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EFFECTS OF GENDER AND CHOICE OF MAJOR ON ESTIMATES OF MULTIPLE INTELLIGENCES FOR SELF, MOTHER, AND FATHER AMONG LEBANESE YOUTH

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ABSTRACT

This study investigated lay perceptions of intelligence among Lebanese university students. Gardner's multiple intelligence questionnaire was administered to a sample of 548 students. They were asked to estimate their own, their mother's, and their father's intelligence. The study investigated whether gender and academic-major differences would appear for respondents' self-estimates of Gardner's multiple intelligences and for their estimates of Gardner's spatial and logical dimensions for their fathers and mothers, using the parents' educational levels as a covariate. Main gender effects were found for the estimates of father's and mother's intelligence, with father's and mother's educational levels as a covariate. Interaction effects were found between gender and major, with females in business rating father's intelligence higher than males. Fathers received higher ratings overall than mothers.

INTRODUCTION

With the growth of educational infrastructure in developed/transition countries, Furnham (2001) and Furnham, Shahidi & Baluchi (2002) have suggested that the rise of literacy rates in these nations may be associated with higher lay estimates of intelligence. Literate and educated children and youth far outnumber literate members of their parents' generation, and members of these younger groups may estimate their own intelligence higher than they estimate their parents' and grandparents'. A premise of this study was that estimates of parents' intelligence are closely linked to parents' educational levels and that educational level is an important predictor of self-estimate of intelligence.

Two types of questionnaires have been commonly used in differentiating estimates of intelligence: one relies on the concept of general intelligence, or *g* (Furnham & Rawles, 1995; Byrd & Stacey, 1993), and the other on Gardner's (1983) concept of multiple intelligences, traditionally comprising seven dimensions (Fong & Martin, 1999; Furnham & Baguma, 1999; Furnham, Hosoe & Tang, 2001; and Furnham, Shahidi & Baluch, 2002). More recently, Gardner (Gardner, 1999) has added naturalistic, existentialist, and spiritual dimensions to his original seven (GMI). Studies assessing estimates of intelligence along these new dimensions either do not exist or are as yet unpublished.

International Studies on Estimates of Gardner's Multiple Intelligences

Studies have compared estimates of the original seven dimensions of Gardner's multiple intelligences among American and African respondents (Furnham & Baguma, 1999); among American, British, and Japanese respondents (Furnham, Hosoe & Tang, 2001); among British, Hawaiian, and Chinese-Singaporean respondents (Furnham, Fong & Martin, 1999); and among British and Iranian respondents (Furnaham, Shahidi & Baluch, 2002). Some of the differences in findings among these studies relate to self-estimates for the logical, spatial, musical, and intrapersonal dimensions. British and American males produced higher self-estimates for the logical/mathematical and spatial dimensions than females.

Based on cultural differences and differences in gender role behavior between East and West, as well as the overarching influence of Western culture on the East, it may be that self-estimates of intelligence in non-Western nations are lower than in the West, and that the gender effect favoring males over females is greater in non-Western estimates and self-estimates than in the West.

Effects of Gender and Choice of Major on Estimates of Intelligence

A number of studies have revealed gender effects to be at work in estimates of intelligence. The literature consistently shows higher male self-estimates, as well as fathers and sons being scored higher than female relatives (Furnham & Budhani, 2001; Furnham, Reeves, & Budhani, 2002; Rammstedt & Rammsayer, 2000).

These findings for estimates of intelligence are congruent with tendencies to fall into stereotyped career choices, with women tending to choose majors in the liberal arts, education, social sciences, and the humanities, and men tending to gravitate to stereotypically male fields such as the sciences and engineering. The congruence between estimates of intelligence and sex-stereotyped career choices suggests that women's college majors and career choices do not lead

to occupational success. There is also research that shows men tending to fare better in careers in the hard sciences than females (Baker, 1990).

