EDUCATION AND INDIVIDUAL MODERNITY AMONG SAUDI STUDENTS: A STUDY OF THE IMPACT OF FORMAL AND CROSS-CULTURAL EDUCATION ON MODERNIZING ATTITUDES AND VALUES

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ABSTRACT

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This study was conducted to profile the individual modernity of the Saudi student and to investigate the impact of a set of independent variables (level of education, experience of studying and length of stay in the United States, mass media exposure, urban experience, father's education, and age) upon the dependent variable of individual modernity of Saudi students in both Saudi Arabia and the United States.

A questionnaire was distributed to cross-sectional samples of 1140 Saudi male students. From the 900 usable returns, 200 were secondary students, 400 college students in Saudi Arabia, and 300 college students in the United States. Factor analysis was used to construct the dependent variable scale and to profile the modernity of Saudi students. Regression analysis was employed to determine the impact of different independent variables on the dependent variable of modernity.

The results suggest the modern Saudi student is similar to his counterpart in other nations. Central to his modernity profile is a sense of efficacy and a universal outlook. However, unlike his counterpart, the modern Saudi student prefers the urban life to the rural life, and is less inclined to trust people other than his relatives and friends.

The variable that positively (and significantly) influenced the overall modernity of Saudi students in both the United States and Saudi Arabia was the level of education. Whereas, in Saudi Arabia, mass media exposure positively affects the overall modernity, and half of its dimensions, the same variable has no significant contribution to overall modernity of Saudi students in the United States and contributes to limited dimensions. Length of stay in the United States has a significant positive impact on the overall modernity and nearly all of its dimensions, especially the dimension of Family Modernism. This is not altered significantly by level of education in both countries. Age in both countries has no significant contribution to students' overall modernity and affects very limited dimensions. Neither father's education nor urban experience make significant contributions to overall modernity, nor any dimension of it, except that the former negatively affected the dimension of risk taking of students in the United States.

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CHAPTER I

INTRODUCTION

Statement of Problem

The efforts of developing countries to bring about economic, social, and political modernization is usually resisted by those with traditional values, attitudes, and beliefs towards things, people, and time. To facilitate the multi-aspects of modernization, including individual modernity (modernization of values and attitudes) developing nations put their faith in education. Education is viewed "as the key that unlocks the door of modernization" (Harbison, 1964:181). The role of education in promoting the attitudes and values favorable to modernization is vital. Education is one of the few institutions available for changing values and attitudes that are incompatible with the modernization process (Abernathy, 1969:9). A number of empirical research studies, utilizing data from many developing countries, indicate that modern formal education is the single most powerful variable in determining individual modernity (Inkeles and Smith, 1974; Kahl, 1968). From a development standpoint, the purpose of education is to rationalize attitudes, values, and behavior as well as to impart knowledge and skills.

Thus, the degree to which an educational system, in fact, produces individuals with modern orientations can be regarded as a vital dimension of any nation's efforts to modernize. Saudi Arabia, as a developing country, seeks to modernize vigorously. Yet, her educational system has been accused, by many, of not being fully committed to promoting values and attitudes conducive to national development.

After analyzing the systems of educational and manpower development in Saudi Arabia, Hamman concluded "the present system of education and manpower does not respond to the needs of societal development" (1973:303). Another Saudi educator, in his thesis about industrial vocational education in Saudi Arabia, contends that all available information does not indicate any action has been taken to overcome the negative attitudes of Saudis toward manual work and vocational education (Alaki, 1972). Szyliowicz sums up the situation by saying:

> In every country of the Middle East, though more so in some cases than in others, the structure of a modern educational system has been created, but in every country the functioning of that system, at all levels, possesses many aspects that are dysfunctional for modernization (1973:448) . . .
>
> . . . an educational experience featuring traditional methods and emphasizing traditional values does not produce the kinds of flexible and innovative types who are necessary if modernization is to be achieved . . . the longer the present educational systems continue to operate along these lines the more difficult it will be for these states to achieve modernity (453).

To verify the above assumptions, this study will investigate, empirically, the impact of formal education in

Saudi Arabia on the attitudinal or individual modernity of students and will use the modernity of Saudi students in the United States as a reference point in discussing such an impact.

Purpose of the Study

The purpose of this study is to profile individual modernity of Saudi students and to evaluate the following questions and statements regarding certain factors known to influence modernity.

1. What is the relationship between level of education and individual modernity among Saudi students in the United States and Saudi Arabia?
2. What is the relationship and impact of undergraduate college education in Saudi Arabia on individual modernity of students in comparison with secondary education?
3. What is the relationship and impact of college education in Saudi Arabia upon modernity of Saudi students in comparison with college education in the United States?
4. To what extent does the experience of studying and length of stay in a developed country (i.e. U.S.A.) effect individual modernity of students native to a developing country (i.e. Saudi Arabia)?
5. To ascertain the effects of other variables that influence modernity (i.e. mass media exposure, father's education, urban experience, age).

Research Hypotheses

Based on reviews of relevant literature, the following research hypotheses were set up:

1. There will be a positive significant relationship between level of education and individual modernity among Saudi students in Saudi Arabia and the United States.

2. The impact of undergraduate education in Saudi Arabia on individual modernity will be higher than the impact of secondary education.

3. The impact of American college education on individual modernity of Saudi students will be significantly different from the impact of college education in Saudi Arabia.

4. There will be a significant positive relationship between the experience of studying and length of stay in a developed country (i.e. U.S.A.) and individual modernity of students originating from a developing country (i.e. Saudi Arabia).

5. There will be significant relationships between mass media exposure, urban experience, father's education, age, and individual modernity.

Importance of the Study

Previous major studies (Kahl, 1968; Inkeles and Smith, 1974) shared a serious limitation by working with adult samples, this study, however, assesses the impact of formal education by investigating the attitudes of students rather than adults. It has been argued (e.g. Waisanen and Kumate, 1972) that individual modernity may be modified significantly by the further experience of individuals after leaving school. Furthermore, this study covers a wider range of levels of education than most similar previous research. This study examines the impact of levels of education (secondary, undergraduate, and graduate) on modernity. Whereas previous studies limited themselves

either to the secondary level or elementary level and rarely combined more than one level.

This study investigates a variable that, to the best of our knowledge, has not been previously validated, empirically, on student samples;* that is, the impact of studying in a developed country (i.e. the U.S.A.) on the modernity of individuals coming from a developing country (i.e. Saudi Arabia). Furthermore, the attitudes of these students are compared to those of Saudi students studying in general secondary schools and colleges in Saudi Arabia.

It is desirable that the findings of this study will validate, on empirical grounds, the beliefs (stated under the heading of the Statement of the Problem) regarding the impact of formal education in Saudi Arabia on student's attitudinal modernity, as well as to demonstrate the impact of studying abroad (i.e. the U.S.A.) on Saudi students' modernity. Thus, such findings would also allow the policy makers in Saudi Arabia to evaluate the promising contributions of formal education and study abroad to the process of modernization in the country.

Limitations and Delimitations

This study has the following limitations which are related in most part to the sampling restrictions:

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*On the available literature there has been only one study that attempted to study such a variable (among most samples of workers), i.e. Sack's study (1972).

1. This study was limited to male general secondary school students drawn from one school in Medina and two schools from two small towns under the supervision of Tabuk General School District, Saudi Arabia. This restriction to male students was made because of the dual nature of the Saudi education system. Given the nature of the educational system of Saudi Arabia (see Chapter II), the researcher had no reason to believe that general secondary schools in these two districts are significantly different from other Saudi Arabia schools. Hence, the findings of this study could be generalized to apply to other general secondary school students in the country.

2. This study also was limited to three male colleges at the university of King Abdualaziz. The selection of this university was based on the following criteria. First, it is one of the typically secular modern universities in the country (see Chapter II). Second, it hosts typical major colleges. Third, its student population is one of the largest. In regard to the limitation of the three colleges; College of Education, College of Engineering, and College of Administration, their selection was determined by the study's main objective: to compare the individual modernity among college Saudi students studying in the United States and Saudi Arabia. Hence, the criteria required that similar levels and fields of study should be available and popular among Saudi students in both countries. However, due to the similarity of the situations and curricula among the

colleges in modern universities in Saudi Arabia, the findings of this study could be generalized to apply to other colleges. Generalization of the findings to religious colleges should be undertaken with extreme care.

3. The sample for Saudi students studying in developed countries was drawn only from those Saudi students in the United States according to the above criteria. Since there is a similarity in the characteristics and in the situations between Saudi students studying in the U.S.A. and those studying in Western Europe, the results of this study may have some applications to them as well.

Definition of Terms

Individual Modernity or Attitudinal Modernity: refers to a complex set of interrelated attitudes and values that are deemed to be generated from and/or required for, effective functioning in a modern, industrial society.

Attitude: will refer to a learned disposition, or stand, that upholds responses in a favorable or unfavorable manner with respect to objects, issues, persons, groups, or institutions (Ajzen, 1975:6). In this study the twin concept, "value and attitudes," will be lumped together.

Cross-cultural Education: refers to "the reciprocal process of learning and adjustment that occurs when individuals sojourn, for educational purposes, to a society that is culturally foreign to them, and who normally return to their own society after a limited period of time" (Smith, 1956:1).

General Secondary Schools: refers to public schools in Saudi Arabia, for males, that track students into either an art or a science concentration at the end of the tenth grade. These students are generally between 16-18 years of age.

Organization of the Study

The study was organized into five chapters: a discussion of the statement of the problem, purpose of the study, importance of the study, research hypotheses, limitations, and definition of terms is presented in Chapter I. A review of related literature is included in Chapter II, followed by a presentation of the methods of data collection and analysis in Chapter III. In Chapter IV, the findings and interpretation of the results are presented. A summary of the study, conclusions based on the findings, theoretical and practical implications, and recommendations for further research are presented in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

This chapter will present a review of literature dealing with the issue of individual modernity as well as a brief presentation to education in Saudi Arabia and Saudi students who study abroad.

The review covers research and investigation undertaken on the subject of individual modernity and its linkage to education and development by utilizing data from several developing countries.

The presentation of this chapter is centered on the following five topic areas: first, general background information on education in Saudi Arabia with emphasis on its general and higher education major features; second, a review of Saudi students studying abroad and determinants of Saudi student flow to the United States; third, the meaning of individual modernity and its theoretical and empirical basis; fourth, individual modernity and education and how schools modernize student perspective; and, finally, individual modernity and development.

Education in Saudi Arabia

The establishment of the Ministry of Education, in 1953, and the introduction of formal education for girls, in

1960, marked a new era in the educational history of Saudi Arabia. There were only 196 elementary schools in the kingdom in 1950 with 23,835 students; approximately 20 years later, after the establishment of the Ministry of Education, the number of elementary schools jumped to 1,917 with 364,561 students (Al-Zaid, 1982:20).

The government of Saudi Arabia made it clear, from the beginning, that its ultimate goal is to build a "modern" Islamic nation and education will be the primary means to achieve this objective. This concern is manifested clearly through the official statement on the purpose of education:

> The purpose of education is to have the student understand Islam in a correct, comprehensive manner, to plant and spread the Islamic creed, to furnish the student with the values, teaching, and ideals of Islam, to equip him with the various skills and knowledge, to develop his conduct in constructive directions, to develop the society economically, socially, and culturally, and to prepare the individual to become a useful member in the building of his community (Ministry of Higher Education, 1978, Article #28, p. 10).

To achieve these objectives, the Saudi government has invested heavily in education. This is best illustrated by the Third Development Plan (1980-85) budget allocation. Approximately 25% of the Saudi national income is allocated to education and human resources development. The education budget is second only to defense. Consequently, the educational system at all levels has reformed, developed, and expanded extensively. For example, the number of universities in the country went from four in 1974 to seven

currently. Furthermore, in the last ten years (1975/76-1984/85), the number of schools, at all levels, doubled from 3,092 to 6,305 (Ministry of Education, 1984/85:217).

General Education

The distinctive tenets of general education under the Ministry of Education are:

-- The education structure adopted for the general education follows a four stage ladder. Children start school in kindergarten, progress through six years of elementary school (starting at age 6), followed with three years of intermediate school, and then attend three years of secondary school. It should be noted that pre-school education is still very limited.

-- The educational system is very centralized. Most, if not all, curriculum and related decisions are made by the Ministry of Education directly or through its regional offices. Thus, what is to be taught, how,for how long, and by whom are decisions primarily made outside of individual school administration.

-- Education is not compulsory, but all individuals have access to free schooling.

-- Promotion from grade to grade is based on end-of-year exams, in addition to continual evaluation of student progress. The intermediate and secondary levels are regulated by certificate exams, which are written and marked by external examiners.

-- Students who pass the tenth grade have to choose specialization in either the arts or sciences sections.

-- The curriculum is supplemented with considerable religious and Arabic subjects. At the lower the level, these subjects are more intensive.

-- There is no co-education. Male and female students attend separate schools during every stage of their education.

-- English is the second language and is introduced during the first year of the intermediate stage.

-- General education includes special education for the handicapped, adult education, and several secondary vocational/industrial schools.

-- In 1974-75, several comprehensive high schools were established for the first time in Saudi Arabia and followed an American model. However, their number is still limited and they remain in experimental stages of development.

-- The methods of teaching at all educational levels, as one Saudi educator notes, "are based largely on transmitting what is laid down in the textbooks and repeats what they have acquired in these textbooks. There is little encouragement for original thought, intellectual discourse, or creativity (Faheem, 1982:81).

Higher Education

College and university education in Saudi Arabia is a fairly recent development. The first established institution of higher education was the College of Sharie (Islamic theology and Law) in 1949. In 1957, Saud University was established and marked the beginning of modern secular university education in Saudi Arabia (Hammand, 1973:143). There are now seven universities, composed of 62 colleges, in Saudi Arabia. These institutions are: Saud University (1957), Islamic University (1961), University of Petroleum and Minerals (1963), King Abdulaziz University (1967), Imam Mohammad Bin Saud University (1974), King Faisal University (1975), and Um Al-Qura University (1981).

