CHAPTER 4

RESULTS OF DATA ANALYSIS

The Statistical Package for the Social Science (SPSS) was used to analyse the data collected. To obtain answers to the research questions the data were subjected to (a) descriptive analysis, (b) correlation analysis, (c) multiple regression analysis, and (d) multivariate analysis of variance (MANOVA).

MANOVA was deemed appropriate for this study because the procedure allows for simultaneous testing of gender, grade levels, and SES differences on several dependent variables. Thus, this procedure reduces the likelihood of an inflation of the error rate. Using a global test (overall F-test), this procedure provides protection against capitalising on chance, which is contingent upon conducting repeated univariate analysis. In addition, Stevens (1992) in his book, "Applied Multivariate Statistics for the Social Science," argues that

> Although the groups of the investigation may not significantly different on any of the variables individually, jointly the set of variables may reliably differentiate the groups. This is, small differences on several of the variables may combine to produce a reliable overall differences. Thus, the Multivariate test will be more powerful in this case (p. 153).

The results of the study are organised in the following major categories:

1) The relationship between males' desire for leisure participation and their actual participation in leisure activities.

2) The relationship between females' desire for leisure participation and the actual participation in leisure activities.

3) The desire for sports and physical activities and the hours spent in sports.

4) The desire for watching television and the hours spent in watching television.

5) The relationships among the desire for leisure participation, gender, and grade levels.

6) The relationship between the perceived benefits of leisure and participation in leisure activities

7) The relationship between perceived constraints of leisure and participation in leisure activities.

8) The relationships between leisure constraints and benefits by age.

9) The relationship between students' participation in leisure activities and their fathers' education, occupation and

10) The relationships among leisure constraints, benefits, fathers' education and occupation

11) The relationships among active leisure participation, gender, and active leisure participation grade levels.

12) The relationships among passive leisure participation, gender and grade levels.

13) Students' perception of the equal importance of leisure activities and school study.

14) The person and place where students spent most of their leisure time.

15) Days of the week in which students spent more time in leisure activities.

16) The average numbers of hour students spent in sports, reading papers and watching television.

17) The leisure facilities used in leisure time

4.1 Male Students' Desire for Leisure Participation and their Actual Participation in Leisure Activities

This section presents the results of data analysis that attempted to answer research question one. Specifically, the purpose of this analysis was to explore if a relationship existed between the respondents' desire for leisure participation and their actual participation in both the active and passive leisure activities. The Pearson Product Moment Correlation Coefficient was used to ascertain the strength of the relationship between the variables.

The results are presented in four sub-sections, the first two sub-sections deal with the relationship between the desire for participation and actual participation in vigorous and non-vigorous activities. The next two sub-sections present the correlation between the desire for participation and actual participation in audio-visual activities and printed media activities.

Table 4.1 presents the correlation coefficients for the relationship between the male students' desired leisure participation and the reported participation in vigorous leisure activities. The data indicated that the correlations between the desired and reported participation ranged from $\underline{r}$ = - .007 to $\underline{r}$ = .334. With the exception of the relationship between the students' desire for participation in sport

activities and their participation in football (r = .334), no other correlation coefficient exceeded a value of .30. A relationship between participation in football and desire for sport activities is not unexpected and like wise the relationship between participation in football and desire to listen to music.

The data indicate that the overall strength of the linear relationship between desired and the reported participation was insignificant. In addition, of the 42 correlation coefficients presented in this analysis, 50 per cent of them indicated relationships, $p < .05$.

Table 4.1

Correlation Coefficients of the Males' Desired Leisure Participation and Vigorous Leisure Participation

	Desired for Participation					
Vigorous Activities	Sport Activities	Picnic	Scout	Watch TV	Listen to music	Reading books
Football	.334**	.155**	.001	.090*	.052	.011
Basketball	.130**	.073	.008	-0.033	.026	-.007
Volleyball	.099*	.082*	.107**	.062	.095*	.100*
Table Tennis	.055	.144*	.117**	.038	.059	.112**
Handball	.057	.081*	.100*	.051	.049	.036
Gymnastics	.104**	.005	.100	.113**	.085*	.079
Running	.040	.025	.003	.173**	.153**	.108**

** Significant at $p < .01$, * Significant at $p < .05$

Table 4.2 summarizes the results of correlation analysis between list of the desired activities and the reported participation in non-vigorous activities participated by male respondents.

The results of non-vigorous activities indicated that in general the relationship between the male students' desire for participation in leisure and the non-vigorous activities that they reportedly had participated in, were generally weak. The correlation coefficients ranged between $\underline{r}$ = -.030 and $\underline{r}$ = .302. Of the 42 bivariate relationships, only the desire for scouting was somewhat moderately related to their participation in scout activities, $\underline{r}$ =.302, p = < .001. The other linear relationships were less than $\underline{r}$ = .30. A correlation between scouting participation and desire for scouting is to be expected. Likewise a correlation between participation in scouting and reading books is not.

Table 4.3 summarizes the results of correlation analysis between desire for participation and actual participation in an Audio--visual leisure activities by the male respondents. The result show that the correlations between the male students' desire and their participation in audio-visual (passive activities) ranged from $\underline{r}$ = - .04 to $\underline{r}$ = .527. With the exception of the relationship between the male students' desire for (1) watching television and their participation in watching television ($\underline{r}$ = .386), (2) watching television and listening to music ($\underline{r}$ = .327), (3) listening to music and reported listening to music ($\underline{r}$ = .527), and (4) sports activities and watching sports ($\underline{r}$ = .297), the correlation coefficients did not exceed .30.

Table 4.2

Correlation Coefficients of the Males' Desired for Leisure and the Non vigorous Leisure Participation

Non-Vigorous Activities	Desire for Participation					
	Sport activities	Picnicking	Scouting	Watching TV	Listening Music	Reading books
Swimming	.110**	.135**	.028	.054	.129**	.087*
Walking	.077	.063	.004	.206**	.232**	.108**
Exercise	.107**	-.019	-.003	.141**	.142**	.058
Visit Park	.082*	.270**	.105**	.006	.087	.017
Picnicking	.149**	.204**	.116**	.126**	.097*	.044
Scouting	.003	.102**	.302**	.004	.013	.001
Gardening	.113**	.112**	.039	.103**	.109**	.055

** Significant at p = < .01, * Significant at p = <.05

Thus, the overall strength of the linear relationship between aspects of the desire and reported participation seemed to be insignificant. While there is a correlation between watching sports and desire for sport activities, desire for sport activities does not necessary lead a desire to watching TV or vise versa.

Table 4.4 summarizes the results of correlation analysis between aspects of the male students' desired for leisure participation and their reported participation in the printed and social leisure activities. The results show that the correlation between their desire and actual participation ranged from $\underline{r}$ = -.46 to $\underline{r}$ = .37. With the exception of the relationship between the students' desire for reading books and their

reported reading of papers and magazines (r = .39), no other linear relationship exceeded a value of r = .30. Correlation was found between time with friend, and desire for sport activities r=.25, between desire for watching TV and spend time with friends r = .26 between listening to music spend time with friends r = .22.

Table 4.3

Correlation Coefficients of the Males' Desire for Leisure Participation and Participation in Audio-Visual Activities

	Desire for Participation					
Audio-visual Activities	Sport activities	Picnicking	Scouting	Watching TV	Listening to music	Reading Books
Watching TV	.205**	.130**	- .003	.386**	.266**	.105**
Watching Movie	.065	.134**	.130**	.085*	.090*	- .027
Playing Computer	.101**	.076	.124**	.103**	.158**	.037
Listening music	.140**	.148**	- .004	.327**	.527**	.136**
Playing music	.070	.131**	.195**	.114**	.110**	.159**
Watching sport	.297**	.091**	- .004	.200**	.212**	.231**

** Significant at p < .01, * Significant at p < .05

The results are presented in the following four sub-sections. The first two sub-sections deal with the relationship between the desired participation and the actual participation in vigorous and non-vigorous leisure activities.

The next two sub-sections present the correlation between the desired participation and actual participation in passive leisure activities (audio-visual, printed media and social activities). For this analysis, the researcher applied Pearson's Correlation Coefficient.

Table 4.5

Correlation Coefficients of the Females' Desire and the Reported Participation in Vigorous Activities

Vigorous Activities	Desire for Participation					
	Sport Activities	Picnicking	Scouting	Watching TV	Listening Music	Reading Books
Football	.191**	.051	.100**	.038.	.095*	.013
Basketball	.056	-.250	.104**	-0.03	.042	-.082*
Volleyball	.137**	.051	.102**	.086*	.015	.032
Table Tennis	.032	.005	.019	.03	.032	-.06
Handball	.066	-.001	.076*	.055	-.021	-.036
Gymnastic	.125**	.004	.102**	.083*	.085*	-.047
Running	.072	.117**	.057	.101**	.950*	.074*

** Significant at $p < .01$, * Significant at $p < .05$

Table 4.5 presents the correlation coefficient for the relationship between aspects of the female students' desire for leisure participation and their participation in vigorous leisure activities. The data indicated that the correlation between the

females' desire for participation and aspects of their participation ranged from $\underline{r}$ = -. 01 to $\underline{r}$ = .19. The overall correlation between their desire for participation and actual participation in reported activities is weak. Thus, the data indicated a lack of linear relationship between female students' desire and their participation in vigorous activities.

