

JOURNAL OF MATHEMATICS AND COMPUTING SCIENCE, 2018,
Volume 4, Number 2, 21-26

Academic Performance of Students in Different Type of Schools: An Exploratory Study Based on demographic Factors, A Case Study in Kota Bharu

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Abstract: In Malaysia, there are several debates among society regarding the different academic performance between coeducational and single-gender school. Students from single-gender schools seem to perform better compared to students from coeducational schools by referring to their examination results. Since, there are less study conducted pertaining to this issue, this study was conducted to identify the influence factors of academic performance of students from single-gender and coeducational schools in Kota Bharu, Kelantan. This study was using secondary data where sample size was 414 samples. The Two Independent Sample T-test and Kruskal Wallis test were applied to examine the objectives. As a conclusion, there are significant difference in academic performance of students between single gender and coeducational schools. Meanwhile, the academic performance for male students (single gender) much better compared to mixed gender (coeducational). Female students in single gender schools excel in their academic performances compared to male students (single gender) and mixed (coeducational). This study recommend to add more variables related to the study and increase the number of samples or schools involved.

Keywords: Academic performance, demographic factors, coeducational school, single-gender school

1.0 Introduction

The debates regarding coeducation and single-gender education in society seems to show no sign of deflating stated by Nwamara C.[1]. Students from single-gender schools seem to perform better compared to students from coeducational schools by referring to their examination results. According to Pahlke et. al[2], she has claims in her study that by separating girls from opposite gender comrades, they strive in traditionally dominated subject of mathematics and science. Furthermore, mixed schools do prepare students to be more discipline than those from single gender school, stimulate genderism, and dwindle stereotyping among students. Contrast by O'Neal I. et. al [3], student will be more discipline if they being in single-gender schools rather than they being in coeducational school. Besides, coeducation also preparing students for future work environment, as they need to interact with colleagues of opposite gender. According to NASSPE [4], result obtained from research conducted by Stetson University in Florida shows that boys from coeducational classrooms scored 55% on the proficient of Florida Comprehensive Assessment Test (FCAT) whereas boys from all-boys classes scored 85% on the proficient of FCAT. Furthermore, students' performance and academic concern increase when separating boys and girls by classrooms, buildings or schools [4]. The purpose of this study is to compare academic performance between students in both single-gender schools and coeducational schools. Since, there are less study conducted pertaining to this issue in Malaysia, therefore this study was conducted to identify the factors that influence academic performance of students from single-gender and coeducational schools in Malaysia, specifically in Kota Bharu, Kelantan.

2.0 Literature Review

Students' performance can be explained as students that perform well in academic field. Performance of students can be measured by many ways such as grades, scores and Cumulative Grade Point Average (CGPA). Research by U.K. Government [5] indicates that females at the age of 16 scored high grades in English examination approximately 15% higher than males. For this study, socio-economic is best defined as the combinations of interaction between social and economic factors and how the combination affects students' performance.

Single gender school refers to primary and secondary level which is attended by male and female student with their own gender [6]. According to Ogden C.[7] "In single gender school environment, student's achievement improves, especially for minority students or students in poverty, because of improved behaviour and teacher focus on learning-style differences". Single gender environment is safer for female student, so they can perform well in the academic. Female student in single gender are more confidence and more competitive than female student in the coeducational school [8]. However single gender schools cannot provide their student to face the real-world [7]. In coeducational schools when they face opposite gender, they likely have more natural attitude and preparation for life is better than single gender school. Students in coeducational school have better social and academic performance [7] and better in mental and emotional situation. Students in coeducational school can get through in society of men and women compared single gender school [7].

Based on Chevalier A. et. al [9], parents are the closest relative to their children. Their levels of education do have a significant influence on the traits of the children. Parents with higher level of education can have better understanding on the educational needs and their children's talent. They can assist and guide their children in the premature education which affect their proficiency the area related to their expertise. For instance, there are several reasons why the education level of parents may be related to the amount of involvement they have in their child's academics. Parents with lower education levels may have fewer resources to help their child academically [10]. Furthermore, parents with a higher education level usually have greater opportunity to become more involved in academic success and influence their children's' academic performance.