The main features of university education in Saudi Arabia are:

-- The Saudi universities fall into two categories; the modern-oriented universities (University of Saud, King Abdulaziz, Petroleum and Mineral, King Faisal, and to a lesser degree Um Al-Gura) and the religious-oriented universities (Islamic and Imam Mohammad Bin Saud). The major difference between these types is that the religious universities emphasize Islamic learning and culture with little regard to secular and Western knowledge. In contrast, the modern-oriented universities stress the secular, professional, and technological bodies of knowledge (Faheem, 1982:80).

-- The Ministry of Higher Education supervises and coordinates the activities of all universities and functions as the supreme authority.

-- The total enrollment in the universities and other institutions of higher education has risen from 7000 in 1969/70 to approximately 83,000 in 1983/84 (Ministry of Higher Education, 1985, VII).

-- In 1982/83, close to 40% of undergraduate male students were enrolled in humanities, religious studies, and social sciences; 31% were enrolled in engineering, medicine, agriculture, and natural science; 13% were in education; and the remaining 16% studied administration and management.

-- Graduate education is very limited. The majority of male students who study at master and doctorate levels are studying religious subjects and humanities.

-- Higher education is tuition free and students are also provided with free housing and monthly stipends.

-- All students, no matter what they study and what kind of college they attend, must complete a minimum number of Islamic culture courses.

-- The higher educational system in Saudi Arabia encounters similar problems found in many

higher educational systems in developing countries: lack of indigenous teachers, personnel, textbooks, publications and technology; unplanned enrollment expansion; and a dualistic system with unclear objectives, to name a few.

Study Abroad

The phenomenon of study abroad is not by any means new. It dates back to as early as 500-300 B.C., when Athens was the Mecca of academic pilgrimage for scholars from all over the Old World; foreign study seems to be a universal phenomenon (Fry, 1985:55). The number of individuals studying in countries other than their own has rocketed during the last 30 years. In 1950, there were approximately 50,000 tertiary level students studying out of their home countries, but now the number approaches one million (Cummings and So, 1985:403). According to UNESCO's Statistical Yearbook, 1981, the United States hosted nearly one-third of all foreign students reported in 1978 (263,940). France, the Soviet Union, the United Kingdom, and the Federal Republic of Germany, respectively, were the next largest host countries. These five countries hosted nearly two-thirds of all foreign students.

Saudi Students Study Abroad

Since World War II, the Saudi government, like other developing nations, invested heavily in supporting study abroad for its citizens. The adoption of this policy has been dictated by the fact that its national system of higher education is limited in size and quality.

Linked to the substantial increase of the price of oil in the 1970s (from which the Saudi government has benefited as one of the largest oil producers in the World) there has been a comparable increase in the number of Saudi students studying Abroad. In 1973/74, there were 2,660 Saudi students studying abroad, and by 1981/82 they numbered 12,521. (See Table 1.) This represents an increase of over 470%. It seems, however, that the level peaked in 1981/82 and has declined since then. In 1982/83, the number of Saudi students abroad was 11,097 and was 10,092 in 1983/84. This trend of decline is expected to continue in following years It is likely the main reason for this is the government policy of Saudi Arabia to reduce the number of students being sent abroad for studies at the undergraduate level. In 1979/80, there were approximately 7,000 students at the bachelor's level, but in 1983/84 the number decreased to 2,605 (Ministry of Higher Education, 1983/84:22).

In terms of level and field of study in 1983/84, the largest number of male students were studying undergraduate engineering. This represented 39.5% of the total male students at this level. The next largest number of male students was enrolled in social sciences (27.7%), followed by natural sciences (13.0%), and medicine (9.7%). (See Table 2.)

TABLE 1

Number of Saudi Students Studying Abroad
(1973/74 to 1983/84)

Years	Total Number of Students Studying Abroad		
	Male & Female	Female	Male
1973/74	2660	315	2345
1974/75	5310	875	4435
1975/76	8280	785	7495
1976/77	8035	733	7302
1977/78	9096	880	8216
1978/79	9919	897	9022
1979/80	10035	917	9118
1980/81	11921	978	10943
1981/82	12521	3748	8773
1982/83	11097	3539	7558
1983/84	10092	3351	6741

TABLE 2

Saudi Students Abroad by Field and Level of Study, 1983/84

Field of Study	Total		Doctorate*		Master**		Bachelor		Other	
	M	F	M	F	M	F	M	F	M	F
Engineering	1490	20	159	1	163	--	889	8	279	11
Social Sciences	1358	141	261	11	421	35	623	88	51	7
Natural Sciences	673	47	164	4	165	8	309	31	35	4
Medicine	526	63	234	22	55	6	219	35	1	--
Education	439	202	108	9	149	5	31	20	151	168
Humanities	190	274	71	10	45	12	63	51	11	201
Agriculture	107	2	45	--	47	--	9	2	6	--
Fine Arts	27	11	4	1	7	--	16	10	--	--
Law	32	9	5	--	8	--	18	9	1	--
Other	1901	2582	97	16	207	27	73	101	1524	4674
TOTAL	6743	3351	1148	74	1267	93	2250	335	2059	5065

*Includes fellowships
**Includes higher diploma

Source: Ministry of Higher Education, Statistics of Saudi Students Abroad, 6th Issue, 1983/84, p. 89.

At the master's level, 33.2% of the male students were studying social sciences, 13.0% were in natural sciences, 12.9% in engineering, and 11.8% in education. At the doctorate level 22.7% of the male students were enrolled in social science, 20.4% in medicine, 14.3% in natural sciences, 13.9% in engineering and 9.4% in education.

Among female students, 355 were enrolled at the bachelor level, 93 at the master's level and 74 at the doctorate level. They primarily studied social sciences, humanities, education, and medicine. (See Table 2.)

The major host countries of Saudi students abroad in 1983/84 were: United States, United Kingdom, United Arab Emirates, Egypt, and West Germany, respectively. (See Table 3.) The largest number of Saudi students, numbering 6,550, were in the United States. Out of 5,187 students studying at the university level, 78% were in the United States, 8.5% in the United Kingdom, and 7.5% were in the Arab countries.

Sponsoring agencies in the education sector were the Ministry of Higher Education, the Ministry of Education, and the universities. They sponsored 90% of the doctorate students, 78% at the master's, and 52% at the bachelor's level in 1983/84. Other ministries, government departments, and autonomous organizations sponsored the balance. A very small group met their own educational expenses (Ministry of Higher Education, 1983/84:29).

TABLE 3

Saudi Students Abroad by Country of Study
(1983-84)

Country	Number			Percentage		
	Total	Male	Female	Total %	Male	Female
U.S.A.	6550	4384	2166	64.9	65.0	64.6
U.K.	1207	1143	64	11.9	16.9	1.9
U.A.E.	558	160	398	5.5	2.3	11.8
Egypt	428	264	164	4.2	3.9	4.8
W. Germany	288	231	57	2.8	3.4	1.7
Austria	140	87	33	1.3	1.2	0.9
Canada	131	122	9	1.2	1.8	0.2
Italy	120	107	13	1.1	1.5	0.3
Other Countries	670	241	447	6.6	3.5	13.4
TOTAL	10092	6741	3351	100	100	100

During the 14 year period from 1970/71 to 1983/84, there were 10,468 Saudi students who earned their degrees, diplomas, and certificates abroad. Of these, 683 were females. The degrees included 1,008 doctorates, 2,028 master's, 4,817 bachelor's, and 2,615 other certificates, including training and education at general school levels (Ministry of Higher Education, 1983/84:26).

Determinants of Saudi Student Flow to the United States

Since the United States, as shown above, is the largest host country for Saudi students studying abroad, let us investigate why this is so. Cummings and So (1985) observed that over time, increased proportions of Asian students turned to the United States to pursue their education; by 1978 the United States was chosen by a majority of the students from ten Asian countries: the Philippines (80.8%), Saudi Arabia (79.6%), South Korea (77.4%), China (73.6%), Japan (72.9%), India (70.6%), Iran (66.8%), Thailand (59.7%), Pakistan (54.3%), and Kuwait (50.3%). Having observed this, Cummings and So identified eight elements of the Asian-American relationship to American higher education that influenced student preference. These elements are:

1) improving Asian-American political relations
2) increased volume of Asian-American economic exchange
3) sharp increase in Asian immigration to the United States
4) increasing similarity in the structure and content of Asian and American educational systems

5) absorptive capacity of American higher education

6) quality of American higher education

7) the principle of Asian demand and American supply, and

8) opportunities in American higher education to meet educational expenses through part-time work.

In the Saudi case, the more relevant elements of the above models are: first, improving Saudi-American political relations. During the past several decades, the political ties between Saudi Arabia and the United States have grown. Second, accompanied with the political ties is an increase in economic exchange. In 1982, for example, the United States was Saudi's top trading partner (with a surplus of $2.3 billion dollars). During that year, the United States was the top supplier to Saudi Arabia, to the tune of some $8 billion (Al-Turki, 1986:5).

It is suggested that those two elements are strategic because they determine the basis for the Saudi student flow to the United States. However, there are other factors of extreme importance. One is the great capacity of the American educational systems to accommodate foreign students. This factor is possibly the most important. A second factor is the declining enrollment of domestic students in American institutions of higher education which, for economic reasons, encourages many American institutions to adopt a policy welcoming foreign students. A third factor concerns the Saudi graduates from the United States.

A large number of Saudi students who obtained their degrees in the United States have assumed key positions in the Saudi government and universities. Those individuals admire the American educational system, and influence the decision to send more Saudi students to the United States. The leaders also introduce key features of the American education system, such as the credit system which, in turn, links the Saudi educational system to the United States'. Thus students find it easier, in many cases, to attend United States' universities where the educational system is more familiar.

The Meaning of Individual Modernity and Its Theoretical and Empirical Basis

Since the end of World War II, a considerable body of social science literature has been produced to describe and explain the process and determinants of modernization, particularly in the developing countries. Generally speaking, two approaches have been employed in studying modernization. The first approach emphasizes the organizational and institutional aspects of modernization. It is concerned with the social structures within society. The second approach assigns primacy to the individual. It stresses the role personality characteristics play in the modernization of society. For the former, the usual indicators of modernization are GNP per capita, extent of industrialization and urbanization, degree of political centralization, and the extent of communication networks.

For the latter, the typical indicators of modernization are the display and acquisition, on the part of individuals, of certain types of values, attitudes, and behavioral orientations. These are assumed to be related to the emergence and functioning of a modern industrial society.

Hence, the focus of the second line of thought is on the social-psychological or attitudinal dimension of modernization with which present research is concerned. There are a number of scholars who contribute significantly to the development and formation of theories concerning this dimension. Lerner (1958), McClelland (1961), Inkeles (1960, 1966), Smith and Inkeles (1974), and Kahl (1968), are a few scholars who deserve mention here.

There is a notable agreement in literature regarding crediting Lerner for being first to develop a theory of modernization, which recognizes the importance of social-psychological attributes in the process of modernization. In Passing of Traditional Society, Lerner conducted a survey in seven Middle Eastern countries characterized by differing degrees of development (Greece, Turkey, Lebanon, Jordan, Egypt, Syria, and Iran). Lerner argues that "empathy" is the fundamental trait of the modern man. This he defines as "the capacity to see oneself in the other fellow's situation" (p. 50). For him, an empathic man is able to project himself in many roles and to adjust himself to the changing environment.

Kahl, in Mexico and Brazil (1968), conducted a major study that measured individual modernity. Having argued that people and nations in the contemporary world tend to move toward a convergent culture, Kahl was interested in empirical investigation: to what degree does industrialism create a common culture for all people? (p. 3). To answer his question, Kahl developed a model of modern man with fourteen components: activism, low stratification of life changes, low community stratification, low occupational primacy, low integration with relatives, individualism, trust, mass-media participation, anti big companies, pro manual work, preference for urban life, family modernism, low religiosity, and risk-taking. He then constructed a set of Likert-type items to operationalize them. This measure was administered to 627 Brazilian males and 740 Mexican males, their ages ranged between 25 to 49 years. The sample of his study composed provincials, migrants, and metropolitans with different occupational levels. Through the use of a factor-analytic technique, Kahl concluded there is a "core of modernism." Based on this core of modernity, or modernism, Kahl inferred:

> A 'modern' man is an activist; he attempts to shape his world instead of passively and fatalistically responding to it. He is an individualist, who does not merge his work career with that of either relatives or friends. He believes that an independent career is not only desirable but possible, for he perceives both life chances and the local community to be low in ascribed status. He prefers urban life to rural life, and he follows the mass media (p. 37).

Kahl added subsidiary traits associated with modernity, or modernism, including: interpersonal trust, a positive attitude toward manual work, a willingness to take risks to gain useful ends, and respect for others' right to express their own opinions.

By far the most ambitious attempt to conceptualize, validate, and measure the construct of individual modernity has been the work of Alex Inkeles and David Smith (1974). Their theoretical premises and assumptions are similar to those of Kahl. Inkeles contends that as industrialization tends to be a worldwide phenomenon a common culture emerges producing men having similar characteristics. To conceptualize this theory, they identify a number of personal qualities deemed to be characteristics of modern man. Central to the theoretical concept of modern man is:

1) an openness to new experience
2) a readiness for social change
3) a disposition to form or hold opinions
4) being more energetic in acquiring facts and information
5) an orientation to the present or the future rather than to the past
6) a sense of efficacy
7) an orientation toward long-term planning
8) confidence that his world is calculable, and that people and institutions around him can be relied upon
9) the valuing of technical skill and belief in distributive justice

10) placing higher value on formal education and schooling

11) awareness of, and respect for, the dignity of others

12) an understanding of production (Inkeles and Smith, 1974:19-24).

In addition to the above attributes, two other dimensions were considered: universalism and optimism.

To measure the presumed qualities or themes, which designate the modern man, Inkeles and Smith developed 119 questionnaire-interview items to register these themes. They administered this questionnaire to approximately 6,000 men, ages 18 to 32, from the urban working class (about 70%) with the remainder from cultivators and urban nonindustrial workers in six developing countries (i.e. Pakistan, India, Nigeria, Israel, Chile, and Argentina).

On the basis of this study, Smith and Inkeles concluded there is a personality syndrome designating a type of man who may be characterized as "modern."