Table 4.6

Correlation Coefficients of the Females' Desire and Participation in Non-Vigorous Activities

	Desire for Participation					
Non-vigorous Activities	Sport activities	Picnic	Scout	Watch TV	Listen Music	Read Books
Swimming	.114**	.134**	.153**	.090*	.167**	.032
Walking	.092*	.118**	- .036	.212**	.186**	.109**
Exercising	.122**	.004	.019	.156**	.173**	.061
Visiting Parks	- .013	.115**	.054	.015	.018	.067
Picnicking	.004	.148**	.004	.134**	.187**	.168**
Scouting	.027	.051	.196**	- .054	- .049	.056
Gardening	.009	.023	.251**	.123**	- .005	- .066

**Significant at $p < .01$, * Significant at $p < .05$

Table 4.6 summarizes the results of correlation analysis between the female respondents' desired participation and their actual participation in non-vigorous activities. The results indicated that the correlations between females' desire for

leisure and their actual participation ranged from $\underline{r}$ = - .01 to $\underline{r}$ = .25. These relationships are weak.

Table 4.7

Correlation Coefficients for the Relationship between Female Students' Desire for their Actual Passive Leisure Participation in Audio--Visual activities

	Desire for Participation					
Audio-visual Activities	Sport ctivities	Picnicking	Scouting	Watching TV	Listening Music	Read Books
Watching TV	.004	.072	-.141**	.369**	.230**	.177**
Watching Movie	- .036	.085*	.073	.170**	.139**	.012
Playing Computer	.019	.033	.125**	.171**	.055	.062
Listening to Music	.082*	.134**	-.144**	.360**	.448**	.189**
Playing Music	.133**	.004	.193**	.106**	.002	-.053
Watching Sports	.069	.055	.019	.160**	.121**	.096*

** Significant at $p < .01$, * Significant at $p < .05$

Table 4.7 summarise the results of the correlation analysis between aspects of the female students' desire for participation and their actual participation in audio-visual activities. The results indicated no correlations between desire for watching television and the actual participation in (1) watching television ($\underline{r}$ = .36), and (2) listening to music ($\underline{r}$ = .36). In addition, the relationship between female adolescents' desire to listen to music and the reported time spent in listening to music is $\underline{r}$ = .45, is higher than the correlation between watching TV and desire for listening music.

Table 4.8 summarises the results of correlation analysis between the female students' desire for leisure participation and their actual participation in printed media and social activities. The results indicated that their desire for reading books and their actual participation in reading newspapers and magazines was significantly related ($\underline{r}$ = .42). Reading papers and magazines has a higher correlation with desire to read books than the correlation between desire to read and reading books. Correlation of .34 was found between time with family and desire to watch TV.

Table 4.8
Correlation Coefficients for the Females' Desire and Participation in Printed Media and Social Activities

	Desire for Participation					
Media & Social Activities	Sport activities	Picnicking	Scouting	Watching TV	Listen Music	Read Books
Reading paper & Magazines	.089*	.102**	-.052	.216**	.298**	.422**
Reading Books	.066	.125**	-.250	.235**	.230**	.369**
Playing Cards	.093*	.164**	.059	.165**	.203**	.182**
Loitering	.101**	.056	.082*	.087*	.037	.004
Time with friends	.062	.102**	0.057	.125**	.133**	.006
Time with family	.041	.108**	.098**	.342**	.253**	.183**
Visit relative	-.089*	.111**	.019	.111**	.145**	.062

** Significant at $p < .01$, * Significant at $p < .05$

4.3 Relationship between Desire for Sport Activities and Hours Spent in Sports Activities

A major interest of the study was to explore the relationship between the amount of time the respondents reported to have spent in sports and physical activities and their desire for these leisure activities. The study was also to ascertain for differences in the amount of time male and female adolescents spent in sports and physical activities.

To answer these questions, the researcher applied the multiple regression procedure. Table 4.9 summarises the results of the multiple regression analysis.

In this analysis, the reported amount of time spent in sports and physical activities served as the criterion measure. The respondents' desire for participation in sports and gender were the independent variables. The results indicated that the overall relationship between time spent and the independent variables was statistically significant: $F(2, 1339) = 60.74$, $p < .05$, $MSE = .63$. Desired participation and gender jointly account for about 12% of the variability in the amount of time spent in sports ($R^2 = .124$), and the standard error was .80.

In addition, the reported amount of time spent on sports and physical activities was significantly associated with the respondents' desire for participation in sports ($t = 7.74$, $p < .05$) and gender ($t = -9.202$, $p = <.05$).

Table 4.9

Results of Regression Analysis on the Desire for
Sports and Physical Activities and the Hours Spent in Sport Activities

	B	S.E.	Beta	t	p-value
Desired Participation	.131	.017	.204	7.742	.001
Gender	-.414	.045	-.243	-9.200	.001
Constant	2.224	.098		22.932	.001

4.4 Relationship between Desire for and Hours Spent in Watching Television

The section discussed the results of data analysis on the relationship between the amount of time spent in watching television and the respondents' desire for the gender. The multiple regression was used to examine this relationship. The criterion measure for the regression analysis was the reported amount of time spent in watching television. The desire for watching television and gender served as the predictors. Table 4.10 presents a summary of the results of the multiple regression.

The results indicated that the relationship between the amount of time spent in watching television and the two independent variables was statistically significant; $F(2, 1339) = 69.71$, $p = .001$ MSE = .69. These two variables account for almost 11% of the total variance ($R^2 = .107$), and the standard was error of .93. However, further analysis indicated that the desire factor rather than the gender factor was more important in influencing the variability in reported time spent in watching television; ($t = 1.245$, $p < .05$). In summary, the students' desire for watching television appears to be an important factor predicting the amount of time they spent in watching it.

Table 4.10

Results of Regression Analysis on the Desire for Watching TV and the Hours Spent in Watching Television

	B	S.E.	Beta	T	p-value
Desire for Participation	.220	.018	.3221	2.450	.001
Gender	.096	.051	.0049	1.890	.060
Constant	1.714	.104		16.473	.001

4.5 Relationship of Desire for Leisure Participation with Gender, and Grade Levels

The relationships among students' desire for leisure participation, gender, and grade level were concern of this study. To answer this question, MANOVA was conducted on the six items which measure the desire to participate in specific leisure activities. The items were the desire for sport activities, picnicking, scout movement, watching television, listening to music and the desire for reading for pleasure. On the 6 activities there were active leisure and 3 passive leisure activities. The active leisure activities comprise sports, picnicking and scouting while the passive leisure activities consist of watching television, listening to music and reading books and magazines. It is assumed that these are the most popular active and passive activities among adolescents.

The results of the MANOVA indicated the variability in students' desire is significantly related to gender. Overall the gender effect is statistically significant: Wilks's $\Lambda = .865$, $F(6, 1331) = 34.77$, $p = .001$. Gender level account for 14% of the

total variance. Furthermore, the relationship between the students' desire for leisure and grade level was also significant: Wilks' Λ = .954, F (12, 2662) = 5.286, p = .001. Gender level account for 5% of the total variance.

Table 4.11 shows descriptive statistics and F-ratios yielded from the follow-up univariate analysis. The univariate test between subjects indicated that the students' desire for leisure participation was associated with gender. The data revealed that gender significantly accounted for four of the activities; These are desire for sports $F(1,1336) = 84.46$, picnicking $F(1,1336) = 41.4$, music $F(1,1336) = 48.70$, and the desire for reading $F(1,1336) = 22.13$, at $p < .05$. With the exception of the desire for sports, desire for leisure was higher for females than for males.

In addition, grade level is related to three of the desired activities. These are scouting, music, and reading. The univarite test yielded statistically significant F-ratios, $F(2,1336) = 10.4$ for the desire for scout, $F(2,1336) = 11.88$ for the desire for music and $F(2,1336) = 13.28$ for the desire for reading.

The grade-level effect was significant at $p < .05$. Form I students desired scout activity more than the students of other grade levels which, Form III students outscored students in other grade levels in desire for music and reading.