Hogan (1978; as cited in a review of the literature by Furnham, Reeves, & Budhani, 2001) reported that more than half of eleven studies showed significant differences between females and males as regards estimates of intelligence. Females' underestimates reflect a social reward system that encourages the promotion and success of men, a pronounced feature of the neopatriarchal system in place in Arab societies (Sharabi, 1988). Neopatriarchy is closely associated with relations of authority, domination, and dependency emanating from family relations to society at large. Given the tendency to behave consistently with one's self-image (Wells & Sweeney, 1986), females raised in neopatriarchy, are delicately nurtured and have culturally desirable "feminine" traits fostered in them. They are likely to undertake tasks that are viewed as feminine and that render them subservient to males, who are perceived as superior (Schvaneveldt, Kerpelman & Schvaneveldt, 2005).

Further, in general, parents wish their children to meet the highest standards of intelligence set by their society; so they act in accordance with cultural norms that will maximize boys' intelligence, challenging their sons with tasks requiring greater effort in applying the kinds of cognition perceived as intellectual (Okagaki & Sternberg, 1993).

Purpose of the Study

Several variables were examined in this study, some of which had been previously used in studies carried out in Scotland, New Zealand, England, Germany, Japan, the USA, Singapore, and Iran. The study explored gender differences, choice of academic major, and interaction effects on estimates of intelligence.

It was expected males would have higher self-estimates than females. It was also expected that females applying for engineering, mathematics, and sciences (the hard sciences) would produce higher self-estimates of multiple intelligences, specifically of the logical and spatial dimensions, than would males. This expectation related to men's numerical and social domination of university hard science faculties. (For example, at the university where our questionnaire was administered, seven percent of engineering students and 35 percent of science students were female.) It was reasoned that females applying for admission to a science faculty and qualifying in the hard sciences are likely to perceive themselves as exceptionally intellectually rigorous and superior to male candidates in the same field.

It was also expected that an interaction effect would be found for gender by major on self-estimates of overall intelligence and on the aggregate mean score of self-estimates for the logical and spatial GMI dimensions, with females in the hard sciences self-estimating higher than females in other academic fields.

Last, it was expected that, in accordance with the reciprocity hypothesis, females competing in the hard sciences would rate their mothers higher than their fathers. The reciprocity hypothesis suggests that females with robust self-esteem would tend to rate females higher than is the case in the population at large.

In general, estimates of intelligence have been found to be significant among close relations, with male supremacy reflected in males' higher self-estimates and high estimates for male family members (Furnham, 2001). Hence, it is not surprising to find higher estimates of intelligence for fathers than for mothers. Studies conducted in New Zealand (Byrd & Stacey, 1983), Scotland (Beloff, 1992), and England (Furnham & Rawles, 1999) have shown that females estimated their fathers' intelligence higher than their mothers'. However, none of these studies have explored the role of parents' educational levels in children's estimates of their intelligence.

METHODOLOGY

Respondents

The sample consisted of 247 females and 401 males aged between 16 and 30 (M = 18.23yrs.). Respondents were all new undergraduate students taking entrance exams in a private university in Lebanon. The university offers degrees in liberal arts, education, social sciences, business, humanities, sciences, engineering, architecture, and computer science. The great majority of students taking the entrance exam came from schools in Lebanon where English is the medium of instruction. The great majority of students were Lebanese; a small minority were from other Arab nations (n = 11); and a comparable minority were from other countries (n = 18), mainly the USA and Latin America.

Materials

Prior to taking the university entrance exam, respondents were given a questionnaire with two main sections. In one section, the questionnaire obtained background information on the respondent's gender, age, perceived class of family, and parents' educational levels. The other section included questions on all ten dimensions of Gardner's multiple intelligences and an explanation of the normal curve. A graph was presented with the normal curve, where the x-axis had a mean of 100 intelligence units and one standard deviation of 15 intelligence units. The self-estimates of intelligence were standardized by placing the scores on the normal distribution, with the average of 100 intelligence units on the normal distribution. The normal distribution ranged from 55 to 145 intelligence units (see Appendix A). Prior to the English entrance exam, respondents were briefed about the project and were told they would incur no penalty by not responding to the questionnaire. Respondents were then asked to read the directions and rate their intelligence as well as their parents' intelligence. According to the established scale. The authors gave an illustration of what the normal curve represents and notions of central tendency measures. Because of the controlled environment provided by the university admission test, the study had a 100% response rate. However, respondents did not always report all the requested intelligence estimates, that is, self-estimate and estimates of parents' intelligence.