> The modern man's character, as it emerges from our study, may be summed up under four major headings. He is an informed participant citizen; he has a marked sense of personal efficacy; he is highly independent and autonomous in his relations to traditional sources of influence, especially when he is making basic decisions about how to conduct his personal affairs; and he is ready for new experience and ideas, that is, he is relatively open-minded and cognitively flexible (Inkeles and Smith, 1974:290).

In general, the "modern" man of Kahl and Inkeles and Smith are strikingly similar. Also, these studies suggested that individual modernity was associated with a similar set of background variables in such dissimilar countries as

Pakistan, Israel, Nigeria, Argentina, Chile, India, Brazil, and Mexico. Background variables typically connected with levels of modernity were experienced in urban settings, with exposure to mass media, and to the number of years of formal education. It should be noted the studies carried out by Inkeles and Smith, and Kahl are not all of the research available measuring individual modernity. However, they are the major attempts in this field and present recent research.

On the basis of the above discussion, the concept of individual modernity has been modified to incorporate the common social-psychological traits and attributes of individuals participating in modern, industrial societies. Thus, individual modernity can be defined as a complex set of interrelated attitudes, values, and behavioral orientations and are deemed to be generated and/or required for effective functioning in a modern, industrial society.

The theoretical formulations of this study will be based on the modernity studies of Inkeles and Smith (1966, 1974), and Kahl (1968). Also, many of the questionnaire items, which measure the individual modernity of this study, were adapted from Inkeles and Smith, overall modernity scales, and the Kahl scale of Modernism I.

Individual Modernity and Education

There has been a growing body of empirical literature that links education to individual modernity. One can cite a number of studies and investigations, i.e. Lerner (1958),

Inkeles (1969), Kahl (1968), Armer and Youtz (1971), Waisanen and Kumata (1973), Inkeles and Smith (1974), Sack (1974), Holsinger (1974), Cunningham (1974), Waisanen and Kumar (1979), and Chiu (1979), that have been undertaken on this subject and use data from several developing societies. The findings of these studies support the hypothesis that education, directly or indirectly, modernizes individual attitudes and values.

The pioneering study which empirically documents the contribution of literacy to individual modernity was Daniel Lerner's study (1958) in Middle-Eastern countries (discussed earlier). Lerner found psychic empathy as the fundamental dimension upon which all modernity characteristics rest and is highly correlated with education.

Lerner's early observations in Middle-Eastern countries were further supported by numbers of subsequent studies in other countries. Kahl (1968), for example, found the correlations between formal education and individual modernity, or modernism, in Mexico and Brazil to be 0.55 and 0.57 respectively.

In their study of individual modernity in six developing countries, Inkeles and Smith (1974) found their measure of individual modernity, the OM scale, showing strong correlations with education as follows: Argentina, 0.59; Chile, 0.51; East Pakistan (Bangladesh), 0.41; India, 0.71; Israel, 0.44; and Nigeria, 0.51 (133). To be certain that education was a truly independent factor in determining

modernity, Inkeles and Smith statistically controlled the effects of competing independent variables such as socio-economic status, urban experience, and mass media. Having done that, they found the association between education and modernity remained strong. Furthermore, they discovered that among men with the least education, within their country, less than 10 percent were classified as modern on the basis of their overall modernity score. By contrast, among the most educated men, in their country, 80 percent were classified as modern. This overwhelming evidence led them to conclude:

> In all six countries, education emerged as unmistakably the most powerful force in shaping a man's modernity score (304).

Although the studies of Kahl, and Inkeles and Smith document the positive association between education and modernity, they both had a serious limitation. Both studies were conducted with adult participants who left school long before they were interviewed. Thus, one could argue as Waisanen and Kumar (1979) did correctly and Inkeles himself came to acknowledge, that the effects of education upon individual modernity may be indirect or may be mediated by some variables. To state it differently, people were not made more modern by virtue of spending more time in acquiring more schooling, but rather were made more modern by further exposure to modernizing influences of mass media, employment in formal organizations, and the like, which education provides.

A number of more recent researches, however, have been undertaken on this subject without the above limitation. Armer and Youtz (1971), for example, interviewed 591 Nigerian 17-year-old male students in Kano City, Nigeria. Utilizing a measure of modernity composed of six dimensions: independence from family, ethic equity, empiricism, efficacy, receptivity to change, and future oriented, they found there was a direct association between individual modernity and exposure to formal Western education. In examining the impact of other variables which might explain the association, Armer and Youtz found the relationships between educational levels and individual modernity were present even after the impact of mass media exposure, family differences and other alternative modernizing forces was statistically calculated.

How Education Modernizes
The Perspectives of Students

In the context of the previous discussion, one could ask this question: What are the mechanisms by which a school teaches and shapes the values, attitudes, and behavioral orientations which are defined as "modern?" One hypothesis which is strongly proposed by Inkeles (1969) and Inkeles and Smith (1974), and is likewise suggested by Waisanen (1971), is that the school carries out such tasks by its distinctive characteristics as a social organization. Inkeles and other scholars who share his perspective argue that the modernizing effects of school follow not from the school's formal

curriculum and formal instruction in academic subjects, but rather from its "hidden" curriculum. In a direct answer to the question proposed at the beginning of this paragraph, Inkeles and Smith state:

> We believe the answer lies mainly in the distinctive nature of the school as a social organization, something which has little to do with the curriculum as such. In our view...the school modernizes through a number of processes other than formal instruction in academic subjects. These are: reward and punishment, modeling, exemplification, and generalization (1974:140).

However, this assertion was not empirically tested by any of these studies in terms of their concrete findings.

Armer and Youtz (1971) were the first to test the above hypothesis in their study of the impact of formal education on individual modernity among Nigerian youths. One of the primary research objectives of their study was to investigate whether the formal curriculum or the structural aspects of the formal education system played a more critical role in explaining the association between education and modernity. Their basic argument was that if organizational aspects of schooling were more important than the curriculum content, then modernization of values and attitudes would also result from the formal education systems with non-modern curriculum. On the other hand, if the curriculum were more important, then there would be differences in the modernization perspectives of the two types of modern and non-modern educational systems. To test their assumption, Armer and Youtz compared the students in Koranic schools

with those in Western schools. They suggest that the Koranic schools differ from Western schools in curriculum content, but the formal institutional characteristics of the two are similar. The results of this comparison suggest there is a slight tendency of negative association between individual modernity and increasing years of Koranic education rather than the positive associations expected if structural characteristics were primarily responsible for modernity. It should be noted that selective recruitment into Koranic schools versus Western type schools cast doubt on the above finding. One could argue that Western type schools initially attract individuals who are "modern." The culturally traditional schools recruit individuals also who are relatively "traditional."

Armer and Youtz (1971) made a further attempt to test the effects of curriculum by comparing the degree of modernity among students from different types of secondary schools: 1) secondary grammar schools; 2) teacher-training "colleges"; and 3) technical and vocational schools. The social organization of these schools is nearly the same, but there exists great variations in their curriculum emphasis. The results show there are significant differences of modernity scores among those experiencing different types of secondary schools. Those with secondary grammar school education score substantially higher on modernity in comparison with the other types of schools. In contrast with Inkeles and Smith, they conclude:

> ..., these data offer consistent, preliminary support for the suggestion that the curriculum may be more effective in producing differences in psychological modernity than is the formal organization of the school (Armer and Youtz, 1971:621).

In his study of education and modernization in Tunisia, Sack (1972) was interested in investigating the impact of vocational education as opposed to general secondary education upon the shaping of individual modernity. Using the regression method, Sack concluded that the number of years of schooling rather than the type of schooling had a more significant effect on modernity. Thus his finding is in accordance with the hypothesis of Inkeles and Smith (stated earlier), but it is in contrast with the finding of Armer and Youtz.

As is evidenced from the above discussion, the issue of whether the school modernizes the perspectives of students by its inherent social structure or by its direct formal curriculum is unsettled and the investigation is yet to be fully completed.

There is, however, still another legitimate alternative explanation for the positive association between education and modernity. It is that educational recruitment selectively favors modern individuals. That is, those who are more modern in their attitudes and values tend to be more likely to attend and stay longer in school. Armer and Youtz (1971) attempted to account for this alternative. Their argument is "if selectivity factors are responsible for the observed association, it is reasonable to expect

that differences in the percentage of 'more modern' respondents would be most pronounced at the beginning of primary or secondary school rather than during primary or secondary school" (p. 612). However, they used a cross sectional design (collecting data at one point of time) which, in turn, effected the validity of their findings. It seems that the only unambiguous way to prove this alternative explanation would be by sampling a group of children of school age, comparing their value-orientation changes at the beginning and end of the ensuing years, and comparing those in school with children out of school and of comparable age and family status. This is essentially what Holsinger does.

By far the most meticulous and comprehensive effort attempting to investigate the link between education and modernity is the work of Donald Holsinger (1974). His methodology is novel and superior in the realm of modernity for the following reasons: 1) unlike previous studies which drew their sampling subjects from youths or adults, Holsinger used elementary school children in their third, fourth, and fifth grades (he randomly selected students in Brasilia), 2) the inclusion of a longitudinal approach to examine the same individual children at two different points in time as well as a cross-sectional approach to measure modernity of the selected sample at essentially the same time, and 3) the comparison of non-school children of equivalent age and socio-economic status to examine the effect of education.

After analyzing the data of the cross-sectional sample of third, fourth, and fifth grade elementary school children, Holsinger found a statistically significant and uniform positive increase between children's level of education and modernity scores. In the longitudinal analysis, he finds a uniform and significant increase at all three levels. In the non-school baseline analysis, 300 non-school children were divided into three groups to match the mean age of the school sample. The result showed the scores of modernity among the three groups of non-school children were virtually the same despite age differences. Also, none of these three groups obtained higher modernity scores than any of the school children. Further, after reviewing the effects of alternative modernizing factors, such as family status, media exposure and teacher's modernity, were statistically evaluated, Holsinger found a strong relationship between modernity and schooling.

Hence, the evidence particularly that provided by Holsinger and others, leaves little doubt about the contribution of education to individual modernity.

Individual Modernity and National Development

For the last four decades the problem of national development, especially in developing countries, has had a central place in the literature of social science. This problem has been approached from different perspectives. The dependency approach to development, for example, links the underdevelopment of developing countries to the

domination and exploitation of a core of wealthy countries. The attitudinal or psychological approaches to development, which will be examined in detail here, view underdevelopment, in good part, as a state of mind. Some mental and psychic orientations therefore, can act as key barriers to national development.

In his work The Achieving Society (1961), McClelland explains the rise and fall of empires in terms of a personality trait which he called the achievement motive (n Achievement). McClelland's central thesis is that there is a strong positive association between the culture's degree of achievement motivation and its rate of economic development. To prove the point, McClelland and his associates developed a method by which they sought to identify and measure the achievement motive. They found the occurrence rate of achievement themes in children's readers and fantasy stories to be a good indicator for the level of need for achievement. Using this measure, McClelland found that the n Achievement level in the children's readers during a specified period correlated prominently with the level of economic growth of the country's subsequent generation. He attributed the economic development of the West to the need for achievement--a desire to do well. It should be noted that McClelland argued that achievement motivation is the single most fundamental variable determining the rate of economic growth, in a causative

manner, in a given society. It therefore produces economic growth rather than being produced by it.

A more recent line of thought, and perhaps more accepted among scholars, is the theory of individual modernity. Theorists of individual modernity acknowledge that the acquisition of those qualities identified as "modern" is both a precondition for social and economic development and as a major consequence of it. In Lerner's words, "modernizing individuals and institutions, like the chicken and egg, reproduce these traits in each other" (1958:78).

Inkeles and Smith (1974) who contribute most to the realm of individual modernity, view development as largely as outcome of a set of interrelated variables, namely, modernizing institutions, modernized individuals, and modern institutions. This interplay is illustrated in Figure 1.

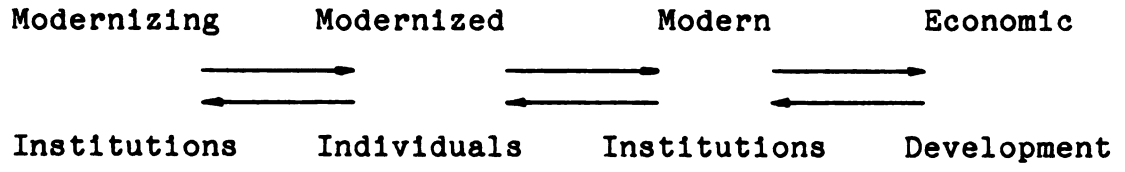

Figure 1. The process of modernization (based on Inkeles and Smith, 1974).

Inkeles and Smith, and others who share their perspectives, argue that the linkage between institutional and individual modernity is not a chicken or egg proposition. Rather the process is cyclical and one of mutual interaction. The structural and individual elements of a society are such that under most conditions, high rates of societal

modernization will lead to high levels of individual modernity and the reverse is also true (Holsinger and Theisen, 1977:330).

Inkeles and Smith and their supporters; however, do not totally dismiss the effects of other social forces which may facilitate or hinder the process of development. To quote them:

> We are not unaware that a modern psychology cannot alone make a nation modern. We fully understand that to be modern, a nation must have modern institutions, effective government, efficient production, and adequate social services. And we recognize full well that there may be structural obstacles to such development, stemming not only from nature, but from social, political, and economic causes as well. Narrow class interests, colonial oppression, rapacious great powers, international cartels, domestic monopolies, archaic and corrupted governments, tribal antagonisms, and religious and ethnic prejudices, to name but a few, are among the many objective forces which we know may act to impede modernization.
>
> Nevertheless, we believe a change in attitudes and values to be one of the most essential preconditions for substantial and effective functioning of those modern institutions (Inkeles and Smith, 1974:313).

Going beyond the theoretical argument, Sack (1972) finds there is a positive and significant relationship between modernity and worker productivity. Such findings have been supported by a more recent study. Sadan and Nachmias (1977) found modernity was correlated with economic performance. Farm operators who were classified as modern prove more effective.

Although the individual modernity theory has been important on thinking about development, there have been

several criticisms. One of these concerns the causal linkage between attitudes and actual behavior, a matter of controversy in social psychology. A second criticism focuses on some of the dysfunctional aspects of modernity regarding the attainment of developmental goals for society as a whole. For example, Portes (1973) argues that certain modern orientations (i.e., individualism and achievement) may create behavior patterns which are not in the best interests of the country in question. The "brain drain" of professionals and highly trained manpower from developing countries is a good example.

