

CHAPTER FOUR

ANALYSIS OF THE DATA

4.0 Introduction

This chapter presents the analysis of the data collected followed by the discussion of the findings. The purpose of the study was to assess the existence of test anxiety among Malay students at UiTM. The subjects in this study ranged from eighteen to twenty years. Age was asked as a demographic factor but was not utilised in the study as the subjects were of about the same age. They have attended UiTM for two semesters already and were in their third semester. They have therefore attended one semester of English Preparatory (BEL100) course and a second semester of English Mainstream I (BEL200) course. In the third semester, the students had to take the English Mainstream II (BEL250) course. A total of one hundred and eighteen questionnaires were returned but only ninety-three were used for the analysis as some questionnaires were not answered completely. Therefore only ninety-three respondents were taken as subjects in the study.

The data were analysed using the Statistical Package for the Social Sciences (SPSS). Frequencies and Pearson Product Moment Correlation (p-value) were calculated. The variables included in the analysis were gender, students'

hometown backgrounds, English Language Class Anxiety (ELCAS), test anxiety (AAT-N) and final course scores. The research questions outlined in Chapter 1 were duly answered.

Categories for correlations (p-value) used in the study were as follows:

Low	0.00 - 0.24
Low-Moderate	0.25 - 0.39
Moderate	0.40 - 0.59
High-Moderate	0.60 - 0.74
High	0.75 - 1.00

In all the following tables n stands for the total number of samples in the three categories and the p-value refers to the likelihood that the result shown could have happened due to chance. For instance, a low correlation ($p = 0.00-0.24$) shows the relationship between two factors e.g. test anxiety and test scores is not significant. In other words, test anxiety has no effect on test scores and vice versa.

4.1 Research Question One

Is there test anxiety in Malay students during ESL examinations at UiTM?

In order to determine if test anxiety existed among all the 93 samples surveyed, a frequency distribution of test anxiety scores (AAT-N) was done. The responses given were in the form of a Likert scale from 1 to 5. The possible

scores for the AAT-N ranged from 10 to 50. A score of 10 indicated very low test anxiety whereas a score of 50 indicated very high test anxiety.

From the Table 4.1 below, it can be seen that the mean of the AAT-N for this sample was 23.98. The standard deviation, that is, the average dispersion from the mean was 4.112. The most frequently occurring score, that is, the mode of the AAT-N was 23.000. In this frequency distribution, the median was 24.000 and this divided the distribution into two equal parts where 46 students scored 24 or less and 47 students scored 24 or more on the AAT-N.

The findings show that some ESL Malay students at UiTM experienced test anxiety in their English examinations, thus answering Research Question One of this study.

Table 4.1
Frequency distribution of test anxiety (AAT-N) scores

AAT-N

Value Label	Value AAT-N	Frequency n	Percentage	Cumulative Percentage
	13	1	1.1	1.1
	15	3	3.1	2.2
	16	2	2.2	6.5
	17	2	2.2	8.6
	18	2	2.2	10.8
	19	1	1.1	11.8
	20	3	3.2	15.1
	21	6	6.5	21.5
	22	8	8.6	30.1
	23	14	15.1	45.2

Table 4.1, continued

24	8	8.6	53.8
25	10	10.8	64.5
26	13	14.0	78.5
27	4	4.3	82.8
28	4	4.3	87.1
29	5	5.4	92.5
30	2	2.2	94.6
31	7	2.2	96.8
32	4	1.1	97.8
34	8	2.2	100.0

Mean	23.98	Median	24.000	Mode	23.000
Std. Dev	4.112	Variance	16.913		

4.2 Research Question Two

Is there any correlation between test anxiety and test performance in the English examinations?

To answer this question, the subjects were classified into three groups. Following the AAT-N scores, the top third was rated as high-anxious (Hi-Anx) subjects and the lower third was rated as low-anxious (Low-Anx) subjects while the middle third was rated as moderate-anxious (Mod-Anx) subjects, as shown in Table 4.2

Table 4.2

Means of AAT-N

Group	n	Mean	Std. Dev.
Hi-Anx	33	28.00	2.338
Mod-Anx	32	23.88	0.871

Table 4.1, continued

Low-Anx	28	19.32	2.776
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The means of the three groups of Hi-Anx, Mod-Anx and Low-Anx were 28.00, 23.88 and 19.32 respectively. The Hi-Anx group had the highest mean score of the AAT-N while the Low-Anx group had the lowest mean score. The Mod-Anx group had the lowest variation from the mean, that is, 0.871. The differences in the mean of the AAT-N of the different groups shows that subjects with high test anxiety scored higher for the AAT-N.

The total scores of the subjects for their various English examinations were computed according to the groups classified and the means and standard deviations are presented in Table 4.3 below.