Classmates can be defined as members that attend the same class at a school or college. Classmates that consists members of same gender refer to single-gender schools while classmates that consists both same and opposite gender members refer to coeducational schools. There is various theory regarding class gender significantly affect student performance.

3.0 Methodology

The data used for this study is secondary data. The data was extracted from a study conducted by final year students with difference objectives. Four selected schools in this study are: one male school (Maktab Sultan Ismail), one female school (*Sekolah Menengah Kebangsaan Zainab 1*) and two coeducational schools (*Sekolah Menengah Kebangsaan Sultan Ismail* and *Sekolah Menengah Kebangsaan Padang Enggang*). Table 1 shows the description of each variables included in this study.

Table 1: Description of Each Variable in This Study

Variable Name	Variable	Description	Scale	Sources
Academic Performance	Dependent	Percentage of A in PT3 result	Ratio	
Gender	Independent	1.Male 2.Female	Nominal	
Type of school	Independent	1.Single gender 2.Coeducational	Nominal	
Classmate Gender	Independent	1. Male 2. Female 3. Mixed	Nominal	
Mother Education Level	Independent	1. SPM 2.Diploma 3. Degree 4.Higher Degree 5.No Formal Education	Ordinal	Adapted from Kamau Lydia Muthoni (2013)
Father Education Level	Independent	1. SPM 2.Diploma 3. Degree 4.Higher Degree 5.No Formal Education	Ordinal	Adapted from Kamau Lydia Muthoni (2013)

There are four objectives to be achieved in this study. Table 2 summarises the methodology used to answer the objectives of the study.

Table 2: Summary of Data Analysis

Objective	Method of Data Analysis
To examine the difference in academic performance between single gender school and coeducational school	
To examine whether male students perform better in single gender school or coeducational school	Parametric test: Two Independent Sample T-Test
To examine whether female students perform better in single gender school or coeducational school	
To identify the significant difference in academic performance between classmate's gender	Non-Parametric test: Kruskal-Wallis

4.0 Results and Discussion

4.1 Demographic profile and difference in academic performance

The samples of 414 consisted of 81 students from Maktab Sultan Ismail, 132 students from Sekolah Menengah Zainab 1 and 201 students from both Sekolah Menengah Kebangsaan Sultan Ismail and Sekolah Menengah Kebangsaan Padang Enggang. Based on Table 3, out of 414 respondents, 150 (36.2%) were male and 264 (63.8%) were female respondents. The respondents from single gender schools were 213 (51.4%) and 201 (48.6%) from coeducational schools. Most of the respondents' parents' education level were SPM, followed by Diploma, Degree, Higher Degree, which were Master or Phd and lastly no formal education. For classmate gender, 201 respondents have mixed classmates' gender, 132 respondents have female classmate and 81 respondents have male classmate.

Table 3: Summary of Demographic Profile of respondents

Variable	Category	Frequency	Percentage
Gender	Male	150	36.2
	Female	264	63.8
School type	Single gender school	213	51.4
	Coeducational school	201	48.6
Mother's Education Level	SPM	233	56.3
	Diploma	58	14
	Degree	66	15.9
	Higher degree	35	8.5
	No formal education	22	5.3
Father's Education Level	SPM	205	49.5
	Diploma	72	17.4
	Degree	65	15.7
	Higher degree	45	10.9
	No formal education	27	6.5
Classmate gender	Male	81	19.6
	Female	132	31.9
	Mixed	201	48.6

4.2 The mean difference in academic performance

Table 4 summarises the finding for independent t test that were conducted to achieve the objectives for this study. The independent t test was conducted to compare the academic performance for single gender and coeducational school. Based on Table 4, the assumptions of for homogeneity of variance was violated and this study found that there is a significance difference between two variances (Levene's Test; $F=5.814$, $P\text{-value}=0.016$). Based on the findings, this study successfully concluded that there is a significant difference in academic performance between single gender school and coeducational school ($t\text{ test}=12.976$, $P\text{ value}=0.000$). The academic performance for single gender school (Mean=64.6468, SD=19.455) is much better compared to coeducational school (Mean=42.3021, SD=21.7096).