In the light of the above discussion, it is suggested that the modernity-development theory hardly tells the full development story, but it undeniably tells a significant part. Hypothetically, one could imagine a society with a large segment of modern men without a high degree of national development. On the other hand, it is highly unlikely that national development could proceed very far without a large number of modern individuals staffing social, political, and economic institutions necessary to the process of development.

Summary

This chapter covers considerable ground of the related literature to this study with historical, theoretical and empirical reviews. It began with a brief presentation on the education in Saudi Arabia and its main general characteristics, followed with a description on the distribution

and status of Saudi students studying abroad, and a discussion about the determinants of their flows to the United States. There followed a close examination of the meaning of the construct of individual modernity and its theoretical and empirical basis was presented. After finishing this, an exploration of the relationship between education and individual modernity was undertaken, followed with an investigation on how school modernizes the perspectives of individuals. Lastly, the relationship between individual modernity and national development was examined. The next chapter, Chapter III, will be a presentation of the procedure and methodology used in this study.

CHAPTER III

RESEARCH METHODOLOGY

The objective of this chapter is to describe the procedure and methods used in planning, conducting, and analyzing the study. The following topics are presented in this chapter: 1) variables involved in the study; 2) development of the instrument; 3) translating and pretesting the research instrument; 4) target population; 5) sample, sampling procedure and setting of the study; 6) data collection procedure; and, 7) the statistical methods used for data analysis.

Variables Involved

This study was developed to investigate the relationship and impact of formal education on the individual modernity of Saudi students in the United States and in Saudi Arabia. Therefore, the principal variables at issue are: first, individual or attitudinal modernity, treated as the dependent variable. The second variable is formal education, treated as an independent variable. The third variable is the experience of studying in a developed nation, it is treated as an independent variable.

In addition to the above variable, there are a number of independent variables, suggested by previous studies,

having an independent impact on individual modernity. The variables controlled in this study are: mass media exposure, father's level of education, urban experience, and age.

Development of the Instrument

To measure the variables for this study, an instrument was constructed. Development of a scale of the dependent variable, individual modernity, was initiated through examination of previous literature and in the effort to identify major theoretical dimensions of modernity that may be affected by schooling. The following dimensions are identified: Activism or Efficacy; Present-Future Orientation; Rejection of the White Collar Syndrome; Sense of Interpersonal Trust; Family Modernism; Rejection of Nepotism and Favoritism; Rejection of Authoritarian Orientation; Urban Preference; and Occupation Risk Taking. These dimensions are, therefore, identified as effective indicators of modernity (i.e. Kahl, 1968; Inkeles, 1969; Inkeles and Smith, 1974; Sack, 1972; Armer and Youtz, 1971; Portes, 1973).

Items designed to measure these nine dimensions or indicators are borrowed directly, or in modified form, from questionnaire materials employed by Kahl, Inkeles and Smith, and others. Several were developed by the researcher for specific Saudi context. Selection of particular items is dependent upon the researcher's judgment of item applicability concerning Saudi context. Two or more items are employed to measure each indicator of modernity.

All the dependent variable items are of the Likert format: a respondent could choose between "Strongly Agree," "Agree," "Disagree," or "Strongly Disagree." Like Kahl's study (1968), the researcher deliberately omitted neutral responses to encourage choice. An "agree" response will not necessarily indicate either "modernism" or "traditionalism." This is done to minimize response set behavior.

The procedure employed to measure the independent variables follows. The educational level is measured by single item asking respondents to identify their levels of education. Possible responses include: secondary, college undergraduate, and graduate.

The experience of studying abroad is measured as a dichotomy variable: yes or no. Length of study is measured by a single item asking how long the respondent has studied abroad. Possible responses included: 1) one year or less; 2) between two to three years; 3) between four and five years; and, 4) more than six years.

Mass media exposure is measured by three items. Individuals are asked how often they 1) watch television, 2) listen to the radio, and 3) read the newspaper and/or magazine. The given response choices are: every day, a few times a week, rarely, and never.

Father's education is measured by a single item asking respondents how much education their fathers achieved. Possible responses include: no education, some elementary education, elementary school certificate, intermediate

school certificate or some education, high school certificate or some education, college degree or some education, and graduate degree.

Urban experience is measured by a single item asking individuals to identify school locations where they obtained part or all of their general education. Places are classified as: large city (population of more than 100,000 people), medium city (population of less than 100,000 and more than 20,000 people), and small city or town (population of less than 20,000 people). Although the criteria used for classification is arbitrary, it seems to differentiate places in Saudi Arabia quite well.

Finally, age is the last independent variable discussed. This is measured by a single item asking respondents to mark an appropriate age group. They are given a category ranging from 14 to 15 to 36 or more.

The questionnaire consists of two sections. The first section encompasses ten questions obtaining personal information relevant to the independent variables of the study.

The second section of the questionnaire involves 34 items exploring the respondents' values and attitudes relevant to the dimensions of the construct of modernity, the dependent variable. The items of this section are randomly spread to avoid contaminating some responses by the content of previous items.

A cover letter is attached to the questionnaire and explains the purpose and nature of the study, as well as the importance of respondents' contributions. When mailing questionnaires, a self-addressed stamped return envelope is enclosed for the return of the completed questionnaire.

Translation and Pre-Test of the Research Instrument

The native language of respondents is Arabic. Hence, the questionnaire was translated into Arabic. The initial translation was made by the researcher. A group of five Saudi doctoral students at Michigan State University was given these two versions of the questionnaire for comparison and commentary. A week later, this group gathered in the researcher's home and discussed the questionnaire and its translation. In light of this discussion, which proved to be very helpful, several items and words were modified and revised. Having established these changes, another group of eight Saudi graduate and undergraduate students at Michigan State University and Lansing Community College was given the revised questionnaire and asked to respond, as well as identify confusing and difficult items. Their responses indicate the questionnaire is clear. Some of them, however, made observations of minor importance which were taken into consideration when the final draft was constructed.

When the researcher traveled to Saudi Arabia for data collection, a final test of the questionnaire was conducted, this time by a group of ten secondary students and a group

of ten college students at King Abdulaziz University. Many of the secondary students expressed their confusion with the second part of the questionnaire which contains the Likert format. Therefore, it was decided to give a brief presentation for each secondary school class sampled to explain the nature of the second section and how to respond.

The final revised version of the Arabic form was given to a colleague, with a Master's degree in Arabic language, for evaluation of grammar and readability. This and the above procedures were designed to enhance the reliability and the face-validity of the measure of this study: the questionnaire. Ambiguity and lack of clarity in the questionnaire items would deteriorate reliability and face-validity. (See Appendix A for the full questionnaire.)

Target Population

There are three target populations for this study. The first target population is composed of Saudi students in the general secondary boys schools in Saudi Arabia. The second target population consists of male Saudi students in colleges of Saudi Arabia. The third target population is composed of Saudi male students studying in colleges in the United States (during the 1985-86 school year).

Sample, Sampling Procedure, and Setting

The sampling procedure used to draw a representative sample of Saudi students studying in the United States is the stratified random sampling technique. Based on the

educational level and field of study, three strata are established. The first stratum consists of undergraduate male students studying engineering. The second stratum consists of undergraduate male students studying business and/or public administration. The third stratum consists of graduate male students studying education. The establishment of these strata was guided by the study's main objective: to compare the individual modernity among Saudi students studying in the United States and Saudi Arabia. Hence, the criteria required that similar levels and fields of study should be available and popular among Saudi students in both the United States and Saudi Arabia (to get more information about what is available and popular in this regard, see Chapter II).

The next decision involved the size of the sample drawn from each stratum. Borg and Gail (1979) mentioned that for survey research, it is desirable to have at least 100 subjects in each major subgroup. This researcher decided that 160 subjects would be randomly drawn from each stratum in the hope that at least 100 or more subjects in each stratum will respond and return the questionnaire. This technique worked as demonstrated under the heading of Data Collection.

Drawing direct representative samples for this study's other two broadly defined target populations, secondary and college population could become quite complicated and involve a tremendous amount of work and expense. In view

of these probable complications, a viable alternative was considered (Borg and Gail, 1979:180). The researcher selected King Abdulaziz University students as a readily accessible population of college students in Saudi Arabia. This selection is based on the following criteria. First, it is one of the typical secular modern universities in the country (see Chapter II). Second, it hosts typical major colleges. Third, its student population is one of the largest.

Having selected the accessible population of college students in Saudi Arabia, the next step was to decide which students, what level and field of study or college, should be included in the study. Based on previous criterion, the selection included: undergraduate students at the Colleges of Engineering, Administration, and Education, and graduate students at the College of Education. However, the criterion was violated by including undergraduate students in Education, which were not included in the comparative sampling of Saudi students studying in the United States. The researcher desired to include undergraduate students studying Education in the United States, however, unfortunately there were not enough male subjects to draw at the time of the study. The researcher felt that including students studying in Saudi Arabia is essential because most of them will choose teaching as their career. Hence, their attitudes and values would greatly influence students.

The sampling procedure used to draw subjects from the above colleges was stratified, and clustered randomly using a sampling technique. In clustering sampling the unit of sampling is not individual, but rather of a group of individuals--such as the classroom. However, the researcher initially planned to use individuals as units of sampling, but the researcher discovered that addresses were not available. Hence, the classroom is used as the unit of sampling. Before drawing any classroom data, four strata were established. The first stratum is composed of undergraduate students at the College of Engineering. The second stratum consists of undergraduate students of the College of Administration. The third stratum includes undergraduate students at the College of Education. The fourth stratum consists of graduate students at the College of Education. Furthermore, each of the first three strata is divided into four subgroups or strata. This was determined by the class standing of the student--freshman, sophomore, junior or senior. One classroom represents each of the subgroups and was drawn using course number as an indication of student standing.

The researcher utilizes 12 classrooms, including an average of 27 students. In the fourth stratum, Education graduate students, the researcher obtained 90 students, out of the total of 93 students enrolled in the school year of 1985-86 to respond to the questionnaire. In addition, 16

individuals, with Master's degrees from the College of Education, are included in the sample.

To obtain a sample from the target population of the secondary school students, the educational district of the city of Medina and the city of Tabuk was selected as the accessible population. Given the nature of the educational system of Saudi Arabia (see Chapter II), the researcher had no reason to believe that the general secondary schools in these two districts are significantly different from other Saudi Arabia schools. Out of the five general secondary schools in the city of Medina, one school was randomly selected to represent the urban setting secondary schools. Two small secondary schools around the city of Tabuk were randomly selected to represent the rural setting secondary schools. In obtaining the sample from the selected urban secondary school, the classroom was used as the unit of sampling. In this school, all the classrooms are stratified according to the grade and section of study. Then five classrooms were randomly selected, with an average of 22 students in each class. In drawing the sample from the selected two rural schools, the whole student population was utilized since there were only 113 students.

Data Collection Procedure

To collect the data from Saudi students in the United States, a copy of the approved research proposal accompanied a letter from the researcher's advisor and was sent to the main office of the Saudi Arabian Educational Mission in

Washington, D.C. After obtaining the Mission's permission to collect data, the researcher contacted an official in Academic Affairs at the Mission to arrange the procedure of distributing the research questionnaire. Four hundred and eighty copies of the questionnaire, accompanied by a cover letter and self-addressed return envelope, were sent to the Mission to be mailed and distributed to 160 randomly selected undergraduate engineering students, 160 undergraduate administration students, and 160 graduate education students. The researcher asked the Mission to keep the names and addresses of the selected subjects so they could be reached for a follow-up letter.

Two weeks later, 46 completed questionnaires were received. To obtain more responses, the researcher decided to send another 480 copies of the questionnaire, accompanied by a self-addressed return envelope and follow-up letter (see Appendix B), to the Mission and repeated the original request. Moreover, several phone calls were made to students the researcher knew with a personal request to cooperate with the study. By following this procedure, the percentage of returned questionnaires went from 46 to approximately 68 which meant that 329 subjects out of the total 480 selected sample subjects returned the questionnaire. Of the 329 returned questionnaires, 300 were used. The other 29 were eliminated either because they were incomplete or because the students were female.

To collect data from Saudi students at the selected colleges in Saudi Arabia, the researcher received permission to travel to Saudi Arabia at the expense of his sponsor. Upon arrival in Saudi Arabia, the researcher met with his sponsoring agency, the King Abdulaziz University College of Education in Medina, and obtained three letters from the Dean of the College of Education. One of them allowed the researcher to administer the questionnaire in the College of Education and the other two letters, addressed to the Dean of the Engineering College and the Dean of the Administration College, requested assistance with the data collection. In all the colleges, the researcher succeeded in getting the permission of all teachers, whose courses were selected, to allow him to administer the questionnaire at the beginning of the class period. Thus, nearly all the questionnaires distributed were returned. Out of the 433 received questionnaires, 400 were used. The other 33 were eliminated either because they were incomplete.

To collect the data from the selected secondary schools, the researcher obtained a letter from the Dean of the College of Education to the Educational Directorate of the General Education in Medina and Tabuk, who subsequently forwarded a letter to the principals of the selected secondary schools. This letter requested their cooperation and help in administration of the questionnaire (copies of these letters are included in Appendix C). The researcher visited each of the selected schools to personally distribute the

questionnaire. The researcher succeeded in obtaining permission of the principals, and the teachers whose classes were randomly selected, to distribute the questionnaire at the beginning of the class period. Hence, all the distributed questionnaires were received. Out of the 217 distributed, 200 were used. The other 17 questionnaires were discarded because they were incomplete.

Table 4 shows the number and percentage of distributed and usable returned questionnaire forms. The total percentage of usable returned forms of the sampling of Saudi students in the United States was 62.5; while the total percentage of Saudi students in Saudi Arabia was 90.0. It should be noted that the difference between the two percentages are mainly due to methods of collection. In the case of Saudi students in the United States, the method of collection was through mailing, while the method of collection in the case of students in Saudi Arabia was conducted by the researcher. The overall percentage of usable returned forms was 78.9. The overall response rate is one indicator of the representativeness of the sample respondents. A high response rate decreases significantly the change of response bias. By conventional measure, the overall rate response of this study is deemed to be well beyond the standard (Babbie, 1986:221).