Table 4.3

Means of total scores in English examinations

Group	n	Mean	Std. Dev
Hi-Anx	33	57.300	7.473
Mod-Anx	32	58.840	5.887
Low-Anx	28	59.500	7.141

Of the three anxiety groups, the average score of the high-anxious group at 57.300 was the lowest. The low-anxious group average was the highest at 59.500 indicating that low-anxiety level favoured the test performance of these

subjects. Subjects with high test-anxiety levels tended to perform more poorly than those with low anxiety. Subjects with low test anxiety performed better than those with high level of anxiety in terms of total scores of the examinations.

To determine the correlation between test anxiety and test performance, Pearson product-moment correlations were computed. Table 4.4 shows the correlations (p-value) between AAT-N and total scores of the English examinations of the three anxiety groups.

Table 4.4

Correlation between anxiety groups and total scores

Group	Correlation <i>p</i>
Hi-Anx	0.987
Mod- Anx	0.938
Low- Anx	0.781

The correlation of the three groups of Hi-Anx, Mod-Anx and Low-Anx were 0.987, 0.938 and 0.781. The figures show there is a strong relationship between the two variables i.e. test anxiety and English examination performance of the subjects in all the three groups. The higher the test anxiety of the subjects, the lower is the exam performance.

4.3 Research Question Three

Is there a correlation between English Language Classroom Anxiety and test anxiety as measured by the English Achievement Anxiety Test (AAT)?

A frequency distribution of ELCAS was tabulated according to the groups classified. The possible scores for the ELCAS ranged from 33 to 165. A low score indicated low anxiety toward English whereas a high score indicated very high anxiety.

The means and the standard deviations for ELCAS for the different groups are given in Table 4.5

Table 4.5
Means of ELCAS of different anxiety groups

Group	n	Mean	Std. Dev
Hi-Anx	33	104.9	12.190
Mod-Anx	32	100.38	16.902
Low-Anx	28	95.36	11.438

The ELCAS mean of 104.9 for the Hi-Anx group was the highest compared to the mean of 95.36 for the Low-Anx group which was the lowest. This meant that students with high test anxiety also had high English classroom anxiety

when they were learning English. The biggest variation from the means of the three groups was for the Mod-Anx group at 16.902.

To determine the correlation between English Language Classroom Anxiety and test anxiety of the subjects, Pearson product moment was computed as in Table 4.6.

Table 4.6

Correlation between ELCAS and test anxiety

Group	Correlation p
Hi-Anx	0.981
Mod-Anx	0.655
Low-Anx	0.815

The correlations were significant for all the three groups. The correlation between ELCAS and test anxiety for the Hi-Anx group and Low-Anx group of 0.981 and 0.815 respectively were high. The Mod-Anx group correlation of 0.655 can be considered to be high-moderate. The strongest relationship between the two variables, test anxiety and classroom language anxiety, is for the Hi-Anx group.

The findings show that the higher the classroom language anxiety level of the students, the higher was the language test anxiety among them as well. The

lower the language anxiety level, the findings show that the test anxiety level was also low.

4.4 Research Question Four

Would female students register higher levels of test anxiety than male students?

In order to investigate whether female students register higher levels of test anxiety than male students, the means of AAT-N of the three groups were computed according to gender as in Table 4.7.

Table 4.7
Means of AAT-N according to gender

Group	Gender	n	Mean	Std. Dev.
Hi-Anx	male	12	28.08	2.678
	female	21	28.00	2.191
Mod-Anx	male	13	24.15	0.899
	female	19	23.68	0.820
Low-Anx	male	10	19.10	3.365
	female	28	19.44	2.281
	male	35	24.06	4.365
	female	58	23.93	3.991

The table above shows the means of the different groups in terms of gender. In the Hi-Anx group, the mean test anxiety score for the males was 28.08 with a SD of 2.678, and for the females the mean was 28.00 with a SD of 2.191. For

this group, the males were slightly more test anxious than the females but with a lower dispersion from the mean for the females.

For the Mod-Anx group, the mean of the test anxiety score was 24.15 with a SD of 0.899 for the males while the mean was 23.68 with a SD of 0.820 for the females. The dispersion from the mean of 0.820 was the smallest for this group. In this group, the females experienced less test anxiety than their male counterparts.

For the Low-Anx group, the test anxiety average and SD for the males were 19.10 and 3.365 respectively compared to 19.44 and 2.281 for the females. The females were slightly more anxious than the males in this group but with a smaller dispersion from the mean.

The females of Hi-Anx and Mod-Anx were found to be less test anxious than the males in these groups. However the females in the Low-Anx group were found to be slightly more test anxious than the male. Overall, it shows that the females were less test anxious than the males.

4.5 Research Question Five

Which of the four skills is the most anxiety-producing examination and do the test performances on these four skills concur with the findings?

Students consistently identified and perceived the speaking examination as the most anxiety-producing for them and the reading examination as the least anxiety producing (Horwitz 1986). Students were asked to identify and rank the most anxiety-producing examinations of the four skills for them.