RESULTS

We were interested in finding whether there are differences between males and females in estimates of GMI for self, mother, and father. Mean ratings were obtained for estimates of GMI and the logical and spatial dimensions of GMI. Table 1 reports the means for eight national

groups, as obtained in seven previously published studies (Beloff, 1992; Byrd & Stacey, 1993; Furnham & Rawles, 1995; Rammstedt & Rammsayer, 2000; Furnham, Hosoe & Tang, 2001; Furnham, Shahidi & Baluch, 2002) and the present study. GMI self-estimates were non-significantly higher for females than males; GMI estimates were lower for mothers than fathers.

Table 1. Means for Nine Studies on the Estimates of Intelligence

	Nation	Type of Questionnaire	Females	Males
Beloff (1992)	Scotland	General "g"		
Self			120.5	126.9
Mother			119.9	118.7
Father			127.7	125.2
Byrd & Stacey (1993)	New Zealand	General "g"		
Self			121.9	121.5
Mother			114.5	105.5
Father			127.9	122.3
Furnham & Rawles (1995)	England	General "g"		
Self			112.31	118.48
Mother			108.07	109.42
Father			114.18	116.09
Rammstedt & Rammsayer (2000)	Germany	Gardner's 7 Multiple Intelligence		
Self			111.9	114.1
Mother			107.4	107.4
Father			111.9	109.6
Furnham, Hosoe & Tang (2001)	USA	Gardner's 7 Multiple Intelligence		
Self			110.2	112.0
Mother			106.9	108.1
Father			106.5	110.41
Furnham, Hosoe & Tang (2001)	Japan	Gardner's 7 Multiple Intelligence		
Self			98.6	102.3
Mother			99.4	100.9
Father			101.4	102.3
Furnham, Shahidi & Baluch (2002)	Iran	Gardner's 7 Multiple Intelligence		
Self			111.56	111.87
Mother			108.7	102.72
Father			97.87	98.83
This Study	Lebanon	Gardner's 10 Multiple Intelligence	(N=182)	(N=280)
Self			111.24 (8.06)	111.12 (9.32)
Mother			109.98 (9.28)	106.18 (9.79)
Father			112.56 (9.88)	110.02 (10.01)

Table 2 reports means and standard deviations for estimates of own, mother's, and father's GMI. With respect to specific GMI dimensions, the highest estimates are for the interpersonal dimension for self; intrapersonal dimension for mother; and existentialist dimension for father. Fathers were rated higher than mothers on the verbal, logical, and spatial GMI dimensions, known as the cognitive dimensions, a result in line with those reported in Furnham & Budhani (2001) and Furnham, Reeves & Budhani (2002).

Table 2. Means and Standard Deviations for Self, Mothers and Fathers for GMI

	Self			Mother			Father		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Verbal	492	108.20	12.63	482	105.66	15.32	478	110.44	17.32
Logical	493	113.63	15.05	481	102.83	17.35	477	115.11	18.65
Spatial	487	114.10	14.84	477	109.34	14.97	476	114.37	16.19
Musical	488	99.61	22.52	475	92.68	17.91	472	92.76	20.12
Body Kinesthetic	480	110.74	16.23	473	115.85	16.08	464	107.70	17.30
Inter-personal	483	120.19	14.02	468	115.86	14.10	468	116.36	16.82
Intra-personal	480	118.46	14.27	467	117.55	16.08	466	117.96	14.34
Existential	476	114.41	16.71	464	112.22	16.17	463	118.04	16.43
Spiritual	474	107.57	15.27	465	104.96	16.19	461	110.27	15.99
Naturalistic	474	105.59	16.69	482	105.66	15.32	461	108.53	17.34

The choice of major was recoded into three groups. Respondents applying to the liberal arts, education, social sciences and humanities programs were classified in the soft sciences group. Those applying to business administration and hotel management were classified in the professional group. Those applying to the sciences, engineering, and mathematics were classified in the hard sciences group.