Data Analysis Procedure

Data collected for this study was first coded for computer handling then card punched and verified. Analysis

TABLE 4

The Number and Percent of Distributed and Usable Returned Questionnaire Forms

Subjects	Questionnaire		
	Distributed	Usable Return	Percent
In the U.S.A.			
Undergraduate Engineering	160	100	62.5
Undergraduate Administration	160	100	62.5
Graduate Education	160	100	62.5
Sub-Total	480	300	62.5
In Saudi Arabia			
Undergraduate Engineering	109	100	91.7
Undergraduate Administration	105	100	95.2
Undergraduate Education	112	100	89.2
Graduate Education	107	100	93.4
Secondary School	227	200	88.1
Sub-Total	660	600	90.9
TOTAL	1140	900	78.9

of the data was carried through the Michigan State University Computer Center through the utilization of the Statistical Package for the Social Sciences (SPSS).

The statistical analysis of the data utilized frequencies, percentages, factor analyses, and multiple regression. Frequencies and percentages were used to describe the background or the demographic characteristics of the sampled subjects.

Factor analysis was employed to arrive at the final form of the dependent variable measuring individual modernity as well as to help extract the character, or the profile, of the "modern" Saudi students.

Multiple regression analysis is used extensively in this study. This method permits the user to ascertain the changing relationship and the degree of association of a number of independent variables to a dependent variable. A significant level of 0.05 was set for rejection or retain the null hypotheses.

Summary

This chapter, Chapter III, provides a description of the procedure and methodology used in defining the variables involved, defining the target and accessible populations, sampling, constructing the instrument, collecting the data, and analyzing the data of this study. The next chapter, Chapter IV, is a presentation of the data analysis.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this chapter is to present the results of data analysis and to interpret the findings. This chapter is divided into six sections. The first section provides a descriptive analysis of background and demographic characteristics of the study subjects. The second section consists of a detailed analysis of the steps and procedures used to construct the study's final scale of its dependent variable: modernity. The third section presents the profile of individual modernity of Saudi students. The fourth section deals with the issue of reliability and validity of the study instrument. The fifth section concerns the operationalization of the study's independent variables. The last section is a presentation of the results of the study's hypothetical testing followed by a detailed discussion of these results and findings.

This chapter is undertaken mainly to profile the individual modernity of Saudi students and to evaluate the following questions and statements regarding the concerns and impacts of factors on individual modernity.

1. What is the relationship between level of education and individual modernity among Saudi students in the United States and Saudi Arabia?

2. What is the relationship and impact of undergraduate college education in Saudi Arabia on individual modernity of students in comparison with secondary education?

3. What is the relationship and impact of college education in Saudi Arabia upon modernity of Saudi students in comparison with college education in the United States?

4. To what extent does the experience of studying and length of stay in a developed country (i.e. U.S.A.) affect individual modernity of students coming from a developing country (i.e. Saudi Arabia)?

5. To ascertain the effects of other variables, that influence modernity (i.e. mass media exposure, father's education, urban experience, age).

Characteristics of Participants

The usable responses of 900 Saudi students who responded to the questionnaire of this study revealed they had different major characteristics in level of education, age, study abroad, length of stay, father's education, place of general education, and exposure to mass media. These independent variables are important to this study because of their suggested relationship and impact upon the study dependent variable: individual modernity.

Table 5.1 shows the levels of education of the participating students. It indicates 55.6% of the students were undergraduate, 22.2% were graduate, and 22.2% were at the secondary school level.

Table 5.2 shows the age distribution of all participants. It indicates that 27.1% of the students were between 21-23 years of age, 18.6% were between 18-20 years

Table 5.1
Frequency and Percentage of the
Levels of Education of the Research Sample

Level of Education	Frequency	Percentage
Secondary School	200	22.2
Undergraduate	500	55.6
Graduate	200	22.2
Total	900	100.0

Table 5.2
Frequency and Percentage of the
Ages of the Research Sample

Age	Frequency	Percentage
14-15 years	11	1.2
16-17 years	102	11.3
18-20 years	167	18.6
21-23 years	244	27.1
24-26 years	167	18.6
27-29 years	83	9.2
30-32 years	57	6.3
33-35 years	47	5.2
Over 36 years	22	2.4
Total	900	100.0

of age, 18.6% between 24-26 years of age. The majority of the students (64.3%) were between 18-26 years of age. About 12% of the students were younger than 18 years, and about 23% were older than 26 years.

Table 5.3 illustrates the students' experience of studying in a developed country or countries. It indicates that 37.4% of the students have such experience. While the rest (62.6%) have not been through the experience of studying in any developed country. It should be noted that the country where the majority of the students studied abroad was the United States. This is due mainly to the fact that a substantial part of the sample was drawn from Saudi students were are studying in the United States.

Table 5.4 shows the students' length of stay when studying abroad. It indicates that over 64% of the students who studied abroad had a length of stay between two and five years. While over 20% stayed one year or less, and over 14% stayed six years or more.

Table 5.5 illustrates the locations where students received all or most of their general education in terms of urban or rural settings. It indicates that the majority of the students (80%) received their general education in urban areas, and only 20% obtained their education in rural areas.

Table 5.6 demonstrates the distribution of fathers' levels of education for surveyed students. It reveals that 24% of the fathers were illiterate; 76% had formal education at some level. The mean of fathers' levels of education was

Table 5.3
Frequency and Percentage of the
Students Experienced Studying Abroad
(In a Developing Country or Countries)

Experience of Studying Abroad	Frequency	Percentage
Had no experience	563	62.6
Had experience	337	37.4
Total	900	100.0

Table 5.4
Frequency and Percentage of the
Students' Length of Stay Abroad

Length of Stay	Frequency	Percentage
One year or less	70	20.7
Two to three years	124	36.7
Four to five years	95	28.1
Six years or more	49	14.5
Total	337	100.0

Table 5.5
Frequency and Percentage of the
Students' Place of General Education

Place of General Education	Frequency	Percentage
Urban Areas	724	80.4
Rural Areas	176	19.6
Total	900	100.0

Table 5.6
Frequency and Percentage of the Students'
Fathers' Level of Education

Fathers' Level of Education	Frequency	Percentage
No Education	217	24.1
Some Elementary Education	244	27.1
Elementary Certificate	158	17.6
Some Intermediate Education of Its Certificate	75	8.3
Some Secondary Education or Its Certificate	113	12.6
Some College Education or College Degree	66	7.3
Some Graduate Education or Graduate Degree	27	3.0
Total	900	100.0

2.92, which falls between the "some elementary education" level and "elementary certificate." The standard deviation was 1.72.

Table 5.7 indicates the distribution of the students' exposure to mass media, television, newspapers and magazines, and radio. It indicates that 67.2% of the respondents watch television on daily basis, while only 1% do not. Close to 50% read newspaper and/or magazines daily; whereas 36% listen daily to the radio.

Table 5.7
Distribution of the Students'
Exposure to Mass Media

Exposure To Mass Media	Percentage		
	Television	Newspaper & Magazine	Radio
Nearly Every Day	67.2	48.1	36.0
Several Times A Week	22.9	40.2	31.9
Rarely	8.9	11.3	28.3
None at All	1.0	0.3	3.8
Total	100.0	100.0	100.0

Scale Construction
"Factorial Structure of Modernity Scale"

Since the modernity scale (discussed in Chapter II) of this study is not identical to those used in previous modernity research, it is important to take the following

step. The objective of this step is to assess the quality of the modernity scale used in this study as well as to arrive at the final form of this scale and its components (subscales), which will be used in subsequent analysis. The following procedure will be done through the utilization of the principal component method of factor analysis. This step follows methodology used by Kahl, Klineberg, Sack, Weis, and Ports.

The key feature of the principal component method is that it operates to extract a maximum amount of variance as each factor is calculated. The first factor extracts the most variance; the second factor extracts the next most variance, and so on. Hence, this method reveals which set of items or measures belong together. In other words, it determines which measures will virtually measure the same thing (see Kerlinger). This method is usually combined with the use of the varimax rotational method to detect the possibility of identifying dimensions of the principal factor.

The particular advantage of this method to test modernity in this study is threefold. First, it will assess the internal consistency of the measure and the extent to which the items in the measure are cohesive. In other words, it will give a more precise idea about the dimensionality of the measure. Second, it will suggest the possibility of grouping items into subscale through the rotation of the axes, i.e. via varimax. Third, it will help

to extract the characteristics or the profile of a "modern" Saudi student.

To evaluate the results of the principal component analysis, three conventional criteria are used: if a basic underlying dimension of modernity exists in this study data, this would be manifested in; 1) "high" loadings of items on the first factor (factor loadings are interpreted like correlation coefficients) and, 2) the loadings should be consistent with the theory, the explained proportion of the common variance by the first factor should be: 3) "large" and substantially larger than that explained by the enusing extracted factors (see Ports, 1973; Klineberg, 1974; Chiu, 1979).

The criterion for "high" factor loading varies according to topics and preferences of the researchers. It usually ranges between .25 and .45 (Chiu, 1979:66). In accordance with previous studies (Schnaiberg, 1970; Armer and Youtz, 1979; Ports, 1973; Klineberg, 1973; Chiu, 1979), a criterion of 0.30 was chosen as a cutting point. That is an item with loading of 0.30 or above on the first factor and its loading direction is consistent with the theory of modernity and will be retained.

Table 6 shows the results of the factor analysis. In this table, the items are grouped within the subscales they eventually come to form (after analysis). In the first column are the loadings of each item on the first principal axis factor of a principal component factor analysis. When

the direction of item loadings on the first principal factor (first column in Table 6) is considered, 27 item loadings out of the total of 34 run in the theoretically predicted direction. The remaining seven item loadings, those with negative loadings, contradicted the theoretically predicted direction. Of these seven items, only four are smaller than -.23, and the remaining are close to zero. These seven items come from the scale of urban preference (two out of two), activism (one out of six), interpersonal trust (two out of four), family modernism (one out of four), and occupational risk taking (one out of four). All these seven items are eliminated from the subsequent analysis because of their direction as well as of their size of loading (as will be seen next).

When the size of loadings is considered, 22 items out of the total of 34 met the cutting point (i.e. 65%). That is, their loadings on the first principal factor were .30 or above. From the remaining 12 items, two had loadings close to the cutting point, three had loadings between .24 and .18, and the remaining seven had loadings ranging from -.23 to -.03. The first two items, which had loadings close to the cutting point were kept in the final analysis in order to preserve a balance in the type of items on the scale, while the remaining ten (of which seven turned out to be the same eliminated earlier) were discarded because of their size of loadings. The numbers of these ten items in Table 6

Table 6

Modernity Items Grouped by Subscale with Loadings on First Principal Axis Factor (Unrotated Solution) and Rotated Axis Factors and Where Similar Items Are Found

Item	Loading On Principal Factor	Loading On Rotated Factors
I. SCALE OF ACTIVISM OR SOCIAL EFFICACY		
1. Making plans only brings unhappiness because they are difficult to realize (Kahl, 1968:30)	.47	.44
2. One should not bother himself by trying to change the course of events because everything is pre-determined (Researcher)	.46	.50
3. Prevention of accidents depends mainly on luck (Inkels and Smith, 1974:328).	.38	.34
4. I feel that my determination is not strong enough to sustain me until my career goal is achieved (Zeigler, 83:85).	.34	.26
5. To be happy, one must conform to the wishes of others, even if that sometimes means not expressing one's own ideas (Sack, 1972:72)	.20	.07
6. The most important qualities of a real man are determination and driving ambition (Kahl, 1968:30).	-.20	.05
II. SCALE OF INTERPERSONAL TRUST		
A. For Friends and Relatives		
7. It is not good for your friends to know all about what you are doing for they might take advantage of you (Kahl, 1968:32).	.40	.80

Item	Loading On Principal Factor	Loading On Rotated Factors
8. It is not good for your relatives to know all about what you ar doing for they might take advantage of you (Kahl, 1968:32; Inkeles and Smith, 1974:322).	.37	.78
B. For Other People		
9. Most people are honest and don't try to fool others (Kahl, 1968:32).	-.08	.64
10. Most people are thankful for your help (Kahl, 1968:32).	-.03	.73
III. SCALE OF REJECTION OF WHITE COLLAR SYNDROME		
11. The best jobs are the ones where you don't dirty your hands (Kahl, 68:33).	.45	.55
12. Members of original Arab tribes are not supposed to engage in manual and vocational work (Researcher).	.41	.15
13. Manual laborers represent an inferior class (Researcher)	.37	.28
14. Manual work is not as good as office work (Kahl, 68:33).	.35	.74
IV. SCALE OF FAMILY MODERNISM		
15. A married woman should stay at home and not work even if she wants to work (Kahl, 68:33; Inkeles and Smith, 74: 340).	.44	.52
16. A wife should always obey her husband, even if he is wrong (Kahl, 68:33).	.35	.19

Item	Loading On Principal Factor	Loading On Rotated Factors
17. When one looks for a job, it is better to find one near one's parents even if that means loosing a better job elsewhere (Kahl, 68:43).	.25	.47
18. Parents should limit the number of their children (Kahl, 68:33; Inkeles and Smith, 74:330).	-.04	.72
V. SCALE OF REJECTION OF PAST ORIENTATION		
19. It is better to live from day-to-day without thinking too much about the future (Inkeles and Smith, 74:335).	.42	.68
20. One should learn more about the past and less about the future (Researcher).	.33	.54
21. Most of today's problems can be solved by past solutions (Researcher).	.30	.14
22. People were happier in the past than they are today (Sack, 1972:72).	.29	.50
VI. SCALE OF REJECTION NEPOTISM AND FAVORITISM		
23. Favoring relatives and friends, in public matters, is a social duty (Researcher).	.48	.22
24. If one should hire an assistant, it would be better to take a relative rather than a stranger to the family (Kahl, 68:31).	.43	.43
25. Kinship and friendship are the first qualities one should consider if he is in a position to select public employees (Researcher).	.36	.65

Item	Loading On Principal Factor	Loading On Rotated Factors
VII. SCALE REJECTION OF AUTHORITARIAN ORIENTATION		
26. Children should be taught that there is only one way to do things correctly (Waisanen, 71:187).	.47	.32
27. Obedience and respect for authority at all times are the most important things for children to learn (Kahl, 68:33).	.43	.63
28. On occasion, children should be allowed to disagree with their parents (Waisanen, 71:187).	.24	.71
VIII. SCALE OF OCCUPATIONAL RISK TAKING		
29. Whatever we do, it is necessary that our leaders outline carefully what is to be done and exactly how to go about doing it (Waisanen, 71:188).	.43	.42
30. One should look for a job where there is always someone available to help him with problems that he does not know (Kahl, 68:34).	.33	.63
31. One should look for a job where there is nearly always a person or procedure that will catch his mistakes (Kahl, 68:34).	.18	.71
32. One should look for a job where one has to make many decisions by himself (Kahl, 68:34; Inkeles and Smith, 74:328).	-.20	.02

Item	Loading On Principal Factor	Loading On Rotated Factors
IX. SCALE OF URBAN PREFERENCE		
33. In general, it is better to live in villages than in big cities (Kahl, 68:33; Inkeles and Smith, 74:335).	-.23	.79
34. I prefer to live most of my life in a big city (Kahl, 68:33; Inkeles and Smith, 74:335).	-.23	.79

are 5, 6, 9, 10, 18, 28, 31, 32, 33, and 34. (See Appendix C for the complete unrotated principal factors).