Table 4.11

Means Standard Deviations and F-tests of Desire for Leisure Participation according to Gender and Grade Levels

Desired Activities	Male n = 646 M	Male n = 646 SD	Female n = 696 M	Female n = 696 SD	Total n = 1,342 M	Total n = 1,342 SD	n	F- test* Gender Effect F	Gender Effect p	Grade Level Effect F	Grade Level Effect p
Sports											
Form I	3.48	(1.26)	2.64	(1.31)	3.06	(1.35)	437	84.46	.01	.99	.37
Form II	3.38	(1.21)	2.70	(1.33)	3.02	(1.32)	450				
Form III	3.36	(1.26)	2.95	(1.34)	3.14	(1.31)	455				
Total	3.41	(1.24)	2.76	(1.33)							
Picnicking											
Form I	2.48	(1.11)	2.82	(1.10)	2.65	(1.15)	437	41.4	.01	.77	.46
Form II	2.56	(1.04)	2.83	(1.20)	2.70	(1.13)	450				
Form III	2.44	(1.10)	3.05	(1.26)	2.76	(1.23)	455				
Total	2.50	(1.08)	2.90	(1.22)							
Scout activities											
Form I	2.03	(1.23)	2.32	(1.40)	2.18	(1.32)	437	.08	.78	10.4	.01
Form II	1.98	(1.21)	1.87	(1.17)	1.92	(1.18)	450				
Form III	1.88	(1.18)	1.76	(1.00)	1.82	(1.08)	455				
Total	1.97	(1.20)	1.98	(1.21)							
Watching TV											
Form I	3.70	(1.39)	3.58	(1.42)	3.64	(1.40)	437	1.82	.18	.88	.41
Form II	3.60	(1.29)	3.87	(1.42)	3.74	(1.37)	450				
Form III	3.68	(1.39)	3.84	(1.42)	3.76	(1.41)	455				
Total	3.66	(1.36)	3.77	(1.43)							
Listen to music											
Form I	3.35	(1.46)	3.68	(1.33)	3.51	(1.40)	437	48.70	.01	11.88	.01
Form II	3.43	(1.46)	4.13	(1.25)	3.80	(1.35)	450				
Form III	3.69	(1.35)	4.19	(1.17)	3.95	(1.38)	455				
Total	3.49	(1.39)	4.01	(1.26)							
Reading											
Form I	2.96	(2.26)	2.96	(1.20)	2.96	(1.26)	437	22.13	.01	13.28	.01
Form II	2.80	(1.26)	3.47	(1.32)	3.16	(1.33)	450				
Form III	3.24	(1.27)	3.54	(1.24)	3.40	(1.26)	455				
Total	3.00	(1.27)	3.34	(1.28)							

Note: F- and p-values for the Univariate Gender Effect and Grade-level Effect

Table 4.11 shows that students in Form Three obtained higher score than students in the other forms in desire for sport (M = 3.14, SD = 1.31), desire for picnicking (M = 2.76, SD = 1.23), desire for watching TV (M = 3.76, SD = 1.41), desire for music (M = 3.95, SD = 1.38), and desire for reading (M = 3.40, SD = 1.26). In addition, the analysis revealed that grade level differences in the desire for scouting F (5,1336) = 10.4, p = .001, the desire for music F(5,1336) = 11.88, p = .001 and the desire for reading F(5,1336) = 13.28, p = .00.

4.6 Perceived Benefits of Leisure and Participation in Leisure Activities

One of the aims of the study is to investigate whether students' perception of leisure benefits is related to their participation in leisure activities. This section presents the results of the data analysis that answers research question thirteen. Pearson Product Moment Correlation Coefficients was used to answer these questions. The results are presented in two sections, the first section deals with the correlation between students' perception of the benefits of leisure and their participation in active leisure activities. The second section deals with the correlation between students' perception of the benefits and their participation in passive activities. The data are presented in Tables 4.12 and 4.13.

Table 4.14 presents the results yielded from the MANOVA on the perceived leisure benefits. The analysis revealed statistical significant gender differences in the perception of leisure benefits: Wilks' $\underline{\Lambda}$ = .017, $\underline{F}$ (8.2674) = 2224.401, p < .05. This variable account of total variance 87%. With the exception of perceived learning benefits of leisure, the female students scored more ($\underline{M}$ = 20.33) than male students ($\underline{M}$ = 20.02).

Table 4.12
Correlation Coefficients for the Perceived Benefits of Leisure and Participation in Active Leisure Activities

	Benefits of Leisure			
Reported Activities	Physical Benefits	Social Benefits	Psychological Benefits	Learning Benefits
Football	.138**	.071**	.048	.018
Basketball	.031	.046	.009	.011
Volleyball	.044	-.001	.039	.045
Table Tennis	.114**	.112**	.126**	.004
Handball	.034	.075**	.033	.012
Gymnastic	- .026	.012	-.014	.032
Running	.088**	.093**	.096**	.059*
Swimming	.087**	.106**	.095**	.038
Walking	.092**	.066*	.038	.062*
Exercise	.069*	.068*	-.007	.028
Visit Parks	.008	.059	.039	.035
Picnicking	.056*	.063*	.091**	.021
Scouting	.005	.042	- .002	.005
Gardening	.054*	.061*	.044	.087**

** Significant at $p < .01$, * Significant at $p < .05$.

Table 4.13

Correlation Coefficients for Perceived Benefits of Leisure and Participation in Passive Leisure Activities

	Benefits of Leisure			
Reported Activities	Physical Benefits	Social Benefits	Psychological Benefits	Learning Benefits
Watching TV	.121**	.103**	.131**	.067*
Watching Movies	-.054*	-.023	- .024	.026
Computer Games	.094**	.042	.054*	.053
Listening to Music	.114**	.108**	.115**	.063*
Reading Papers & Mg	.076**	.066*	.062*	-.018
Reading Books	.073**	.088**	.066*	.013
Playing Cards	.095**	.065*	.074**	.078**
Loitering	.074**	.061*	.027	.065*
Playing Music	.059*	.055*	.065*	.089**
Time with Friends	.081**	.140**	.002	.061*
Time with Family	.060*	.132**	.055*	.003
Visiting Parks	.054*	.066*	.019	.037
Watching Sport & Games	.127**	.093**	.084**	.071**

** Significant at $p < .01$, * Significant at $p < .05$

Table 4.14

Means, Standard Deviations, and F-tests of the Perceived Leisure Benefits by Gender

Reported Benefits	Male n = 646 M (SD)	Female n = 696 M (SD)	Total n = 1342 M (SD)	F-test F –ratio	P
Physical Benefits	16.91 (2.57)	16.47 (2.94)	16.68 (2.78)	24320.95	.001
Social Benefits	12.58 (2.10)	12.32 (2.34)	12.44 (2.23)	20894.69	.001
Psychological Benefits	16.78 (2.73)	16.90 (2.78)	16.84 (2.76)	25075.10	.001
Learning Benefits	20.02(3.68)	20.33(4.30)	20.17 (4.03)	16969.45	.001

4.7 Relationship between Perceived Constraints and Leisure Participation

In this section, correlation coefficient analysis, was used to determine whether the students' perceived constraints of leisure were related to participation. Three categories of perceived constraints comprise school constraints, family constraints, and personal constraints. Data in Table 4.15 indicate that and the correlations between perceived constraints and reported active leisure participation are inconsequential.

Although a substantial number of relationships appeared to be statistically significant, the strength of each relationship is weak. The value of the highest correlation low, being only .15. This is the relationship between personal constraints and reported participation in walking. In summary, the study does not provide any evidence a link between perceived constraints and participation in active leisure activities.

Table 4.15

Correlation Coefficients for Relationship between Perceived Constraints and Participation in Active Leisure Activities

Active leisure Activities	Constraints of Leisure		
	School Constraints	Family Constraints	Personal constraints
Football	-.064*	- .057*	-.076**
Basketball	-.038	-.001	.019
Volleyball	.013	.075**	.041
Table Tennis	.055*	.070**	.058*
Handball	.033	.063*	.074**
Gymnastic	.062*	.026	.058*
Running	.032	.060*	.065*
Swimming	.069*	-.011	-.019
Walking	.065*	.043	.151**
Exercise	.021	-.052	-.066
Visit Parks	-.039	.003	.005
Picnicking	.008	.008	-.001
Scouting	-.029	.034	.056*
Gardening	.013	.003	.068*

** Significant at $p < .01$, * Significant at $p < .05$.

The results in Table 4.16 indicate that the correlations between perceived constraints of leisure and students' reported participation in passive leisure activities appeared to have no linear relationship. The relationships were weak, ranging from $\underline{r} = -.005$ to $\underline{r} = .127$. To determine where there are gender differences in perceived constraints, the data were subjected to a MANOVA. Table 4.17 presents the descriptive statistics yielded from the MANOVA. The results indicate that there was, in general, a

significant relationship between students' perception of leisure constraints and gender. The MANOVA revealed the presence of significant gender difference in students' perception of school and family leisure constraints: Wilks' Λ = .064, F (6.2676) = 1316.06p < .05. Gender account for 75% of the total variance. As shown in Table 4.17 the female students obtained higher mean scores than those of male students. The mean scores for the female students in perceived constraints were 9.30 for school constraints, 10.53 for family constraints and 6.25 for personal constraints. The mean scores for the male students were 8.84 for school constraints, 10.27 for family constraints, and 5.87 for personal constraints.