Table 4.8
Anxiety-producing examinations

Component	%
Speaking	49.5
Writing	35.6
Listening	11.8
Reading	2.2

Table 4.8 shows that almost fifty per cent of the participants responded that they found they were most anxious about the speaking examination. 35.6 per cent rated the writing section as the second most anxious for them and the listening examination as the third component they were most anxious about. Only 2.2 percent rated the reading examination as the most worrying of all.

Table 4.9
Means of test scores according to the 4 skills tested

	Speaking	Listening	Reading	Writing
Mean	61.43	55.67	59.18	57.44
Median	60.00	53.00	58.00	58.00
Mode	60.00	40.00	58.00	58.00
Std. Dev.	9.433	14.659	10.220	8.067

Table 4.9 above shows the students' performance in each of the components. The mean score of the speaking examination is the highest among the four skills at 61.430, followed by the reading component and writing component at 59.18 and 57.44 respectively. The average for the listening component was 55.67 which was the lowest of the four mean scores. Among the four skills tested, the listening examination had the largest dispersion from the mean at 14.659 while the smallest dispersion was for the writing examination at 8.067. The most frequently occurring score for the speaking, listening, reading and writing examinations were 60.00, 40.00, 58.00 and 58.00 respectively with the lowest mode at 40.00 for the listening examination.

From the findings, the students got the highest mark for the speaking component and this did not correlate with the students' ranking of this skill as the most anxiety producing examination for them.

4.6 Research Question Six

Do students from rural backgrounds have higher levels of anxiety than students from urban backgrounds?

To answer this question, subjects were categorized into two groups. Backgrounds were expressed as Number 1 = urban and Number 2 = rural. Students who attended secondary schools in big towns and cities were considered to be from urban areas and students who attended secondary schools

in the small towns and villages were considered to be from rural areas. The computed means and standard deviations is presented in Table 4.10.

Table 4.10
Means of AAT-N with urban/rural backgrounds

Group	Background	n	Mean	Std. Dev.
Hi-Anx	urban	10	27.40	1.897
	rural	23	28.30	2.494
Mod-Anx	urban	7	24.00	0.816
	rural	25	23.84	0.898
Low-Anx	urban	6	18.50	3.017
	rural	22	19.55	2.738

From Table 4.10, it can be seen that subjects in the Hi-Anx and Low-Anx groups from rural areas showed higher test anxiety means of 28.30 and 23.84 respectively than subjects of the same groups from urban areas. However, students from urban areas exhibited higher test anxiety with a mean of 24.00 than those from the rural areas with a mean of 23.84 in the Mod-Anx group.

4.7 Research Question Seven

Do students from urban backgrounds perform better than students from rural backgrounds

- (iv) in English examinations?
- (ii) in speaking examination specifically?

To determine whether students from urban backgrounds performed better than students from rural backgrounds, the students' mean overall test scores for their English examination were computed in each of the anxiety groups against where they come from, that is, whether they were from the urban areas or rural areas. Table 4.11 shows the means of total scores of English examinations with urban/rural backgrounds.

Table 4.11
Means of total scores with urban/rural backgrounds

Group	Background	n	Mean	Std. Dev.
Hi-Anx	urban	10	60.00	9.487
	rural	23	56.13	6.298
Mod-Anx	urban	7	61.14	3.288
	rural	25	58.20	6.331
Low-Anx	urban	6	67.00	5.692
	rural	22	57.45	6.116

From Table 4.11, the means of total scores of the three groups in the English examinations were 60.00, 61.14 and 67.00 for subjects from the urban areas. Subjects from the rural areas had mean scores of 56.13, 58.20 and 57.45 respectively. Students from rural areas in the Hi-Anx group had the lowest mean total scores of the examination and the highest standard deviation at 9.487.

The findings show that students from urban backgrounds performed better than students from rural backgrounds for their English examinations. Students of all three groups from the urban areas performed better than students from rural areas.

In order to find out the students' speaking examination performance, the means of the speaking examination scores were calculated. Table 4.12 shows the means of speaking examination scores of the three groups categorized into urban and rural backgrounds.

Table 4.12

Means of speaking examination scores with urban/rural backgrounds

Group	Background	n	Mean	Std. Dev.
Hi-Anx	urban	10	63.60	9.686
	rural	23	58.96	7.731
Mod-Anx	urban	7	63.29	16.630
	rural	25	61.44	9.683
Low-Anx	urban	6	67.33	8.641
	rural	22	60.82	7.962

The table above shows that students from the urban areas scored higher examination scores in the speaking examination than students from the rural areas. In the Hi-Anx group, students from the urban areas had a higher mean score of 63.60 for the speaking examination compared to students from rural areas whose average was 58.96. This was also true for students in the Mod-Anx group with mean scores of 63.29 and 61.44 respectively for students from urban and rural areas. Low-anxious students from urban areas averaged 67.33 while

those from the rural areas had a mean score of 60.82. All these figures show, in all the three groups, students from urban backgrounds performed better than students from rural backgrounds.