Table 3 presents the means for estimates of GMI and aggregate scores for the logical and spatial GMI dimensions, together with a 2 x 3 ANOVA, gender by major, on self-estimates of GMI, showing the F-ratios for the main and interaction effects.

Table 3. Means for Gender by Major on the Estimate of GMI for Self, Mother and Father

		GMI		Logical & Spatial Intelligence	
		Mean	SD	Mean	SD
Male	Soft Sciences	109.728	1.647	108.548	2.059
	Professional Fields	110.110	.905	113.142	1.113
	Hard Sciences	112.395	.750	117.564	.942
Female	Soft Sciences	110.702	1.175	109.449	1.492
	Professional Fields	110.615	1.126	112.063	1.444
	Hard Sciences	112.049	1.267	115.450	1.621

It was expected that females in the hard sciences group would produce self-estimates higher than males in the same group. No main or interaction effects were found for major by gender on the GMI self-estimates (see Table 4). Main significant effects were shown for major on self-estimates for the logical and spatial dimensions, with the hard sciences group producing the highest self-estimates. Post-hoc tests showed significant differences $p < 0.01$ between all major combinations, with the highest mean for the hard sciences group ($M = 116.507$, $SD = 0.937$). The professional group ($M = 112.822$, $SD = 0.894$) came next and the soft sciences group ($M = 116.268$, $SD = 0.913$) last. These results were in line with an expectation that members of the hard sciences group, who have undergone rigorous and extensive training in mathematics and science, would produce the highest self-estimates for the logical and spatial GMI dimensions.

Table 4. F-Ratios for a 2x3 ANOVA of Gender by Major on the Estimates of the GMI and the Aggregate of the Logical and Spatial Components

	GMI	Self Logical and Spatial Intelligence
	F (df)	F (df)
Gender	0.1541,427)	.395(1,451)
Major	2.061 (2, 427)	11.866(2,451)**
Gender x Major	0.161 (2,427)	.456(2,451)

*two-tailed $p < .05$,
**two-tailed $p < .001$

A 2 x 3 ANCOVA was run to determine GMI and logical- and spatial-dimension estimates for self, mother, and father. Mother's educational level was used as a covariate to give an estimate of mother's GMI; father's educational level was used as a covariate to give an estimate of father's GMI. The analysis considered that an association could exist between parent's educational level and offspring perception of parental intelligence. Table 5 reports the results of the ANCOVA. The covariate had a significant main effect on GMI estimate and aggregate logical and spatial score for both mother and father. Females consistently rated father's and mother's intelligence higher than did their male counterparts, on both the overall GMI mean and the logical and spatial dimensions.

Table 5. A 2x3 ANCOVA of Gender by Major on the Estimates of the GMI and the Aggregate of the Logical and Spatial Components

	F(df) GMI	Mothers' F(df) Logical & Spatial Intelligence
Education of the Mother	11.982** (1,408)	23.543** (1,435)
Gender	18.049** (1,408)	15.724* (1,435)
Major	.924 (2,408)	.431 (2,435)
Gender x Major	1.946 (2, 408)	1.868 (2,456)
		Fathers'
Educational Level (Covariate)	33.427** (1,406)	52.711** (1,434)
Gender	8.537** (1,406)	4.070 (1,434)
Major	3.447* (2,406)	2.627 (2,434)
Gender x Major	3.580* (2,406)	1.963 (2,434)

Surprisingly, females in the professional group produced the highest estimates for mother's intelligence. Female respondents as a whole gave their mothers higher GMI estimates (M = 109.751, SD = 0.769) than male respondents gave theirs (M = 105.234, SD = 0.742). In the same vein, female respondents estimated mother's logical and spatial GMI dimensions higher (M = 108.892, SD = 1.020) than males (M = 103.311, SD = 0.969). As well, females (M = 111.981, SD = 0.787) estimated father's GMI higher than males (M = 108.800, SD = 0.752). Post-hoc analysis showed that females in the professional group (M = 111.724, SD = 0.816) rated father's GMI higher than females in the soft sciences group (M = 108.181, SD = 1.137).