The test for gender effects indicated that students' perception of school constraints and family constraints were significantly associated with gender. The univariate analysis revealed that there was significant gender difference in perception of school constraints ($F(1,1340) = 4319.39$, $p < .0$), family constraints ($F(1,1340) = 5446.87$, $p < .05$), and personal constraints ($F(1,1340) = 3831.21$, $p < .05$). Female students scored higher on perception of school, family and personal constraints male students. Appendix A.9 shows perception of constraints by age, the younger the age the more the constraints. By the age range of 17-18, school-related constraints overweigh family or personal constraints. This could be due to the elder adolescents, specifically F3 students in the final year of high school becoming more seriously involved in academic work and final examinations.

The data in table 4.18 indicate that the correlations between perceived constraints and reported desire for participation ranged from - .002 to .172. Although the results were statistically significant, the strength of the relationships was weak. Thus, the data indicate a lack of linear correlation.

Table 4.16

Correlation Coefficients between Perceived Constraints and Participation in Passive Leisure Activities

	Constraints of Leisure		
Passive Leisure Activities	School Constraints	Family Constraints	Personal Constraints
Watching TV	.047	.067*	.012
Watching Movies	-.005	.025	.002
Playing Computer	.062*	-.019	.004
Listening to music	.127**	.035	.011
Reading papers & Magazines	.05	.017	-.019
Reading Books	.045	.027	- .001
Playing Cards	.042	.023	- .028
Loitering	.076**	.037	- .001
Playing music	.034	.053	.073**
Time with Friends	.053	.029	- .018
Time with Family	.079**	.006	- .002
Visit Relatives	.030	.037	.027
Watching Sports & Games	-.016	.030	-.046

** Significant at $p < .01$, * Significant at $p < .05$

Table 4.17

Means, Standard Deviations, and F-tests of
Male and Female's Perception of Constraints of Leisure

Constraints of Leisure	Male n = 646 M (SD)	Female n = 696 M (SD)	Total n = 1342 M (SD)	F-test F	P
School constraints	8.84 (3.55)	9.30 (3.61)	9.08 (3.86)	4319.39	.001
Family Constraints	10.27(3.60)	10.53 (3.70)	10.41(3.65)	5446.87	.001
Personal Constraints	5.87 (2.51)	6.59 (2.71)	6.25 (2.64)	3831.21	.851

Table 4.18

Correlation Coefficients for Perceived Constraints and Desire for Leisure

	Constraints of Leisure		
Reported Desire for leisure	School Constraints	Family Constraints	Personal Constraints
Desire for Sport activities.	.07*	-.039	-.084**
Desire for Picnicking	.139**	.022	.014
Desire for Scouting	.002	.031	.153**
Desire for Watching TV	.156**	-.002	-.018
Desire for Listening to Music	.172**	.011	-.031
Desire for Reading Books	.106**	.061*	- .033

** Significant at $p < .01$, * Significant at $p < .05$

4.8 Relationship between Perception of Leisure Constraints by Age

One of the research questions for this study is to determine whether there is a significant relationship between reported perception of constraints and age of respondents. Results of the MANOVA's for this question are summarized in Table 4.19. The results indicated that there is a significant overall relationship between the students' perceptions of leisure constraints and their ages: Wilk's Λ = .015, $F(21.3828) = 612.952$, $p < .05$. This variable accounted for 76% of total variance.

Test for 'between-subject effects' indicated that students' perceptions of constraints and benefits of leisure were associated with their age. Data analysis revealed age differences in their perception of family constraints, personal constraints. The F-ratio for each of perceived constraints of leisure was statistically significant at p = .05.

Table 4.19

Means Standard Deviations and F-tests of Perceived Constraints by Age

	Age of Respondents					
Leisure Constraints	15 to 16 n = 436 M (SD)	16 to 17 n = 357 M (SD)	17 to 18 n = 549 M (SD)	Total n = 1342 M (SD)	F-test F	p
School Constrains	8.58 (3.57)	9.60 (3.27)	9.15 (3.75)	9.08 (3.60)	2902.851	.001
Family Constrains	9.84 (3.61)	10.73 (3.52)	10.65 (3.73)	10.41 (3.65)	3671.815	.001
Personal Constrains	16.27 (2.75)	6.34 (2.51)	6.13 (2.64)	6.25 (2.64)	2501.444	.001

The descriptive statistics show that subjects of ages 16 to 17 scored higher on perception of school constraints ($\underline{M}$ = 9.16), family constraints ($\underline{M}$ =10.73) and personal constraints ($\underline{M}$ = 6.34) than from those of other ages.

4.9 Relationship between Students' Participation in Leisure Activities and Fathers' Education, and Occupation

This section examines whether fathers' education and occupation were related to students' active and passive leisure participation. MANOVA was used to analyse four categories of relationships. The first category tested the relationship between fathers'' education and students' participation in active leisure activities (Table 4.20). The second category comprised relationship of fathers' education with students' passive leisure participation (Table 4.21).

The third category was concerned with the relationship between fathers' occupation and students' active leisure participation (Table 4.22). The last category in this section investigated the relationship between fathers' occupation and students' passive leisure participation (Table 4.23).

Table 4.20 presents the descriptive statistics yielded from the MANOVA analysis of the relationship between fathers' education and students' active leisure participation. The results indicated that there was significant relationship between fathers' education and students' overall active leisure participation: Wilks' $\underline{\Lambda}$ = .091, $\underline{F}$ (28.2654) = 21.61, $p < .05$. This variable accounted for 70% of the total variance.

Test for univariate dependent variable indicated that the students' participation in the 14 active leisure activities was significantly associated with fathers' education. The F ratio for each of these 14 activities was statistically significant at $p = .05$.

The results of MANOVA yielded an overall relationship between fathers' education and students' passive leisure participation, Wilks' $\Lambda = .044$, F (26,2656) = 384,54, $p = .001$. Fathers' education account for 79% of the total variance (table 4.21).

In spite of the significant difference in participation in each leisure activity between 2 levels of fathers' education, the data must be interpreted with extreme caution, This is because some of the differences are very small. In some cases, despite having smaller mean scores, the difference is significant. For instance, although students whose fathers are non-university graduates had the same mean scores on running as students whose fathers are university graduates, the difference is significant

Table 4.22 presents the descriptive statistics yielded from MANOVA on the relationship between fathers' occupation and students' active leisure participation. The results indicated that there was a significant relationship between fathers' occupation and students' participation in active leisure activities: Wilks' $\Lambda = .092$, F (28,2654) = 218.43, $p < .05$. Father's occupation account for 70% of the total variance.

Table 4.20

Means Standard Deviations and F-tests for Students' Participation in Active Leisure Activities by their Father's Level of Education

Reported Activity	Level of Father's Education: Non-university Level n = 759 M (SD)	University Level n =583 M (SD)	Total n = 1342 M (SD)	F-test F	p
Football	2.17 (1.51)	2.24 (1.49)	2.20 (1.50)	1439.55	.001
Basketball	1.39 (0.91)	1.56 (1.10)	1.46 (0.10)	1451.74	.001
Volleyball	1.55 (1.04)	1.61 (1.15)	1.57 (1.09)	1405.79	.001
Swim	1.91 (1.41)	2.18 (1.52)	2.02 (1.47)	1294.83	.001
Tennis	1.30 (0.77)	1.48 (1.11)	1.38 (0.94)	1465.46	.001
Handball	1.35 (0.88)	1.31 (0.86)	1.33 (0.87)	1558.49	.001
Gymnastic	1.53 (1.12)	1.58 (1.17)	1.56 (1.14)	1252.18	.001
Walking	3.09 (1.62)	3.03 (1.66)	3.07 (1.64)	2345.31	.001
Running	2.09 (1.43)	2.02 (1.42)	2.06 (1.42)	1412.72	.001
Exercise	1.89 (1.32)	2.02 (1.44)	1.94 (1.37)	1339.81	.001
Visit Parks	1.77 (1.06)	1.69 (1.10)	1.73 (1.07)	1749.67	.001
Picnicking	1.85 (1.12)	1.90 (1.13)	1.87 (1.12)	1867.91	.001
Scouting	1.27 (0.85)	1.39 (0.98)	1.32 (0.91)	1430.65	.001
Gardening	1.55 (1.18)	1.55 (1.14)	1.55 (1.17)	1182.82	.001

Results in Table 4.23 show the relationship between fathers' occupation and students' participation in passive leisure activities. Significant relationship between fathers' occupation and students' passive leisure participation was observed: Wilk's Λ, .045 F (26,2656) = 379.659, $p < .05$. Father's occupation account for 80% of the total variance.

The descriptive statistics in Table 4.22 show that students whose fathers were professionals indicated significantly greater participation in football, basketball, volleyball, scouting and playing tennis than those whose fathers were not professionals. In contrast, those whose father were non-professionals participated more in swimming, handball, gymnastics and gardening.

The test for 'between-subject effects' indicated that the students' participation in both active and passive leisure activities was significantly associated with their fathers' occupation and education, significant at $p = .05$.

In spite of the significant difference in participation in each leisure activity between 2 levels of fathers' occupation, the data must be interpreted with extreme caution, This is because some of the differences are very small. In some cases, despite having smaller mean scores, the difference is significant. For instance, although students whose fathers are non-professionals had the same mean scores on 9 passive leisure activities as students whose fathers are professionals, the difference is significant

4.10 Relationship between Leisure Constraints, Benefits, Fathers' Education, and Occupation

This section was to examine whether father's level of education and occupation were related to perception of constraints and benefits of leisure participation.