When the size of the amount of variance is considered, the first principal factor will explain 12.2% of the total items variance. A check of the significance and power of the first principal factor indicates the percentage of explained variance by the first factor is more than twice that of the second factor.

Compared to previous studies the size of item loadings on the first principal factor, and percentage of variance explained by the first principal factor of this study are rather encouraging. For example, Chiu stated that "from 57% to 90% of reported factor loadings for various modernity scales are higher than .30." He also added that "in previous studies the first factor can explain 11% to 25% of the total variance" (1979:70).

In the light of the above research, it can be concluded that there is a basic modernity dimension. Identifiability of this dimension is indicated by the fair degree of coherence among the majority of items which are manifested by their positive "high" leadings on the first principal factor (see the first column of Table 6).

It seemed advisable, however, to determine whether above and beyond a basic modernity dimension it is possible to identify meaningful subdimensions of modernity. The varimax rotation method was employed to accomplish this part of the analysis. The second column of Table 6 shows the

loadings of items on 11 separate rotated factors. Whereas the loadings on the first principal component factor (first column in Table 6) indicate the internal consistency of the measure, that is the degree of cohesion of items between themselves, the rotation of factors (second column in Table 6) indicates the possible subgroups of items which may exist. It should be noted there were several items in the second column of Table 6 that were not grouped with the factors on which they had higher loadings. Such measures were taken because of theoretical implausibility. For instance, item #25 had a loading of .60 on Factor 3 and also had a loading of .15 on Factor 4. Theoretically, it would have been difficult to defend the grouping of that item on the scale of rejection nepotism, whereas it seems to agree with the scale of rejection white collar syndrome. (See Appendix C for the complete rotated factors.)

In general, the rotation of the axes yielded meaningful results largely consistent with the theoretical expectation and was easily interpreted. That in turn, helped the researcher regroup some of the items from initial categories. For instance, before the rotation, the researcher grouped item #17 with the scale of occupational risk taking. But the results of the rotation suggested this item could be included in the scale of family modernism. It should be noted that the rotated axis factor solution was used here as an exploratory device. The final decision in the construction of the subscales was made on the basis of theoretical and rational judgment.

To examine the impact and relationship between modernity, as dependent variables of this study, and the independent variables (see Chapter II), two types of scores of modernity are calculated. In the first type, a composite weighted average score was assigned to each individual based on their responses to all items. Each item was weighted by its factor loading on the first principal factor. In effect, the weighted average score of each individual, as calculated above, defined the overall modernity score for this individual.

In the second type, separate weighted average scores for each dimension of modernity were calculated. Whereas the score of the first type indicates the score of individuals on all the components (dimensions) of modernity combined, the scores of the second type reveal the score of individuals on each of these components separately.

Here is a simplified example. Suppose we want to calculate the score of an individual on the modernity dimension number VI in Table 6. The raw scores of this individual might be 2, 3, 4. We multiply these scores by the related factor loadings, as follows:

$$\frac{(.48)(2) + (.43)(3) + (.36)(4)}{3} = 1.23$$

Profile of the Modern Saudi Student

Examination of the results of factor analysis shown in Table 6 indicates that the modern Saudi student is similar in many respects to the modern man of a variety of

countries. The modern Saudi student has the following characteristics:

1) He reports a sense of social efficacy or some control over his environment, and he sees value in planning ahead rather than letting things depend on luck or fate;

2) He admits to trusting his relatives and friends;

3) He tends to reject the traditional idea that white collar workers are necessarily better and superior to blue collar workers. He shows respect to manual laborers and rejects the old notion that members of original Arab tribes are not supposed to seek jobs in manual and vocational sectors;

4) He tends to reject the traditional belief that one should hire an assistant or recruit employees on the basis of kinship or friendship without much regard to the job responsibilities;

5) He tends to reject the traditional ideas of the family as they relate to independence from family, work for women, and woman's obedience to the husband or guardian male;

6) He tends to be present/future oriented rather than being past oriented;

7) He tends to devalue authoritarian orientations as they relate to child learning and to absolute obedience and respect for authority; and,

8) He tends to be relatively an occupational risk taker.

However, unlike most of his counterparts in other countries, the modern Saudi student reports to:

9) Prefer the lifestyle in villages or small towns, rather than those in large towns or cities.

This can be inferred from the responses to the two items which comprise the subscale of Urban Preference. These two

items load negatively on the first principal unrotated factor (see Table 6, Column 1). This means that the subscale of Urban Preference is negatively related to the other subscales. And, finally:

10) The modern Saudi student tends to be less inclined to trust people other than his friends and relatives.

Although the results of Urban Preference research is not consistent with most previous studies, it makes sense in the Saudi context. To begin with, most Saudi people come from Arab tribes, where most of their members have just recently settled in big cities or towns and the rest still live in rural or nomadic areas. Thus, most of them have a chance to compare the simpler life in rural and nomadic areas with the complexity of city life. Furthermore, Arabic literature and poetry as well as Islamic religion glorify the simple and non-materialized life. So, it would not be surprising to discover that the modern Saudi prefers rural life over urban life.

With respect to the findings regarding trusting people other than relatives and friends, the researcher is somewhat surprised. However, this result may be partially explained by the social structure of Saudi society. Given the strength of existing tribal and extended family traditions, one would expect a Saudi to trust his relatives and friends. This is usually an encouraged attitude from his relatives.

Reliability and Validity

Reliability and validity are extremely important characteristics of measures or scales. The question of validity is concerned with the degree to which a test measures what it claims to measure. The concern of reliability raises a question somewhat different from validity. It addresses the issue of the level of internal consistency of the test or measure. Hence, knowing the reliability and validity of one's data determines the extent of faith one holds in the results and conclusions based on these data (Kerlinger, 1973; Borg and Gall, 1979).

After arriving at the final form of the modernity scale of this study, this is not identical to those in previous modernity research, it is important to see how this study's modernity scale meets the conventional criteria of reliability and validity used in previous major studies.

Reliability of the Modernity Scale

The reliability coefficient (Cronbach's alpha) was computed. This coefficient and average inter-item correlations were .74 and .26, respectively.

Two criteria were used as reference standards in discussing the reliability of the present study's modernity scale. First, according to Guilford (1958), .70 and .10 are satisfactory for reliability level and average inter-item correlation, respectively. Compared to these standards, the reliability level and inter-item average correlation of this study are therefore satisfactory.

Second, another reference could be to use the reliability of other modernity scales as a comparison. Compared to the mean reliability of short forms of Inkeles' OM scale (as calculated by Chiu, 1979), which have similar scale lengths, the present scale has somewhat higher reliability (.74 versus .725) and also higher average inter-item correlation (.26 versus .098). Also, compared to Armer's scale (Armer and Schnaiberg, 1975), the present scale has similar reliability (.74 versus .75) and higher average inter-item correlation (.26 versus .12).

Based on these criteria, it may be concluded that the overall quality of the present modernity scale is a reliable measure.

Validity of the Modernity Scale

Since modernity is considered to be a hypothetical construct, a test for construct validity for the modernity scale of this study is relevant. That is, to see the extent to which this scale measures modernity and not something else.

Theoretically, the positive relationship between individual modernity and variables measuring modernizing influences can be utilized as criteria of construct validity of individual modernity (Chiu, 1979:70). Levels of education, and mass media exposure are generally regarded as a valid approximation in this respect, because nearly all the major previous studies in this area documented the positive association of individual modernity with these

two variables (Kahl, 1968; Inkeles and Smith, 1974; Armer and Youtz, 1971).

Zero-order correlation coefficients were calculated to show the relationships of modernity with the validity criteria. Table 7 shows the information regarding association of modernity with all the validity criteria. As shown in this table, the relationships are in the theoretically predicted direction and are all statistically significant at .001. Therefore, it can be seen that the modernity scale of this study has satisfactory construct validity.

Table 7
Zero-Order Correlations Between Individual Modernity and the Two Independent (Criteria) Variables

Independent Variables	Individual Modernity	Level of Significance
Level of Education	.31	.001
Mass Media Exposure	.11	.001

Operationalization of the Study's Independent Variables

Having established the content of the modernity scale, and its reliability and validity, the remainder of this chapter explores the impact and relationship between modernity and its dimensions and a number of independent variables described in Chapter II. They are repeated below for the reader's convenience. Independent variables included were level of education, experience of studying

abroad and length of stay, mass media exposure, urban experience, father's education, and age. These variables have been suggested by previous researchers as potential contributors to modernity.

The method of statistical analysis used in testing the study hypotheses is multiple regression. Suffice it to say, the method of multiple regression allows the user to assess the effect and relationship between a dependent variable and a number of independent variables (taking into account the interassociations among the independent variables themselves).

To recapitulate, Table 8 provides a list of all independent variables used in the regression analysis and a brief description of their content. It should be noted that all the independent variables involved in the regression, except the length of stay, are not continuous variables, but rather dummy variables created for the purpose of regression. Dummy variables are dichotomous variables that demonstrate whether or not a given character or state of affairs is true, i.e. they are variables which assume the value of zero or 1. Dummy variables are useful in transforming categorical, or nominal variables, into interval forms for use with regression. These variables are also useful in allowing one to ascertain the discrete contribution of, for example, a given level of age relative to another, whereas with a continuous variable it would be

impossible to identify the contribution of twenty years of age as opposed to 40 years of age.

Mass media exposure, on the original questionnaire, was measured by three questions. Subjects were asked how often they 1) watch television, 2) listen to the radio, and 3) read newspapers and/or magazines. Since initial regression analysis indicated that the separate effect of these three means of media on modernity was negligible, these variables were combined into one variable called "mass media exposure." Initial runs also suggest that out of the original response choices (every day, several times a week, rarely, never), only the fact of exposure to the media every day or several times a week demonstrated any relationship to modernity. For this reason, the three media variables were input as one dummy variable into the final analysis of regression, where 1 indicated media participation "every day" or "several times a week," and zero indicated "rarely" and "never."

Urban experience, on the original questionnaire, was measured by the question, "Can the location of the school where you received your general education, or part of it, be described as a: 1) large city (population 100,000 or more) or, 2) medium city (less than 100,000 and larger than 20,000) or, 3) village or small town (less than 20,000)." Initial regression runs indicated that only where a general education was received in a big city or a medium city, as opposed to village and small town, was there any impact on

Table 8
A Description of the Independent Variables
Used in Regression Estimates of Modernity

Variable Name	Description of the Variable
Education Level I	Dummy variable indicating whether the individual is a secondary school student or a college student.
Education Level II	Dummy variable indicating whether the individual is a graduate student or not.
College of Education in the U.S.A. and S.A.	Dummy variable indicating whether or not the student studying in college in U.S.A. or S.A.
Experience in Studying in a Developed Country and Length of Stay	Continuous variable as follow: 0 = No experience, 1 = One year or less, 2 = Two to three years, 3 = Four to five, and 4 = six years or more of experience.
Urban Experience	Dummy variable indicating whether or not the individual recieved his general education or part of it in a big city or big town.
Mass Media Exposure	Dummy variable indicating whether or not the individual watches T.V., reads newspapers or magazines, and listens to radio nearly every day or several times a week.
Father's Education	Dummy variable indicating whether or not the individual's father had more than secondary school education.
Age	Dummy variable indicating whether or not the individual is 27 years old or older.

modernity. Thus, urban experience was input as one dummy variable into the final regression, where 1 indicated "big or medium city" and zero indicated "village or small town."

The original nine categories of age which ranged from 14-15 to 36 or more were dichotomized. Initial regression runs or analysis indicated that only the fact of being 27 years old or older would have measurable effect on modernity. For this reason, age was input as a dummy variable into the final regression analyses, whereas 1 indicated 27 years of age or older, and zero indicated 26 years of age or younger.

The original seven categories of father's education which included: no education, some elementary education, elementary school certificate, intermediate school certificate or some education, high school certificate or some education, college degree or some education, and graduate degree were dichotomized. Initial regression runs suggested that only the fact of having a father who had education beyond high school had any effect on modernity. Thus, father's education was input into the final analysis of regression as a dummy variable, whereas zero indicated "high school education or less" and 1 indicated "college education or graduate education."

Level of education was also input into regression equations as two dummy variables. In the first variable, 1 indicated secondary education and zero indicated graduate and undergraduate education, whereas in the second variable

zero indicated secondary education and/or undergraduate education and 1 indicated graduate education.

College education was input into regression equations as a dummy variable whereas 1 indicated college education in the United States and zero indicated college education in Saudi Arabia.

Results of Testing the Hypotheses

The results of testing the research hypotheses are arranged under five headings; namely, modernity and level of education, modernity and college and secondary education in Saudi Arabia, modernity and college education in Saudi Arabia and the United States, modernity and the experience of studying abroad and length of stay, and modernity and other influencing variables. In effect, each of these headings corresponds to one of the study's five hypotheses.