Surprisingly, a significant interaction for GMI was found for the father, where females in the professional group (M = 113.749, SD = 1.290) rated father's GMI higher than did males in the same group (M = 109.698, SD = 0.999). The highest estimates for fathers overall came from females in the professional group. Among males, it was those in the hard sciences group that rated their fathers highest (M = 111.621, SD = 0.839). The hypothesis that females in hard sciences would produce higher estimates for members of their own gender (viz., their mothers) was not confirmed in this study. Females in the soft sciences produced higher such estimates (M = 111.282, SD = 1.337) than those in the hard sciences (M=110.912, SD = 1.455). No significant main effect was found for estimates for father's logical and spatial GMI dimensions.

A paired t-test ($t = 8.929$, $df = 434$, $p < 0.0001$) showed significant differences for GMI estimates for mother and father: Fathers were rated higher (M = 111.035, SD = 9.998) than mothers (M = 107.726, SD = 9.668). As well, fathers (M = 114.70, SD = 14.4930) received significantly higher estimates ($t = 13.225$, $df = 469$, $p < 0.0001$) on the aggregate of the logical and spatial dimensions than mothers (M = 106.221, SD = 13.594). Furnham (2001) has stated that, with some exceptions, females generally receive lower scores on estimates of certain dimensions of intelligence, for instance, logical and spatial.

In summary, a main effect found for choice of major was on self-estimates of the logical and spatial dimensions of GMI. Overall, females produced non-significant higher mean ratings on self-estimates than males. Surprisingly, females estimated mother's GMI and spatial and logical reasoning higher than did their male counterparts. In addition, the ANCOVA results showed that females estimated mother's GMI higher than males. Males in the soft sciences estimated mother's GMI lower than both females in the same group and males in the hard sciences. Females in the professional group gave fathers a significantly higher rating than males did. The covariate of parent's educational level had a significant main effect on estimate of GMI.

DISCUSSION

In comparison with youth studied in Scotland, New Zealand, and England, Lebanese youth showed lower self-estimates. However, more recent studies (Furnham & Baguma, 1999; Rammstedt & Rammsayer, 2000; Furnham, Hosoe & Tang, 2001; and Furnham, Shahidi & Baluch, 2002), which have used Gardner's seven multiple intelligences, show comparable mean level results for GMI self-estimates. It is possible that studies including the spiritual, naturalistic, and existentialist dimensions recently added by Gardner to his conception of multiple intelligences would show lower aggregate mean scores, as compared with the existing studies

using *g* or Gardner's seven dimensions. The conflicting results for gender differences found in Furnham (2001) could perhaps be explained by the differences between *g* and GMI.

Although this study is far from being a cross-cultural one, it gives an international perspective to the question of subjective estimates of intelligence. It is informative to those interested in understanding how, generally, a national group in a specific cultural context self-estimates intelligence. Through regression analysis, Furnham (1999), Furnham & Ward (2001), Furnham (2002), and Furnham & Mkhize (2003) have pointed to the importance of the logical and spatial dimensions of intelligence as predictors of multiple intelligences. International studies by Furnham & Baguna (1999) and Furnham, Clark, & Bailey (1999) comparing Western, Eastern, and African self-estimates of intelligence showed significant differences between males and females on these dimensions. In our study, Lebanese students showed lower self-estimates than respondents in studies conducted in Western countries (Scotland, New Zealand, and England: Beloff, 1992; Byrd and Stacey, 1993; and Furnham & Rawles, 1995). However, those studies had relied on the *g* concept of intelligence, while ours used the ten dimensions of Gardner's multiple intelligences.

An anomalous finding in this study is that no significant differences appear between males' and females' self-estimates of logical and spatial intelligence. Females' higher estimates of father's intelligence than males' was to be expected: in a neopatriarchal society, females are nurtured to acquiesce in a belief in male superiority, and this would account for their higher estimate of father's intelligence than males'. But it was surprising to find females' self-estimated intelligence slightly higher than males'. This finding turns the spotlight on the use of the theory of neopatriarchy, in this study and many others, as a theoretical basis for the analysis of gender differences. Possibly the neopatriarchal framework has diminished validity in the context of globalization and present-day Lebanese youth's less highly differentiated gender roles, and the theory of neopatriarchy thus requires revision.