Results from MANOVA in Table 4.24 presents the distribution of means and standard deviations of the relationship between father's education and occupation with perception of leisure constraints. Although the results indicated no statistical significant relationship between father's occupation and perception of leisure constraints: Wilks' Λ = .995, F (3.1336) = 2.451, p = .061, the results revealed that father's education was significantly related to leisure constraints: Wilks' Λ = .993, F (3, 1336) = 3.051, p = .028.

Test for 'between-subject effects' indicated that, the students whose fathers were professionals and had university education scored significant higher on perception of school constraints for leisure, whereas students whose fathers were non-professionals and had non-university scored significant higher on family and personal constraints for leisure.

Table 4.25 presents the results of the relationship of fathers' education and occupation to perception of leisure benefits. The MANOVA results indicate no significant relationship between fathers' education and occupation with perception of leisure benefits: Wilks' Λ = .997, F (4.1335) = .922, $p < .05$. Test for 'between-subject effects' indicated that students whose fathers were professionals and with university level education scored higher on perception of leisure benefits than non-professionals and had no university level.

The higher the level of education and occupation of the fathers, do not mean the higher the students' perceptions of leisure benefits. In other words, in case of students who do not have enough time and finance to spend on leisure activities, the best predictors for their participation and non- participation is their fathers' status of education and occupation. Fathers who have higher education will get good occupational, good family income and will in turn help them to secure better and more participation in leisure activities for their adolescent. Fathers who may have more money but little education and no professional status, are likely not to consider the benefits of leisure participation for themselves and for their family members.

4.11 Relationship among Active Leisure Participation, Gender, and Grade Levels

A major purpose of this study is to examine whether students' participation in active leisure activities is related to gender and grade level. To examine this concern, multivariate analysis of variance (MANOVA) was applied. In this analysis, the 14 active leisure activities were classified into two categories, (a) vigorous and (b) non-vigorous leisure activities. Each category was analysed separately, and MANOVA was used to test the data for significant differences were the independent variables on fixed factors are gender and grade level.

Table 4.21

Means and Standard Deviations and F- tests for Students' Participation in Passive Leisure Activities by their Father's Level of Education

Reported Activities	Level of Father's Education: Non-university level n = 759 M (SD)	University Level n = 583 M (SD)	Total n = 1342 M (SD)	F-test F	p
Watching TV	4.15 (1.36)	4.14 (1.38)	4.15 (1.37)	6195.881	.001
Watching Movies	2.58 (1.52)	2.85 (1.63)	2.70 (1.57)	1988.084	.001
Playing Computer Games	1.93 (1.43)	2.40 (1.62)	2.14 (1.53)	1350.03	.001
Listening Music	3.54 (1.59)	3.65 (1.65)	3.59 (1.62)	3311.344	.001
Reading Papers & Magazines	2.82 (1.54)	2.89 (1.61)	2.85 (1.57)	2204.248	.001
Reading Books	2.54 (1.52)	2.61 (1.64)	2.57 (1.57)	1791.606	.001
Playing Cards	1.78 (1.28)	1.96 (1.39)	1.86 (1.33)	1319.816	.001
Loitering	1.61 (1.23)	1.56 (1.12)	1.59 (1.19)	1207.094	.001
Playing music	1.62 (1.18)	1.66 (1.22)	1.64 (1.20)	1259.467	.001
Spending Time with Friends	3.37 (1.48)	3.36 (1.52)	3.36 (1.50)	3375.921	.001
Spending Time with Family	3.98 (1.38)	4.05 (1.41)	4.01 (1.39)	5569.996	.001
Visiting Relatives	2.60 (1.24)	2.70 (1.26)	2.64 (1.25)	3015.003	.001
Watching Sports	2.78 (1.51)	2.84 (1.54)	2.81 (1.52)	2279.931	.001

Table 4.22

Means Standard Deviations and F-tests for Students' Participation in Active Leisure Activities by their Father's Level of Occupation

Reported Activities	Father's Level of Occupation: Professional n = 662 M (SD)	Non-professional n = 680 M (SD)	Total n = 1342 M (SD)	F-test F	p
Football	2.28 (1.50)	2.13 (1.50)	2.20 (1.50)	1443.487	.001
Basketball	1.50 (1.07)	1.42 (0.93)	1.48 (0.10)	1440.051	.001
Volleyball	1.61 (1.15)	1.53 (1.03)	1.57 (1.09)	1406.835	.001
Swimming	1.95 (1.42)	2.09 (1.51)	2.03 (1.46)	1282.166	.001
Table Tennis	1.44 (1.08)	1.32 (0.78)	1.38 (0.94)	1456.40	.001
Handball	1.30 (0.87)	1.36 (0.87)	1.33 (0.87)	1550.017	.001
Gymnastic	1.52 (1.11)	1.59 (1.17)	1.56 (1.14)	1253.088	.001
Walking	2.93 (1.66)	3.20 (1.61)	3.07 (1.64)	2364.778	.001
Running	2.06 (1.42)	2.06 (1.42)	2.06 (1.42)	1411.454	.001
Exercise	1.92 (1.37)	1.96 (1.38)	1.94 (1.37)	1336.811	.001
Visit Park	1.71 (1.02)	1.76 (1.12)	1.73 (1.07)	1748.174	.001
Picnicking	1.89 (1.10)	1.86 (1.14)	1.87 (1.12)	1867.163	.001
Scouting	1.37 (0.96)	1.28 (0.86)	1.32 (0.91)	1427.447	.001
Gardening	1.54 (1.10)	1.56 (1.22)	1.55 (1.17)	1183.106	.001

Table 4.23

Means and Standard Deviations of Students' Participation in Passive Leisure Activities By their Father's Level of Occupation

Reported Activities	Father's Level of Occupation: Professional n = 662		Non-Professional n = 680		Total n = 1342		F-test	
	M	(SD)	M	(SD)	M	(SD)	F	P
Watching TV	4.17	(1.36)	4.12	(1.37)	4.15	(1.37)	6162.071	.001
Watching Movies	2.74	(1.60)	2.65	(1.55)	2.70	(1.57)	1971.612	.001
Playing Computer	2.16	(1.55)	2.11	(1.52)	2.14	(1.53)	1304.1	.001
Listening to Music	3.66	(1.65)	3.51	(1.58)	3.59	(1.62)	3314.787	.001
Reading Papers & Magazine	2.94	(1.57)	2.76	(1.56)	2.84	(1.57)	2211.571	.001
Reading Books	2.64	(1.60)	2.50	(1.54)	2.57	(1.57)	1794.989	.001
Playing Card	1.85	(1.34)	1.86	(1.32)	1.86	(1.33)	1310.813	.001
Loitering	1.57	(1.14)	1.61	(1.23)	1.59	(1.19)	1207.235	.001
Playing Music	1.60	(1.18)	1.70	(1.21)	1.64	(1.20)	1261.093	.001
Spending time with friend	3.37	(1.50)	3.36	(1.50)	3.36	(1.50)	3375.892	.001
Spending time with family	4.07	(1.39)	3.95	(1.37)	4.01	(1.39)	5577.313	.001
Visiting Relatives	2.73	(1.24)	2.55	(1.25)	2.64	(1.25)	3028.506	.001
Watching Sports	2.81	(1.53)	2.81	(1.51)	2.81	(1.52)	2278.721	.001

Table 4.24

Differences in Perceived Constraints by Fathers' Occupation and Education

Leisure Constraints	Fathers' Education	Fathers' Occupation: Professional n = (662) M (SD)	Fathers' Occupation: Non-professional n = (680) M (SD)	F-test: Occupation F	Occupation p	Education F	Education p
School Constraints	Non-university	8.73 (3.60)	8.90 (3.53)	.054	.817	6387	.009
	University	9.48 (3.80)	9.23 (3.23)				
	Total	9.20 (3.71)	9.08 (3.59)				
Family Constraints	Non-university	10.00 (3.38)	10.62 (3.74)	2.82	.093	.251	.617
	University	10.37 (3.85)	10.47 (3.68)				
	Total	10.23 (3.68)	10.58 (3.62)				
Personal constraints	Non-university	6.03 (2.39)	6.28 (2.71)	5.935	.015	2.727	.099
	University	6.16 (2.70)	6.67 (2.59)				
	Total	6.11 (2.60)	6.40 (2.70)				

Table 4.25

Differences in Perceived Benefits by Fathers' Occupation and Education

Benefits of Leisure	Fathers' Education	Fathers' Occupation: Professional n = 662 M (SD)	Fathers' Occupation: Non-professional n = 680 M (SD)	F-test: Occupation F	Occupation p	Education F	Education p
Physical benefits	Non-university	16.72 (2.51)	16.48 (2.96)	2.674	.102	1.173	.279
	University	16.93 (2.60)	16.63 (2.97)				
	Total	16.85 (2.56)	16.52 (2.97)				
Social benefits	Non-university	12.47 (2.08)	12.43 (2.22)	3.647	.56	.482	.488
	University	12.59 (2.25)	12.13 (2.44)				
	Total	12.55 (2.18)	12.35 (2.28)				
Psychological benefits	Non-university	16.87 (2.39)	16.80 (3.07)	.966	.326	.023	.879
	University	16.94 (2.64)	16.69 (2.55)				
	Total	16.91 (2.55)	16.78 (2.94)				
Learning benefits	Non-university	20.06 (3.06)	20.00 (3.16)	.937	.333	.937	.333
	University	20.56 (4.94)	19.97 (4.90)				
	Total	20.37 (4.33)	19.99 (3.68)				

4.11.1 Relationship among Vigorous Leisure Participation, Gender, and Grade Levels

In the first MANOVA, the seven vigorous leisure activities served as the dependent variables. The activities were playing football, basketball, volleyball, table tennis, handball, gymnastics, and running. Each item provides five categories of responses ranging from "not even a day" to "more than four days a week". Students' gender and grade level serve as the independent variables.