Modernity and Level of Education

To verify the study's first substantive* or working hypothesis, which is: "There will be a positive significant relationship between the level of education and individual modernity (i.e. overall modernity and each dimension of modernity) among Saudi students in Saudi Arabia and the

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*A substantive hypothesis is a conjectural statement of the relation between two or more variables. It is itself, strictly speaking, not verifiable. It first needed to be translated into a statistical hypothesis, usually in the null form and set up to make testing of the working or substantive hypothesis statistically verifiable (see Kerling, 1973:201; Borg and Gall, 1979:60).

United States," this null hypothesis was established. That is;

> Null Hypothesis 1: There is no positive and significant relationship between level of education and individual modernity among Saudi students in Saudi Arabia and the United States.

A multiple regression analysis was used to test this hypothesis, utilizing a significant level of 0.05. Tables 9 and 10 show positive significant relationships between the levels of education and overall modernity of Saudi students in Saudi Arabia and the United States. Therefore, in terms of overall modernity the above null hypothesis was rejected in favor of the working hypothesis. This means that the level of education is believed to be a significant predictor of overall modernity.

In terms of dimensions of modernity, the impact of the levels of education (as Tables 9 and 10 indicate) is not uniform and complete. This means the levels of education have a positive significant impact upon some, but not all of the modernity dimensions. Affected dimensions by the level of education in both the United States and Saudi Arabia are: Efficacy; Inter-Personal Trust; Past Orientation; Favoritism; and Authoritarianism. Whereas, the level of education in the United States positively affected the dimension of Occupational Risk Taking, the level of education in Saudi Arabia affected positively the dimension of Manual Work. In both countries, the level of education had no impact on Family Modernism. It should be noted that the level of education, in the case of the United States,

Table 9

Standardized Regression Coefficient* (beta values) for the Regression Estimates of Modernity (Overall Modernity and Its Dimensions) of Saudi Students in Saudi Arabia

Independent Variable	Overall Modernity	Dimensions of Modernity							
		Efficacy	Inter-Personal Trust	Manual Work	Family Modernism	Past Orientation	Favoritism	Authoritarianism	Risk Taking
Level of Education Dummy I	-.18	-.18		-.18		-.17	-.09	-.18	
Level of Education Dummy II	.24	.10	.15				.19	.21	
Studying Abroad and Length of Stay									
Mass Media Exposure	.09		.08			.09	.10	.07	
Father's Education									
Urban Experience									
Age				.15		.15			.14
R^2 =	.14	.06	.03	.07		.08	.07	.11	.02

*Only those that are significant at the 0.05 level, or better, are reported in the above table.

Table 10

Standardized Regression Coefficient* (beta values) for the Regression Estimates of Modernity (Overall Modernity and Its Dimensions) of Saudi Students in the United States

Independent Variable	Overall Modernity	Dimensions of Modernity							
		Efficacy	Inter-Personal Trust	Manual Work	Family Modernism	Past Orientations	Favoritism	Authoritarianism	Risk Taking
Level of Education Dummy I									
Level of Education Dummy II	.24	.19	.10			.13	.18	.22	.21
Studying Abroad and Length of Stay	.15			.10	.10		.11		
Mass Media Exposure				.15	.15	.11			
Father's Education									-.11
Urban Experience									
Age		-.22		.24					
R^2 =	.08	.02	.01	.06	.03	.03	.04	.04	.07

*Only those that are significant at the 0.05 level, or better, are reported in the above table.

refers to graduate versus undergraduate, whereas, in the case of Saudi Arabia, it consists of secondary, graduate, and undergraduate.

Modernity and College and Secondary Education in Saudi Arabia

To test the study's second substantive hypothesis, which is: "The impact of undergraduate education in Saudi Arabia on individual modernity of Saudi students will be higher than the impact of secondary education," this null hypothesis was established.

> Null Hypothesis 2: The impact of undergraduate education in Saudi Arabia on individual modernity of students will not be significantly higher than the impact of secondary education.

A multiple regression analysis was employed to test the above hypothesis, using a significant level of 0.05. Table 9 shows that the scores of overall modernity for secondary students were lower by .18 in comparison with undergraduate student scores (this can be inferred by looking at the variable named Level of Education, Dummy I in Table 9). Since this regression coefficient of overall modernity, -.18, was significant at 0.05, the second null hypothesis is rejected in favor of the substantive one. This means that undergraduate college education in Saudi Arabia has a higher positive impact on the overall modernity in comparison with secondary education.

In terms of dimensions, undergraduate education affected significantly all the dimensions of modernity except three. These significantly unaffected dimensions are

Inter-Personal Trust, Family Modernism, and Occupational Risk Taking. That is, in regard to these three dimensions, undergraduate college and secondary students in Saudi Arabia are similar.

Modernity and College Education in the United States and Saudi Arabia

To verify the study's third substantive hypothesis, which is: "College education relationship and impact on individual modernity (i.e. overall modernity and each dimension of modernity) of Saudi students in the United States will be significantly different from college education in Saudi Arabia," this null hypothesis was set up.

> Null Hypothesis 3: College education relationship and impact upon individual modernity of Saudi students in the United States will not be significantly different from college education in Saudi Arabia.

This hypothesis was tested by means of multiple regression, using a significant level of 0.05. Table 11 shows that college education in the United States results in no significant impact on the overall modernity of Saudi students in comparison with college education in Saudi Arabia. However, American college education has a positive significant impact on the modernity dimension of Family Modernism (regression coefficient of .14).

Experience of Studying Abroad and Length of Stay

To test the study's fourth substantive hypothesis, which is: "There will be a significant positive relationship

Table 11

Standardized Regression Coefficient* (beta values) for the Regression Estimates of Modernity (Overall Modernity and Its Dimensions) of Saudi College Students in the United States and Saudi Arabia

Independent Variable	Overall Modernity	Dimensions of Modernity							
		Efficacy	Inter-Personal Trust	Manual Work	Family Modernism	Past Orientations	Favoritism	Authoritarianism	Risk Taking
College Education in U.S.A. vs Saudi Arabia					.14				
Studying Abroad and Length of Stay	.21	.17			.19		.14		
Mass Media Exposure					.06	.10			
Father's Education									
Age	.22		.10	.22		.15	.18	.23	.18
R^2 =	.12	.03	.01	.04	.11	.03	.07	.05	.03

*Only those that are significant at the 0.05 level, or better, are reported in the above table.

between the experience of studying and length of stay in a developed country (i.e. the United States) and individual modernity (i.e. overall modernity and each dimension of modernity) of students coming from a developing country (i.e. Saudi Arabia)," this null hypothesis was established.

> Null Hypothesis 4: There will be no positive significant relationship between the experience of studying and length of stay in the United States and individual modernity of Saudi students in the U.S.A.

This hypothesis was tested by multiple regression, utilizing a significant level of 0.05. Table 12 indicates there is a positive significant relationship between the experience of studying and length of stay in a developed country (i.e. the United States) and the overall modernity of students coming from a developed country (i.e. Saudi Arabia). This relationship is manifested by the regression coefficient of .22.

With respect to modernity dimensions Table 12 indicates that the experience of study and length of stay have a positive significant impact on all the modernity dimensions - except one. This is the dimension of Manual Work. Although the relationship between this dimension and length of stay is statistically nonsignificant, it is in the expected direction. The most affected dimension by such experience and length of stay is Family Modernism.

Modernity and Other Influencing Variables

To verify the study's fifth working hypothesis, which is: "There will be significant relationships between

Table 12

Standardized Regression Coefficient* (beta values) for the Regression Estimates of Modernity (Overall Modernity and Its Dimensions) of Saudi Students in the United States and in Saudi Arabia

Independent Variable	Overall Modernity	Dimensions of Modernity							
		Efficacy	Inter-Personal Trust	Manual Work	Family Modernism	Past Orientation	Favoritism	Authoritarianism	Risk Taking
Level of Education Dummy I	-.16	-.18		-.15		-.15	-.09	-.15	
Level of Education Dummy II	.22	.14	.13			.13	.18	.21	.18
Studying Abroad and Length of Stay	.21	.16	.09		.31	.06	.16	.14	.08
Mass Media Exposure	.09				.06	.10	.08		
Father's Education					-.06				
Urban Experience									
Age		-.09		.19					
R^2 =	.20	.09	.03	.08	.10	.08	.11	.13	.04

*Only those that are significant at the 0.05 level, or better, are reported in the above table.

modernity of Saudi students and mass media exposure, father's education, urban experience, and age," this null hypothesis was set up.

> Null Hypothesis 5: There will be no significant relationships between modernity of Saudi students and mass media exposure, father's education, urban experience, and age.

Multiple analyses of regression were employed to test this hypothesis, at a significant level of 0.05. Whereas Table 9 shows that mass media exposure has a positive significant impact on the student's overall modernity in Saudi Arabia, Table 10 reveals that mass media exposure has no significant impact on the Saudi student's overall modernity in the United States.

In the case of Saudi Arabia, mass media exposure has a positive significant impact on half of the modernity dimensions. These affected dimensions were: Inter-Personal Trust (regression coefficient of .08), Past Orientation (.09), Favoritism (.10), and Authoritarianism (.07), while the other dimensions were significantly unaffected by mass media exposure. In the case of the United States, mass media exposure has significant positive influences on three dimensions: Manual Work, Family Modernism, and Past Orientation.

Age has no significant impact upon the overall modernity of Saudi students both in Saudi Arabia and United States, as is demonstrated on Table 9 and 10, respectively.

With respect to students in Saudi Arabia, age has positive significant impact upon three dimensions of

modernity. The effected dimensions are: Manual Work (regression coefficient of .15), Past Orientation (.15), and Occupational Risk Taking (.14). In regard to Saudi students in the United States, age emerges as a significant predictor on only two dimensions, and the impact on one of these two is negative. These two affected dimensions, by age, are: Efficacy (regression coefficient -.22) and Manual Work (.24).

Father's education has no significant influence upon Saudi students' overall modernity both in the United States and Saudi Arabia, as indicated in Table 10 and 9, respectively.

Whereas father's education, in the case of students in Saudi Arabia, has no significant impact on any dimension of modernity, it has a significant negative impact on one dimension of modernity in the case of the United States. This dimensions is Occupational Risk Taking (regression coefficient of -.11).

Urban experience, as Tables 9 and 10 reveal, has no significant impact on either the overall modernity of Saudi students nor any dimension of modernity in both the United States and in Saudi Arabia.

Interpretation of Results and Discussion

Based on the above results of hypothetical testing (through the utilization of the statistical tool of multiple regression) the independent variables which consistently

show a significant effect on the overall modernity of Saudi students are: level of education, the experience of studying and length of stay in a developed country, and to a lesser degree, mass medial exposure. The variables concerning urban experience, father's education, and age appear to have no significant impact upon the overall modernity of Saudi students either in Saudi Arabia nor in the United States. At this point the author will evaluate the results of each of these independent variables, as well as how they are related to the theoretical assumptions and empirical findings of the previous studies, in the realm of modernity.

The results obtained on the relationship and impact of the level of education upon the overall modernity are consistent with previous studies. That is, almost all the research in this field supports the hypothesis that level of education, or the amount of formal education, is not only positively associated with individual modernity, but is also the most important factor in promoting modernity.

As shown earlier, however, the impact of the level of education upon the dimensions of modernity is not consistent or complete. That is, there is a variation in the degree of the impact and association that the level of education has on the eight dimensions of modernity. Furthermore, there is a variation between the affected dimensions regarding the level of education in Saudi Arabia and the United States. (It should be noted that the level of education in the case of Saudi Arabia consists of secondary, undergraduate, and

graduate whereas in the case of the United States it consists of graduate versus undergraduate.)

It is not surprising to see that the dimension of Occupational Risk Taking is affected positively by Saudi students' level of education in the United States. This is observed in view of the fact that most of the Saudi graduate students in the United States have had the experience and opportunity to be employees, whereas other Saudi students, either in the United States or in Saudi Arabia, have no such experience. Hence, Saudi graduate students in the United States have a better chance to evaluate the benefits of occupational risk taking, which is manifested in their decisions to leave their parents, relatives, and jobs in Saudi Arabia and travel to the United States.

It is interesting to note that neither the level of education in the United States or in Saudi Arabia has significant effect upon the dimension of Family Modernism. This means, all other things being equal, that being a graduate or undergraduate student in the United States, or being a secondary, graduate or undergraduate student in Saudi Arabia, would not affect one's attitude regarding Family Modernism (as it relates to independence from family, women's position, and work). It is suggested that this dimension may be affected by factors other than the level of education.

This study attempts to investigate empirically, the impact of studying and length of stay in a developed country

upon each dimension of individual modernity. It is based on individuals coming from a developing country and is, to the best of our knowledge, a unique project among research in the field of modernity. There has been, however, one such available study (i.e. Sack, 1972) which examined the impact of similar experience, but it examined overall modernity (not on each dimension of it and the study subjects were mostly workers.) Whereas, this study examines the impact of such experience among students (overall modernity and each dimension of it) and because this researcher argues that the impact of such experience will not be the same for all dimensions.

The findings here that the experience of studying and length of stay in a developed country (the United States, for most cases) positively and significantly influences the overall modernity of Saudi students, is in accord with Sack's research in Tunisia (1972). The proposition that cross-cultural contacts may have a positive effect on the process of modernization is not by any means unique to Sack's study (1972) or this study. Advocates of the human capital theory have long argued that overseas or foreign education can be a powerful influence in the process of developing human capital and in fostering social change (Harbison and Myers, 1964).

The results here indicate the most affected dimensions of modernity, by the experience of studying and length of stay in the United States, is the dimension of Family

Modernism (regression coefficient of .31). Since we have seen that level of education in the United States has no significant impact upon this dimension, this suggests that the dimension of time (length of stay) is crucial. That is, the experience of studying in the United States by itself is not a decisive factor in changing a Saudi student's traditional attitudes about family, unless he stays "long enough." Therefore, the longer a student stays in the United States, the more likely he will change his traditional cultural attitudes, regarding family, in favor of modern attitudes. This conclusion can be interpreted in two interrelated ways. First, given the strong family traditions in Saudi Arabia, students will not detach themselves of long held views overnight. Second, the longer a student's stay in the United States, the greater the opportunity for them to appreciate some of the norms and attitudes of that country, particularly regarding family planning, women's position, women's rights, and work. This finding conforms with a conclusion reached by a Saudi educator. In his study, "Cross-Culture Education and Attitude Change: A Study of Saudi Students in the United States," El-Banyan makes the point that Saudi students, during their stay in the United States, developed favorable attitudes toward the emancipation of women (1974:96).