The independent t test was conducted also in examining the difference in academic performance separately for male and female students according to types of school. Based on Table 4 which focusing on male and female students separately, this study concluded that the two variances are equal (cases: Male; Levene's Test; $F=0.589$, $P\text{-value}=0.444$) and assumptions of homogeneity of variances is violated (cases: Female; Levene's Test; $F=15.673$, $P\text{-value}=0.000$). Based on the findings, this

study successfully concluded that there is a significant difference in academic performance for male students between single gender school and coeducational school (t test=7.517, P value=0.000). Male students from single gender school (Mean=63.75, SD=23.0231) performed much better compared to male students who from coeducational school (Mean=37.4674, SD=19.2909). There is a significant difference in academic performance for female students between single gender school and coeducational school (t test=15.673, P value=0.000). Female students from single gender school (Mean=71.5922, SD=16.3518) performed much better compared to female students who from coeducational school (Mean=44.8855, SD=22.5445).

Table 4: Summary of Independent T Test

Dependent Variable	Levene's Test (P-value)	T test (P-value)	Conclusion
Academic Performance	5.814 (0.016)	12.976 (0.000)	Significantly difference. Single gender school (Mean=64.6468, SD=19.455) Coeducational school (Mean=42.3021, SD=21.7096)
Academic Performance (cases: Male)	0.589 (0.444)	7.517 (0.000)	Significantly difference. Single gender school (Mean=63.75, SD=23.0231) Coeducational school (Mean=37.4674, SD=19.2909)
Academic Performance (cases: Female)	15.673 (0.000)	11.004 (0.000)	Significantly difference. Single gender school (Mean=71.5922, SD=16.3518) Coeducational school (Mean=44.8855, SD=22.5445).

Table 5 shows the findings for Kruskal Wallis analysis. This study performed Kruskal Wallis test since the assumption of homogeneity of variances for One Way Analysis of Variance is violated (Levene's F test=7.511, P-value=0.001). The Kruskal Wallis test showed that there was a statistically significant difference in academic performance between the different type of schools, $\chi^2(2) = 140.161$, p-value = 0.000.

Table 5: Kruskal Wallis Test

Dependent Variable	Chi-Square (P-value)	Conclusion
Academic Performance	140.161 (0.000)	Significantly difference

Based on Table 6, all gender is significantly differing in means for their academic performance with the mean rank academic performance of 250.19 for male single gender school, 288.47 for female single gender school and 138.24 for coeducational school. This indicates that the academic performance among gender are unequal. The academic performance of female students in single gender school is better compared to male (single gender) and mixed (coeducational school).

Table 6: Mean Rank for Academic Performance

Classmate gender	Mean Rank
Male	250.19
Female	288.47
Mixed	138.24

5.0 Conclusion

This study was design to compare the students' academic performance between students in single sex school and coeducational school based on demographic factors. The objectives of the study are to examine whether male and female students perform better in single sex school or coeducational school and to compare the mean of academic performance among genders. This study was fully utilized the secondary data which had been extracted from final year students' project with the different objectives. Based on the findings, there are significant difference in academic performance of students between single gender and coeducational schools in Kota Bharu. Students from single gender school performed better in academic compared to students from coeducational school. The findings for this study is parallel to the study by Stetson University in Florida. For the cases involved only male students, this study found out that the academic performance of male students from single gender school is higher compared to male students who from coeducational school. The equal findings obtained for female students. Female students from single gender school performed much better compared to female students who from coeducational school.

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