The results of the MANOVA yielded an overall relationship between students' participation in vigorous leisure activities, gender and grade levels. Significant gender differences in students' participation in vigorous leisure activities were observed: Wilks' Λ = .619, F (7, 1330) = 116.93, p = .001. Gender account for 38% of the total variance. Furthermore, the relationship of the seven vigorous leisure activities to grade levels was statistically significant: Wilks' Λ = .983, F(14, 2660) = 1.67, p = .05. Grade level account for 1% of the total variance.

Table 4.26 presents the descriptive statistics yielded from the MANOVA. In football, the males (M = 3.12) participated more than females (M = 1.35). This difference was statistically significant: F(5,1336) = 722.6, p = .001. The results indicated that, the participation in football is related to gender. The data indicated small differences between the three levels of schooling. The mean scores of participation in football of F1, F2 and F3 were 2.22, 2.24, and 2.14 respectively. The differences were statistically insignificant.

Similarly, significant gender differences were in basketball, table tennis and gymnastics. The males' mean scores for basketball, table tennis, and gymnastics were

1.65, 1.49, and 1.81 respectively while those of the females' were 1.28, 1.27, and 1.32. However, the reported participation among students in different grade levels in these three activities was comparable; the results of the follow-up univariate F-test were statistically insignificant.

In addition, Table 4.26 indicates that running is related to both gender and grade level. The data show more males ($\underline{M}$ = 2.15) participated in running than the females ($\underline{M}$ = 1.97). This gender difference was found to be statistically significant: $\underline{F}(5,1336) = 5.34$, $\underline{p} = .02$. The results also showed that the Form I students scored the highest in participation ($\underline{M}$ = 2.18) than Form II ($\underline{M}$ =1.96) and Form III ($\underline{M}$ = 2.05) students.

The follow-up univariate test indicated that the differences were statistically significant: $\underline{F}(5, 1336) = 5.3$, $p = .02$.

Of the seven vigorous leisure activities, students' participation in volleyball and handball was not related to gender or grade level. The males' mean score was higher participation in volleyball 1.59 and for handball 1.35 while the mean scores for the females was 1.55 for volleyball and 1.31 for handball. However, the gender effect was statistically insignificant: at $\underline{p} > .05$. Similarly, the grade level differences in these two vigorous leisure activities were not significant.

To sum up, the statistical analysis on vigorous leisure activities revealed that participation in football, basketball, table tennis and gymnastics are significantly associated with gender. Running was related to both gender and grade level, but participation in volleyball and handball were related to either gender or grade level.

4.11.2. Relationship among Non-vigorous Leisure Participation, Gender, and Grade Levels

MANOVA was conducted on seven items pertaining to non-vigorous leisure activities. These activities were swimming, walking, exercise, visiting parks, picnicking, scouting, and gardening. MANOVA revealed the presence of significant gender difference in participation in non-vigorous leisure activities, Wilks' $\Lambda = .945$, $F(7,1330) = 10.96$, $p = .001$. Gender account for 5% of the total variance.

The relationship between the seven non-vigorous leisure activities and grade level was statistically significant: Wilks's $\Lambda = .962$, $F(14,2660) = 3.76$, $p = .001$. Grade level account for 3% of the total variance.

Table 4.27 presents the mean, standard deviation, and F-test of the students' participation in each of the non-vigorous leisure activities according to gender and grade levels. In swimming, the mean scores for the male students was 2.33 compared to 1.73 for the females. The difference is statistically significant: $F(5,1336) = 58.8$, $p = .01$. In addition, Form III students ($M = 2.11$) reported more participation in swimming Form I ($M = 2.02$) and Form II ($M = 1.94$) students. The variability in swimming accounted the grade level is statistically insignificant: $F(5, 1336) = 1.53$, $p > .05$.

Similar pattern of relationship was observed in students' participation in visiting parks and scouting.

Table 4.26

Means Standard Deviations and F-tests of Vigorous Leisure Participation according to Gender and Grade Levels

Vigorous Activities	Male n = 646 M	SD	Female n = 696 M	SD	Total n = 1,342 M	SD	n	F- test* Gender Effect F	p	Grade level F	Effect p
Football											
Form I	3.20	(1.48)	1.24	(0.70)	2.22	(1.51)	437	722.60	.01	1.00	.38
Form II	3.24	(1.48)	1.35	(0.95)	2.24	(1.55)	450				
Form III	2.93	(1.44)	1.44	(1.03)	2.14	(1.44)	455				
Total	3.12	(1.47)	1.35	(0.91)							
Basketball											
Form I	1.60	(1.12)	1.41	(0.93)	1.51	(1.03)	437	47.30	.01	.45	.64
Form II	1.71	(1.19)	1.21	(0.76)	1.45	(1.02)	450				
Form III	1.66	(1.14)	1.23	(0.68)	1.41	(0.95)	455				
Total	1.65	(1.15)	1.28	(0.80)							
Volleyball											
Form I	1.54	(1.07)	1.64	(1.64)	1.59	(1.06)	437	.40	.53	.08	.93
Form II	1.61	(1.16)	1.52	(0.08)	1.56	(1.12)	450				
Form III	1.63	(1.12)	1.51	(1.05)	1.56	(1.08)	455				
Total	1.59	(1.11)	1.55	(1.06)							
Table Tennis											
Form I	1.42	(1.00)	1.26	(0.69)	1.34	(0.87)	437	18.60	.01	2.02	.13
Form II	1.62	(1.20)	1.29	(0.88)	1.44	(1.05)	450				
Form III	1.43	(0.95)	1.28	(0.81)	1.35	(0.88)	455				
Total	1.49	(1.06)	1.27	(0.80)							
Handball											
Form I	1.34	(0.83)	1.48	(1.00)	1.41	(0.92)	437	.69	.41	2.96	.06
Form II	1.40	(1.00)	1.26	(0.83)	1.33	(1.91)	450				
Form III	1.33	(0.87)	1.20	(0.69)	1.26	(0.78)	455				
Total	1.35	(1.47)	1.31	(0.85)							
Gymnastics											
Form I	1.81	(1.31)	1.45	(1.00)	1.63	(1.18)	437	65.80	.01	1.35	.26
Form II	1.70	(1.21)	1.32	(0.93)	1.50	(1.09)	450				
Form III	1.93	(1.40)	1.20	(0.71)	1.53	(1.15)	455				
Total	1.81	(1.31)	1.32	(0.89)							
Running											
Form I	2.19	(1.49)	2.17	(1.55)	2.18	(1.52)	437	5.34	.02	5.30	.02
Form II	2.08	(1.36)	1.85	(0.34)	1.96	(1.35)	450				
Form III	2.20	(1.34)	1.91	(1.40)	2.05	(1.38)	455				
Total	2.15	(1.40)	1.97	(1.43)							

* Note: F- and p-values for the Univariate Gender Effect and Grade-level Effect

The mean scores of the males ($\underline{M}$ = 1.82) was significantly form the mean scores of the females ($\underline{M}$ = 1.65) in visiting parks ($\underline{F}(5,1336) = 8.1$, $p = .004$) and in scouting ($\underline{F}(5,1336) = 4.44$, $p = .035$). On the other hand, the grade-level differences in visiting parks and scouting were not significant at $p = .05$.

Table 4.27 shows that participation in walking and exercise are related to gender and grade level. The males' mean scores for the three non-vigorous activities were 3.26 for walking, 2.09 exercise, and 1.63 gardening. The mean scores of the females were 2.89, 1.65, and 1.17 for walking, exercise and gardening respectively. The differences were statistically significant for walking, ($\underline{F}(5,1336) = 18.1$, $p = .01$); for exercise, ($\underline{F}(5,1336) = 14.5$, $p = .001$); and for gardening, ($\underline{F}(5,1336) = 6.90$, $p = .09$). In addition, the students' participation in these three activities were also significantly related to grade level.