It was found that the self-estimates of GMI of entering female university students in Lebanon were lower than those produced in other national settings, with the exception of Germany, a result that suggests Lebanese females have lower self-esteem than females in other settings. On the other hand, this difference may be accounted for by the younger age of the Lebanese sample than those of the international studies. Often, younger, less confident and less intellectually experienced individuals have lower self-esteem than those who have completed one or two years of university. But more broadly, as has been stated elsewhere in this article, perceptions of intelligence as reflected in self-assessment can be socially mediated, perhaps even through parents' educational level.

The results of this study show that in fact a relation does exist for estimates of parent's intelligence and parent's educational level. As compared with males, females showed higher ratings for father's logical and spatial intelligence, with father's educational level used as covariate.

Females in the professional group produced the highest estimates of mother's intelligence. Females entering the hard sciences and perhaps foreseeing a successful career estimated mother's intelligence lower than females entering the soft sciences and business administration. We found

this result somewhat anomalous: we had been persuaded that females in the hard sciences would be likely to estimate their mothers' intelligence higher than those in the liberal arts, education, social sciences, and the humanities, or in the professional field of business administration. We had held what we referred to as the "reciprocity lay estimate of intelligence hypothesis", under which we postulated that females would estimate mother's intelligence higher in reciprocity to their mothers' having encouraged the daughters to compete in careers perceived as masculine. Our findings did not support this hypothesis. The study did not measure external motivational factors and their effects on the choice of major, however. Other variables such as socioeconomic conditions, family's occupational status, and family's political status may play a role that should be taken into account in interpreting our results.

When controlling for mother's educational level (the covariate variable), both sons' and daughters' ratings of mother's intelligence were significant. This is evident in the fact that the offspring of mothers with graduate degrees gave their mothers higher ratings than did the offspring of mothers with just a high school diploma. Ratings of intelligence may thus have been statistically controlled by the factor of mother's educational level. The results are similar for females' rating of father's intelligence.

In a neopatriarchal society, females who choose a major among the soft sciences are likely to have been socialized differently than those who choose a professional type of major, and to have task expectancies that are quite determined. Beyer (1998) suggests that females in the soft sciences are dissimilar to those in the hard sciences, and that self-evaluations can only be predicted based on "masculine" cognitive tasks such as kinesthetic activities.

LIMITATIONS

Caution must be exercised in interpreting the results of this study. Furnham (2001) acknowledges that parental attentiveness, solicitousness, socioeconomic status, and socio-cultural parenting have an important influence on the way children view their parents. In this study, only one dimension, the parent's education, was examined for a relation to offspring perceptions. It is possible that study of other, surrogate measures would yield a more robust understanding of estimates of parents' intelligence.

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APPENDIX A: QUESTIONNAIRE

Candidate #_____

For official use only Ref# / / /

This questionnaire seeks to understand reasons for your selection of your current major at Notre Dame University. Also, there is a section about your rating of your level of intelligence. In order for us to improve admissions at the University, we need your honest responses to these questions. **WE DO NOT WANT** you to write your name or candidate number on this form. In addition, there are no right and wrong answers. We thank you in advance for responding to the attached questionnaire.

SECTION I

1. What is your age (in years)

Years

2. What is your sex (check √ in the box)

Male	
Female	

3. Write in the box the major you applied to?

4. Check the educational level of your parent's (check √ in the box)

	Father	Mothers'
No formal education		
Primary level		
Intermediate		
Secondary		
University (BA/BS)		
University (M.A.; MS; Ph.D.		

