.05$| advancing our findings that family type as a variable, compared to academic achievement score, showed an exciting result.

The data of the study showed that the age of the participants ranged from 11- 19 years. The results showed that the highest mean was recorded for participants age ranging from |17-19| years. The finding of our study opposes the study by Ogbeide et al. (2013) as no significant difference was recorded due to the effect of broken homes on the academic performance of students between age 10-15 years and those between ages 15-20 years. The higher academic achievement average by the age ranging from |17-19| years in this study substantiates our assertion that as students mature, they tend to remain focused. Nonetheless, a one-way analysis of covariance (ANCOVA) result did not show statistically significant differences between the academic achievement and four streams using age as a covariate. After adjusting for 'age' as a covariate, there was no statistically significant difference in academic score and the stream $F(3,304) = 1.49$, $p = 0.77$, partial $\eta^2 = 0.001$. Participants from the commerce stream exhibited the highest adjusted and adjusted mean, while the general stream had the lowest mean in both the adjusted and unadjusted mean.

In summing up, the findings of this present study indicated that Bhutanese secondary students' academic achievement indeed differed, and there was a positive association in terms of family establishments. However, no significant relationships could be ascertained between academic scores, gender and age. The results also showed that students living with their parents seem to need supervision related to learning.

5.1. Implications

This study has implications for the policymakers, educationists, curriculum developers, school administrators and teachers. More facilities may be provided to students living in hostels so that their enthusiasm for learning is further strengthened and sustained. There is also a need to educate and create awareness programs for parents to partake in their children's education equally. There is also a need to intensify parent-school partnership programs.

5.2. Limitation and Further Research

This current study had its limitations. The participants involved in this study were only from one county (*Gewog*) in Thimphu, where most students availed themselves of free boarding facilities. Therefore, the findings of this study may not be practical for schools with day-school programs and private schools in Bhutan.

Further, the lack of other related factors such as psychological, emotional and social well-being, future research should consider these factors for further investigation to generate reliable and robust results. This study's quantitative study design has severely hindered understanding why there were significant statistical results between the two types of family establishments. Future studies should take up mixed-method studies to capture this vital occurrence in detail. Our study did not explore the detail of why elder students performed better compared to other age groups. Thus, a detailed study of age remains necessary as the results remain largely inconclusive. Further understanding of parents using interviews may help detail parental support and know home environments that could explain children's learning factors.

REFERENCES

[1] Abrantes, L. F., & Casinillo, L. F. (2020). The Impact of Broken Homes on Students' Academic Performance. *Indonesian Journal Of Educational Research and Review, 3*(3), 113-122. https://ejournal.undiksha.ac.id/index.php/IJERR/article/view/28592

[2] Allen, P., Bennett, K., & Heritage, B. (2014). SPSS Statistics Version 22: A practical guide. Cengage Learning.

[3] Achilike, B. A. (2017). Effect of broken home on students' academic achievement in Ohaukwu local government area of Ebonyi State South East Nigeria. *International Journal of Recent Advances in Multidisciplinary Research, 4 (5)*, 2581-2586. http://www.research.vibushaips.com/sites/default/files/issues-pdf/1229_0.pdf

[4] Bice, E., Callo, E., & Nihei, S. A. (2021). School Performance and Socialization of College Students from Broken Family. *Columbian College Research and Publications Office.* 1-16. https://rb.gy/d3fp1k

[5] Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement*, *12*(4), 425-434. https://doi.org/10.1177/014662168801200410

[6] Felisilda, M. M. A., & Torreon, L. C. (2020). Effects of Broken Family on Pupils' Behavioral Development and Academic Success. *International Journal of Research - GRANTHAALAYAH*, *8*(10), 216-223. https://doi.org/10.29121/granthaalayah.v8.i10.2020.1526

[7] Isa, S. G., & Gaya, S. (2019). Impact of broken homes on mathematics students' academic achievement in senior secondary schools in Nassarawa Zonal Education Area, Kano State, Nigeria. *Scientific Research Journal (SCIRJ)*, *7*(10), 41-47. http://dx.doi.org/10.31364/SCIRJ/v7.i10.2019.P1019708

[8] National Statistics Bureau (2011). *Bhutan multiple indicator survey 2010.* NSB.

[9] National Statistics Bureau and Royal Government of Bhutan (2018). *2017 population and housing census of Bhutan.*NSB.

[10] Ogbeide, F., Odiase, I. O., & Omofuma, J. E. (2013). Influence of Broken Homes on Secondary School Students' Academic Performance in Esan West Local Government Area of Edo State, Nigeria. *Journal of Sociology, Psychology and Anthropology in Practice, 5 (2)*. https://rb.gy/d454ie

[11] Polanen, A. V. (1990). A Treatise on the Family, Harvard University Press, Cambridge.

[12] Potter, D. (2010). Psychosocial well-being and the relationship between divorce and children's academic achievement. *Journal of marriage and family*, *72*(4), 933-946. https://doi.org/10.1111/j.1741-3737.2010.00740.x

[13] Programme for International Student Assessment. (2012). *PISA Let's Read Them a Story! The Parent Factor in Education*. Organization for Economic.

[14] Salami, S. O., & Alawode, E. A. (2000). Influence of single-parenting on the academic achievement of adolescents in secondary schools: Implications for counseling. *Ibadan: Department of Guidance and Counseling University of Ibadan*.

[15] Uwaifo, V. O. (2008). The effects of family structure and parenthood on the academic performance of Nigerian University students. *Studies on Home and Community Science*, *2*(2), 121-124. https://doi.org/10.1080/09737189.2008.11885262

[16] Wangchuk, C., & Zangmo, C. (2019). Consequences Associated with Parental Divorce and Their Effects on Children's Academic Performances and Achievements at a Boarding School in Punakha: A Case Study. *The 6th Ratchasuda International Conference on Disability 2019.* 51–68.

[17] Yahaya, M. A. (2012). Broken Home: Causes and Consequences *[Postgraduate Dissertation, Nasarawa State University, Keffi]*.