In summary, findings indicated that the students' participation in non-vigorous activities are related except for picnicking. Males had higher mean scores on these activities. Grade level is significantly related to walking, exercise and gardening. Finally, picnicking is related to neither gender nor grade level.

4.12 Relationship among Passive Leisure Participation, Gender, and Grade Level

One of the concern of the study was to examine whether students' participation in passive leisure activities was related to gender and grade levels. MANOVA was applied to analyse the data on related passive leisure participation.

Table 4.27

Means Standard Deviations and F-tests of Non-vigorous Leisure Participation according to Gender and Grade Level

Non-Vigorous Activities	Male n = 646 M	Male n = 646 SD	Female n = 696 M	Female n = 696 SD	Total n = 1,342 M	Total n = 1,342 SD	n	F- test* Gender Effect F	Gender Effect p	Grade Level Effect F	Grade Level Effect p
Swimming											
Form I	2.24	(1.53)	1.80	(1.31)	2.02	(1.45)	437	58.8	.01	1.51	.21
Form II	2.25	(1.47)	1.67	(1.27)	1.94	(1.40)	450				
Form III	2.51	(1.67)	1.73	(1.32)	2.11	(1.55)	455				
Total	2.33	(1.56)	1.73	(1.30)							
Walking											
Form I	2.89	(1.67)	2.80	(1.62)	2.84	(1.64)	437	18.1	.01	8.2	.01
Form II	3.31	(1.57)	2.88	(1.69)	3.08	(1.65)	450				
Form III	3.59	(1.51)	2.97	(1.63)	3.26	(1.60)	455				
Total	3.26	(1.61)	2.89	(1.65)							
Exercise											
Form I	1.76	(1.29)	1.74	(1.21)	1.75	(1.25)	437	14.5	.01	8.2	.01
Form II	2.16	(1.33)	1.77	(1.36)	1.95	(1.36)	450				
Form III	2.34	(1.48)	1.90	(1.44)	2.11	(1.48)	455				
Total	2.09	(1.39)	1.81	(1.34)							
Visiting Parks											
Form I	1.73	(1.09)	1.57	(1.10)	1.74	(1.10)	437	8.1	.01	2.86	.06
Form II	1.98	(1.23)	1.67	(1.08)	1.82	(1.16)	450				
Form III	1.76	(0.92)	1.55	(0.65)	1.65	(0.88)	455				
Total	1.82	(1.09)	1.65	(1.05)							
Picnicking											
Form I	1.74	(0.95)	1.85	(1.28)	1.80	(1.13)	437	2.41	.12	2.14	.18
Form II	2.10	(1.14)	1.80	(1.12)	1.94	(1.14)	450				
Form III	1.93	(1.04)	1.85	(1.14)	1.89	(1.10)	455				
Total	1.95	(1.06)	1.83	(1.18)							
Scouting											
Form I	1.45	(1.05)	1.35	(1.01)	1.40	(1.03)	437	4.44	.04	2.23	.11
Form II	1.31	(0.85)	1.25	(0.83)	1.28	(0.84)	450				
Form III	1.38	(0.92)	1.21	(0.75)	1.29	(0.84)	455				
Total	1.38	(0.95)	1.27	(0.87)							
Gardening											
Form I	1.69	(1.31)	1.63	(1.26)	1.67	(1.29)	437	6.90	.09	4.10	.02
Form II	1.63	(1.19)	1.48	(1.14)	1.55	(1.16)	450				
Form III	1.59	(1.14)	1.30	(0.92)	1.44	(1.04)	455				
Total	1.63	(1.21)	1.17	(1.12)							

* Note: F- and p-values for the Univariate Gender Effect and Grade-level Effect

In this analysis, the 13 items passive leisure activities were classified into two categories, namely (1) audio-visual activities, and (2) printed media and social activities. Each category was analysed separately.

Six items participation in audio-visual activities. Each of activities serves as a dependent variable. The activities were watching television, watching movies, playing computer games, listening to music, playing music, and watching sports and games. The other seven items which measure participation in printed media and social activities. They are, reading newspapers and magazines, reading books for pleasure, playing cards, loitering, spending time with friends, spending time with family and visiting relatives. Table 4.28 summarizes the descriptive statistics F-test for participation in audio-visual activities by grade and gender.

4.12.1 Relationships among Participation in Audio-Visual Activities, Gender, and Grade Levels

The results of MANOVA indicated that there was an overall relationship among students' participation in audio-visual media activities, gender, and grade levels. The MANOVA revealed the significant gender differences in students' participation in audio-visual activities: Wilks' $\Lambda = .836$, $F\ (6, 1331) = 43.456$, $p < .05$. Gender account for 16% of the total variance. The relationship between the six audio visual media activities and grade levels was statistically significant: Wilks' $\Lambda = .962$, $F\ (12,2662) = 4.31$, $p < .05$. Grade level account for 1% of the total variance.

Table 4.28

Means Standard Deviations and F-tests of Participation in Audio-Visual Media Activities according to Gender and Grade Level

Audio visual Activities	Male n = 646 M	SD	Female n = 696 M	SD	Total n = 1,342 M	SD	n	F- test* Gender Effect F	p	Grade Level Effect F	p
Watch TV											
Form I	4.24	(1.26)	3.91	(1.62)	4.08	(1.46)	437	1.86	.17	2.11	.12
Form II	4.17	(1.27)	4.03	(1.47)	4.10	(1.38)	450				
Form III	4.17	(1.32)	4.34	(1.18)	4.25	(1.37)	455				
Total	4.20	(1.29)	4.10	(1.44)							
Watch Movie											
Form I	2.83	(1.45)	2.78	(1.59)	2.80	(1.51)	437	73	.39	1.44	.24
Form II	2.73	(1.45)	2.58	(1.59)	2.65	(1.62)	450				
Form III	2.65	(1.51)	2.00	(1.55)	2.15	(1.54)	455				
Total	2.74	(1.54)	2.66	(1.61)							
Computer Games											
Form I	2.14	(1.52)	1.96	(1.45)	2.05	(1.49)	437	7.13	.08	1.19	.31
Form II	2.29	(1.56)	2.12	(1.55)	2.20	(1.56)	450				
Form III	2.32	(1.59)	2.00	(1.48)	2.15	(1.54)	455				
Total	2.25	(1.56)	2.03	(1.49)							
Listen to Music											
Form I	3.05	(1.61)	3.48	(1.66)	3.27	(1.65)	437	21.8	.01	13.5	.01
Form II	3.54	(1.54)	3.77	(1.65)	3.67	(1.60)	450				
Form III	3.51	(1..60)	4.10	(1.45)	3.82	(1.55)	455				
Total	3.37	(1.60)	3.79	(1.60)							
Play Music											
Form I	1.71	(1.30)	1.83	(1.35)	1.77	(1.33)	437	.87	.35	5.05	.07
Form II	1.59	(1.13)	1.67	(1.20)	1.64	(1.17)	450				
Form III	1.53	(1.11)	1.50	(1.03)	1.52	(1.07)	455				
Total	1.61	(1.18)	1.67	(1.21)							
Watch Sport and Games											
Form I	3.21	(1.51)	2.36	(1.34)	2.79	(1.49)	437	200.1	.01	.80	.45
Form II	3.48	(1.40)	2.12	(1.25)	2.76	(1.49)	450				
Form III	3.43	(1.44)	2.36	(1.53)	2.87	(1.58)	455				
Total	3.38	(1.46)	2.28	(1.39)							

* Note: F- and p-values for the Univariate Gender Effect and Grade-level Effect

As shown in Table 4.28, participation in listening to music is related to both gender and grade level. The males had lower mean scores in listening to music ($\underline{M}$ = 3.37) than the females ($\underline{M}$ = 3.79). The difference in passive leisure activity is statistically significant: $\underline{F}(1, 1336) = 21.8$, $p < .05$. The grade level difference is also significant: $\underline{F}(2, 1336) = 13.5$, $p < .05$. The analysis found that Form III female students ($\underline{M}$ = 3.82) participated more in listening to music than did the students of lower grade levels; $\underline{M}$ = 3.27 (Form I) and $\underline{M}$ = 3.67 (Form II). No significant gender and grade level differences were found in watching television and movies. Participation in computer games is not related to gender. The mean score for the males was 2.25) was higher than that of the females was 2.03). This mean difference is statistically not significant: $\underline{F}(1,1336) = 7.13$, $p=.08$. In addition, participation in playing music is reliably associated with grade level: $\underline{F}(2,1336) = 5.05$, $p = .07$.

4.12.2 Relationships among Participation in Printed Media and Social Activities, Gender and Grade Level

MANOVA was used to determine gender differences in the printed media and social activities. The analysis shows significant gender differences on passive activities: Wilks' $\underline{\Lambda} = .891$ $\underline{F}$ (7,1330) = 23.325, $p = .001$. Gender account for 11% of the total variance. Grade level differences in participation in seven passive activities were also significant: Wilks' $\underline{\Lambda} = .951$, $\underline{F}$ (14,2660) = 4.84, $p = .05$. Grade level account for 5% of the total variance.