5. What was your approximate total FAMILY income from all sources last year (Circle a number)

1	Under $5,000	7	$25,000 to $34,999
2	$5,000 to $7,4999	8	$35,000 to $49,999

3	$7,500 to $9,9999	9	$50,000 to $74,999
4	$10,000 to $12,499	10	$75,000 to $99,999
5	$12,500 to $14,999	11	$100,000 to $ 149,999
6	$15,000 to $24,999	12	$150,000 and above
		13	Do not know

6. How many persons are dependent on this income?

☐

7. On this scale, which box best reflects your present position in Lebanese Society? (check √ in the box)

High Class ☐
Upper Middle Class

Middle Class ☐
Lower Class

8. Write in the box the job of the person who mostly supports the family:

☐

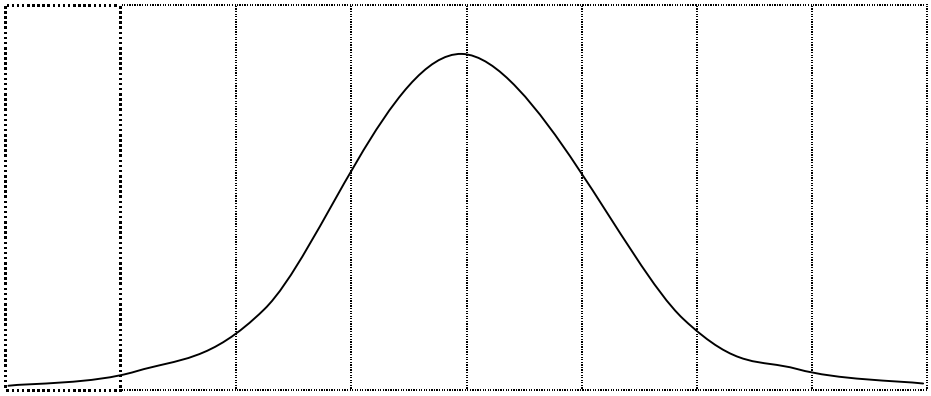
9. There are many religious sects in Lebanon which constitute the plural character of this country. If you would like to identify yourself with one of the religious sects below, which one would you choose? (check √ in the box)

Christian Maronite	
Christian Greek Orthodox	
Christian Greek Catholics	
Christian Evangelical	
Muslim Sunnite	
Muslim Shiite	
Druze	
Others (specify)	

10. Nationality_____

SECTION II

IQ tests measure a person's intelligence. The average or the mean score on these tests is 100. Most of the population (about two thirds of people) score between 85 and 115. Very bright people score around 130 and scores have been known to go over 145. The graph below shows a typical distribution of these scores. Please indicate the score, as accurately as you can, how much you think you and your mothers' and father might score on each subtest in the graph below using the scores. For example, you might score average (100) on verbal ability or 130 on the logical component, etc...



Number of scores

-3	-2	-1	0	+1	+2	+3	Standard deviation from mean
55	70	85	100	115	130	145	IQ score
Mild retardation	Borderline retardation	Low average	Average	High average	Superior	Gifted	

	Title	Description	Yourself	Mothers'	Father
1.	*Verbal Ability*	Verbal or linguistic intelligence (ability to use words)			
2.	*Logical*	Logical or Mathematical intelligence (the ability to reason logically, solve a number of problems)			
3.	*Spatial Ability*	Spatial intelligence (the ability to find your way around the environment and form mental images)			
4.	*Musical*	Musical Intelligence (the ability to perceive and create pitch and rhythm)			

5.	*Body Kinesthetic*	Body Kinesthetic intelligence (the ability to use bodily functions or motor movements).			
6.	*Inter-personal*	Inter-personal Intelligence (the ability to understand other people)			
7.	*Intra-personal*	Intra-personal Intelligence (the ability to understand yourself and develop a sense of your own identity)			
8.	*Existential*	Existential Intelligence (the ability to understand the significance of life, the meaning of death and the experience of love)			
9.	*Spiritual Intelligence*	Spiritual Intelligence (the ability to engage in thinking about cosmic issues, the achievement of a state of being and the ability to have spiritual effects on others)			
10.	*Naturalistic*	Naturalistic Intelligence (the ability to identify and employ many distinctions in the natural world, example classifying animals, plants, etc.)			

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