Table 4.29 shows the relationships of the students' participation in the seven passive activities with gender and grade levels. The test for between-subject effects

indicated that gender significantly accounted for the variability in students' participation in five of the printed media and social activities. The univariate test produced statistically significant differences in the gender effects on reading papers ($F(1,1336) = 7.93$), reading books 9$F(1,1336) = 3.840$, loitering ($F(1,1336) = 134.8$), spending time with friends ($F(1,1336) = 12.92$) and visiting relatives ($F(1,1336) = 11.87$, at $p < .05$. It is interesting to note that the males outscored the females in loitering, spending time with friends, and visiting relatives. On the contrary, the females had mean scores in reading newspapers and magazines and reading books for pleasure among the females were higher than those of the males.

Of the seven printed media and social activities, two of them were significantly related with grade level. Grade level is related to the students' spending time with friends and spending time with family. The F-ratios for this between-subject effect were statistically significant: $F(2,1336) = 3.77$ (spending time with friends) and $F(2,1336) = 11.87$ (spending time with family). For visiting friends F I male students have higher mean score than F III. For loitering, FII s' mean scores lower than those for FI and FIII students while female students, FII is higher than FI and FIII.

4.13 Perception of the Equal Importance of Leisure and School Study

Subjects were asked to indicate their perceptions of equal importance of (a) their participation in activities and their school study, (b) and if participation in leisure activities in school and out of school should be given equal importance. The results inTable 4.30 shows that 73% of the students (N = 979) agreed that leisure and

school are equally important.76% of the students (N =1014) agreed that activities in school and out of school should be given equal importance.

4.14 With Whom and Where Students Spent Most of Their Leisure Time

The results in the Table 4.32 indicated that 38% (N = 514) of the students spent most of their leisure time with their friends 42% (N = 565) of them spent most of their leisure time with their family, while 20% of the students spent their leisure time alone. These results also show that 35% (N =467) of the students spent their leisure time out of home and out of school 50% (N = 671) of the students spent most of their leisure time at home, whereas only 15% of the students spent leisure time in school.

4.15 Days of the Week Which Students Spent More Time in Leisure Activities

The results in Table 4.32 show that 59% (N = 792) of the students spent more time in leisure activities on the Thursday and 65% (N = 876) of them spent more time in leisure on the Friday which is a public holiday in Libya. Only from 8 to 12 % of the students spent their time in leisure on other days of the week.

Table 4.29

Means Standard Deviations and F-tests of Participation in Printed Media and Social Activities by Gender and Grade Level

Printed Media & Social Activities	Male n = 646 M	SD	Female n = 696 M	SD	Total n = 1,342 M	SD	n	F- test* Gender Effect F	p	Grade Level Effect F	p
Reading newspapers & Magazines											
Form I	2.76	(1.57)	2.70	(1.60)	2.73	(1.58)	437	7.93	.05	2.11	.12
Form II	2.57	(1.46)	3.10	(1.58)	2.85	(1.55)	450				
Form III	2.82	(1.49)	3.07	(1.63)	2.84	(1.57)	455				
Total	2.71	(1.51)	2.97	(1.61)							
Reading books for pleasure											
Form I	2.63	(1.59)	2.51	(1.61)	2.57	(1.60)	437	3.84	.05	.55	.58
Form II	2.52	(1.43)	2.70	(1.59)	2.62	(1.52)	450				
Form III	2.28	(1.50)	2.72	(1.65)	2.51	(1.59)	455				
Total	2.48	(1.51)	2.65	(1.62)							
Playing cards											
Form I	1.95	(1.37)	1.74	(1.30)	1.85	(1.34)	437	.015	.98	.52	.59
Form II	1.93	(1.37)	1.88	(1.39)	1.90	(1.38)	450				
Form III	1.69	(1.10)	1.95	(1.39)	1.82	(1.27)	455				
Total	1.85	(1.29)	1.86	(1.36)							
Loitering											
Form I	1.95	(1.42)	1.26	(0.87)	1.60	(1.22)	437	134.8	.01	.13	.88
Form II	1.94	(1.27)	1.30	(0.92)	1.60	(1.14)	450				
Form III	1.99	(1.43)	1.18	(0.74)	1.56	(1.19)	455				
Total	1.69	(1.33)	1.24	(0.84)							
Spending time with friends											
Form I	3.27	(1.54)	3.17	(1.58)	3.22	(1.56)	437	12.92	.01	3.77	.02
Form II	3.66	(1.33)	1.15	(1.54)	3.39	(1.47)	450				
Form III	3.62	(1.43)	3.35	(1.48)	3.48	(1.46)	455				
Total	3.51	(1.45)	3.22	(1.53)							
Spending time with family											
Form I	3.69	(1.52)	3.59	(1.53)	3.64	(1.52)	437	1.22	.27	24.28	.01
Form II	4.24	(1.25)	4.07	(1.37)	4.15	(1.32)	450				
Form III	4.22	(1.22)	4.25	(1.28)	4.23	(1.25)	455				
Total	4.05	(1.36)	3.98	(1.42)							
Visiting relatives											
Form I	2.75	(1.28)	2.49	(1.27)	2.62	(1.27)	437	11.87	.01	1.21	.30
Form II	2.78	(1.25)	2.66	(1.25)	2.72	(1.25)	450				
Form III	2.75	(1.27)	2.44	(1.15)	2.59	(1.25)	455				
Total	2.76	(1.26)	2.53	(1.22)							

*Note: F- and p-values for the Univariate Gender Effect and Grade-level Effect

Table 4.30

Students' Perception of the Equal Importance of Leisure, School study and leisure activities in and out of school

	Responses	N	%
Leisure and study should be given equal importance.	Disagree	363	27
	Agree	979	73
In and out of school activities should be given equal importance.	Disagree	328	24
	Agree	014	76

Table 4.31

With Whom and Where Students Spent Time for Leisure Activities

Statement	Responses	N	%
With whom most of Their leisure time spent	With friends	514	38
	With family	565	42
	Alone	263	20
Where most of the leisure time spent	In school	203	15
	At home	671	50
	Out of home and school	467	35

Table 4.32

Days of the Week Students Spent More Time in Leisure Activities

Day	N	%
Saturday	110	8.2
Sunday	106	8.0
Monday	157	12.0
Tuesday	109	8.0
Wednesday	106	8.0
Thursday	792	59.0
Friday	876	65.0

4.16 Average Number of Hours Spent in Sports, Reading Papers and Watching Television

One of the aims of this study is to investigate the average number of hours that adolescents spend in active and passive leisure activities. Since study can not investigate all active and passive leisure activities, It focuses only on sports, readings and watching TV. These are curies out to present active and passive leisure activities because they are the most commonly participated leisure activities by school adolescents.

The results in Table 4.33 show the average number of hours which students spent in sports (active leisure) and in reading papers and watching television (passive leisure). The results revealed that 49% (N = 662) of the students participated in sports from 1 to 2 hours a day. 28% (N=377) of the students participated from 0 to half an hour, 15 per cent (N = 204) of the students participated in sports. From 3 to 4 hours, whereas only 7 per cent of the students participated more than 4 hours a day in sports.

With regard to the average hours spend in watching television in a day. The results show that 36 per cent (482) of the students watched television from 1 to 2 hours a day. 28 per cent (N=370 of the students watched television for more than 4 hours a day. 11 per cent (N = 141) of the students watched television from 0 to half an hour.

Table 4.33

The average hours spent in sports, reading papers and watching television

Activities	Hours	N	%
Sports	0 to half an hour	377	28
	1 to 2 hours	662	49
	3 to 4 hours	204	15
	More than 4 hours	99	7
Watching television	0 to half an hour	141	11
	1 to 2 hours	482	36
	3 to 4 hours	347	26
	More than 4 hours	370	28
Reading newspapers and Magazines	0 to half an hour	501	37
	1 to 2 hours	574	42
	3 to 4 hours	169	13
	More than 4 hours	98	7

4.17 Leisure Facilities that Libyan Students Use in Their Leisure Time

The study investigated the use of the given leisure facilities which was available to all students in the city of Tripoli (Libya). Subjects were asked to indicate whether they were using or not using the leisure facilities which were available for all in the city of Tripoli. The data in Table 4.34 shows that only 30 per cent (n = 399) of the students used sport centres and 40 per cent (n = 537) of them used schools in their leisure time activity. 26 per cent (n = 344) used public parks, 13 per cent (n = 171)

used the public pitches, and only 9 per cent (n = 119) of the students used scout movement as their facility of leisure. The facilities shown in the study are limited to those as provided by the Libyan government and are considered public and free for all.

Table 4.34

The Used Facilities of Leisure activities

Provided Leisure Facilities		N	%
Public Pitches	Using	171	13
	Not using	1171	87
Sport Centres	Using	399	30
	Not using	943	70
Youth Hostels	Using	226	17
	Not using	1116	83
Schools	Using	537	40
	Not using	805	60
Public Parks	Using	344	26
	Not using	998	74
Scout Movement	Using	119	9
	Not using	1222	91