Since this study is primarily concerned with the impact of education, the remaining independent or predictor variables of modernity will be discussed more briefly.

Although the findings concerning the impact of mass media exposure upon the overall modernity of students in Saudi Arabia is consistent with most of the findings of previous studies, this impact is not strong (regression coefficient of .09). Whereas, for example, the regression coefficient in the study of Inkeles and Smith (1974) is .28 and in the Sack study (1972), it is .17 (for the white collar workers). Also, the results of this study indicate, in terms of dimension, mass media exposure only has a positive effect on four dimensions of modernity (and the regression coefficients are uniformly low ranged from .07 to .10). This lack of association, assuming the measure of this is study is valid and reliable, is possibly due to: 1) the messages conveyed in the mass media in Saudi Arabia are not pro-modernity, or at least in some of its dimensions, and/or 2) restrictions on the study subjects' level of education. That is, mass media exposure is not a good predictor of the level of modernity among individuals where their level of education is secondary school or beyond. It is interesting that mass media exposure in the United States has no significant effect on the overall modernity of Saudi students and only modestly affected three dimensions of modernity. This is more likely due to the same reason given above, 2) in measuring the low association between modernity and mass media exposure in Saudi Arabia.

The study conclusion that age has no significant impact on overall modernity of Saudi students, both in the United

States and Saudi Arabia, is consistent with some of the previous research. It should be noted that the majority of earlier studies in this field ignored the affect of age on modernity. At any rate, Ports (1973) and Klineberg (1974) discovered there is not a direct impact of age on modernity, while Grasmick (1973) and Chiu (1979) in studying Chinese communities, found a direct effect on age on overall modernity. It could be possible to contribute the failure of this study to show the effect of age on overall modernity, if it does exist, to a lack of wide age variation in the study sample (since approximately 77% of that study's respondents ranged in age from 15 to 26 years of age). This factor may also explain the lack of age effect on modernity in Klineberg's study, since respondent ages range from 13 to 19.

It is interesting to see age related positively (and significantly) to the modernity dimension of Manual Work, both in Saudi Arabia and the United States. That is, the older the student, the more likely he will be pro-manual work. This could be explained by the fact that as students grow older they tend to see the value and importance of manual and vocational work in the process of development. Also, they come to realize the importance of capital in societies and how manual and vocational workers contribute to economic growth.

This study's findings that urban experience has no direct and significant affect on overall modernity as well

as on its dimensions confirms the conclusions of Kahl (1968), Sack (1972), Weis (1978), and Inkeles and Smith (1974). Kahl and Inkeles and Smith indicate that urban experience, by itself, makes no significant contribution to modernity. However, they pointed out, urban experience is a powerful indirect contributor to modernity. That is, being in an urban environment will enhance one's opportunity to expose himself to modernizing variables--such as education, mass media exposure, etc.

Similar to the findings of previous studies (Inkeles and Smith, 1974; Ports, 1973; Grasmick, 1973; Weis, 1978; Chiu, 1979), the results of this study indicate that a father's education has no significant direct impact on the overall modernity of Saudi students, both in the United States and Saudi Arabia. That is, whether an individual's father received education beyond secondary school level or not, is by itself unimportant in predicting one's modernity (with exception of minor effect on the dimension of Risk Taking in the case of Saudi students in the United States). It is also interesting to note that there is inverse association between the father's level of education for Saudi students in the United States and the student scores on the dimension of Risk Taking. This may be explained, in part, by the fact that the fathers with low levels of education are more likely not to succeed occupationally and came to realize the importance of risk taking in promoting one's career. Hence, they might encourage risk taking

attitudes in their sons.

Before closing this discussion, a brief explanation on the proportion of variance explained, R^2, in the dependent variable, modernity, by independent variables will be presented here. To begin with, the overall regression model, as presented in Table 12, explains .20% of the variance in modernity among all the study subjects (both in the United States and Saudi Arabia). Although the percentage is somewhat low, it is not unusual in this field. Sack (1972), for instance, is only able to explain 11% and 19% of the variance for blue collar Tunisian workers and for white collar Tunisian worker, respectively.

There are, possibly, three reasons for the low proportion of variance explained by the overall model of this study: 1) large error variance, 2) exclusion of some important independent variables, and 3) the variance in the independent variables used in the estimates may be low. These will be discussed individually.

First the possibility of error variance. This can be defined as "the sum effect of the chance differences between persons that arise from factors associated with a particular measurement" (Borg and Gall, 1979: 219). These factors include the wording of the test, lack of clarity in the instructions, guessing, ordering the test items, the person's mood on the day the test was administered. That is, the more reliable the measure, the freer the measure from error variance. Since the reliability of this study

measure was evaluated and found to be satisfactory, and comparable with other similar studies which have explained a significant amount of variance, it is unlikely that error of variance, in and of itself, will account for the low R^2.

The second possible reason for low variance may be that some of the important independent variables were excluded. That is, the variance on the dependent variable, modernity (in this study case) depends upon some other independent variables which were not included in this study. Although this might be a likely reason, it is not convincing. Since other studies used nearly the same independent variables and most of them were able to explain a significant amount of variance on the dependent variable, modernity, this makes us doubt the reason is crucial in explaining the low R^2 in this study, unless modernity in the Saudi case is dependent upon variables that are unimportant in other national contexts.

The third possible reason is that the variance in the dependent variables used in the estimates could be low. This is the most likely explanation for the low proportion of variance explained in this study. The independent variable used in measuring the level of education was, in fact, limited in its range and therefore, its variance. This study's samples included only individuals whose educations are at the secondary levels and above. This means that the lower level of education, as well as those with no education, were excluded from the sample of this study. This may explain the variance on the independent

variable (i.e. level of education) and makes the greatest contribution to the variance in the dependent variable (that was limited or depressed in this study). Again, this indicates that there is a strong reason to believe that if the study sample had included individuals with lower levels of education, as well as those with no education, there would have likely resulted an R^2 appreciably higher than what was obtained.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study is to profile the individual modernity of Saudi students as well as to investigate the relationships between the dependent variable of individual modernity (of Saudi students both in the U.S.A. and Saudi Arabia) and a set of independent variables; these include level of education, experience of studying and length of stay in the developed country (i.e. the U.S.A.), mass media exposure, urban experience, father's education, and age. Unlike most previous major studies on the realm of individual modernity (Kahl, 1968; Inkeles and Smith, 1974), this study attempts to evaluate the impact of formal education on modernity of the students themselves, rather than those of adults. Furthermore, this study covers a wider range of levels of education than most of the similar previous research. This study examines the impact of the levels of secondary school, undergraduate, and graduate on modernity. Whereas previous studies limited themselves to either the secondary levels or elementary levels and rarely combined more than one level of education. Additionally, the present study investigated the impact of a variable seldom examined empirically, that is, the impact of studying

in a developed country (i.e. the U.S.A.) on the modernity of individuals coming from a developing country (Saudi Arabia).

To collect the data for this study a survey questionnaire was developed. The questionnaire consists of two sections. The first section encompasses ten questions regarding personal information relevant to the independent variables of the study. The second section involves 34 items relevant to the dimensions of modernity, the dependent variable, which are: Activism or Efficacy; Present-Future Orientation; Rejection of the White Collar Syndrome; Sense of Interpersonal Trust; Family Modernism; Rejection of Nepotism; Rejection of Authoritarian Orientation; Urban Preference; and Occupational Risk Taking.

This study is based on a cross-sectional sample. Of the 1140 questionnaires distributed, 900 (78.9%) usable returns were obtained (300 from Saudi college students in the United States, 400 from college students in Saudi Arabia, and 200 from secondary students in Saudi Arabia).

After the data was obtained, the dependent variable of modernity was factor analyzed to arrive at final form of the scale of modernity for use in subsequent analysis (see Chapter IV) as well as to help extract the characteristics of the modern Saudi students. Then reliability and construct validity of the study's modernity scale was evaluated. Compared to major scales of individual modernity in previous studies, the factor analysis, reliability, and validity of the study scale is quite satisfactory.

Based on the results of factor analysis, the modern Saudi student is similar in many respects to the modern man of a variety of countries. The modern Saudi student has the following characteristics:

1. He reports a sense of social efficacy and sees value in planning ahead rather than letting things depend on luck or fate;

2. He tends to trust his relatives and friends;

3. He tends to value manual and vocational work; he shows respect for manual laborers;

4. He tends to reject favoritism as it relates to recruiting employees on the basis of kinship, friendship or regard to job responsibilities;

5. He tends to reject the traditional ideas of the family as they relate to independence from family, work for women, and woman's obedience to the husband or guardian male;

6. He tends to be present/future oriented rather than being past oriented;

7. He tends to devalue authoritarian orientations as they relate to child learning and absolute obedience and respect for authority; and,

8. He tends to be relatively an occupational risk taker.

However, unlike most of his counterparts in other countries, the modern Saudi student:

9. Prefers the lifestyle in villages or small towns, rather than those in large towns or cities;

10. Tends to be less inclined to trust people other than his friends and relatives.

Regression analysis was employed in hypothesis testing related to the relationships between the dependent variable of individual modernity and the independent variables of

level of education, experience of studying and length of stay in a developed country, mass media exposure, father's education, urban experience, and age.

The results indicate that in the case of Saudi students in the U.S.A., two variables stand out as having a major affect on both the overall modernity and almost all its dimensions. These variables are level of education and length of stay of study. In the case of students in Saudi Arabia, the results also suggest that level of education appears to have the greatest affect on modernity as well as the mass media exposure (but to lesser extent). The variables of father's education and age seem to have no significant impact on the overall modernity of Saudi students both in the United States and Saudi Arabia, it appears they only affect very limited dimensions of modernity. The variable of urban experience appears to have no significant impact on modernity (i.e. overall modernity and its dimensions) of Saudi students in both countries.

The findings regarding the positive significant impact of level of education (i.e. the amount of schooling) is similar to studies on individual modernity conducted in other countries. Theoretically, nearly all the students in the field of modernity propose that formal education has the most important affect on promoting modernity. Empirically, virtually all research supports this proposition; although some researchers emphasize the importance of the social structure of schools (Inkeles, 1969; Inkeles and Smith,

1974; Sack, 1972), others stress the importance of curriculum content (Armer and Youtz, 1971).

The findings of this study indicate that the exposure to and contact with Western culture (i.e. the United States) may have a significant impact upon the individual modernity of individuals coming from developing countries, such as Saudi Arabia. The longer a student stays in the United States, the more likely he will turn from some of his traditional values and attitudes toward "modern" ones. The influence that studying in a developed country has on modernity may be a combination of the influences of social organizational structures, such as colleges, as well as of informal influences.

The conclusion that mass media exposure has limited impact on modernity of Saudi students, both in the United States and Saudi Arabia, suggests that level of education or amount of schooling is an issue here. That is, mass media exposure is no longer a strong predictor of individuals whose level of education is secondary school or beyond. This can be supported by previous similar research where samples include individuals with limited education, or who are illiterate, and where the result indicated that mass media exposure was a strong predictor of modernity.

The conclusion that urban experience and father's education have no direct impact on the overall modernity of Saudi students, both in the United States and Saudi Arabia, is in accord with previous studies. However, that does not

rule out the possible indirect affect of these two variables on modernity.

This study's results indicate that the explained variance of the regression overall model on the dependent variable, overall modernity, is somewhat low, but not unusual in this area of research. This might be due to the limited or low variance in one or more of the independent variables used in the estimates which would consequently, depress the size of R^2 of the regression estimate. Using this interpretation, it is suggested that limiting the study variable of level of education, which excluded the lower levels as well as those with no education, would, again, depress the size of the R^2 of the regression estimate of this research.

Theoretical Implications

The findings of this study provide empirical support to the theory that there is a wide range of values and attitudes which cohere and create a basic syndrome of individual modernity and appear to have cross-cultural validity.

The results of this study also confirm the widely held belief that formal education operates as a powerful and independent agent in promoting modernity.

Furthermore, the conclusions of this research call attention to the importance of the experience of studying and length of stay in a developed country, such as the United States, on the individual modernity of students coming from developing countries, such as Saudi Arabia. It

should be noted, however, that from the results of this study there is no means of absolute confirmation regarding whether the experience of studying and length of stay in a developed country has a causal affect on modernity or if those individuals who are more modern in their values and attitudes from the outset are more likely to go abroad for studying than others.

It should be noted that the theoretical conclusions drawn from this study must be considered in the context of the available literature on the topic of individual modernity, especially the studies of Kahl (1968) and Inkeles and Smith (1974).

Practical Implications

Since the adaptation of the policy of sending young Saudi students to a variety of countries, especially to the United States (which hosts approximately two-thirds of Saudi students studying abroad), the government of Saudi Arabia has registered concern regarding the overall benefit of such policies to the socioeconomic development of the country.

The significant positive association observed in this study between the Saudi students' overall modernity, and almost each dimension of it, and the experience of studying and length of stay in the United States could be an indication of a promising contribution to the process of modernization in Saudi Arabia. For instance, the most affected dimensions of modernity by such experience is the dimension of Family Modernism. That is, Saudi students in

the United States have shown a significant shift from their traditional values and attitudes as they relate to independence from family, women's positions, and work for women; such a shift has not been observed among Saudi students who have not had foreign study experience. Needless to say, such a trend is of crucial importance to the process of modernization of the country.

Furthermore, upon their completion of study, these students will be more likely to become part of the future elite class in Saudi Arabia. The academic credentials obtained from overseas study provides these students with an entrance to many positions of influence. Hence, modern values and attitudes adopted while studying in the United States, or other Western countries, may filter down to the rest of the Saudi society.

Implications for Further Research

Based on the insights generated through this study, the following implications for further research are suggested.

1. As this study calls attention to the importance of the experience of studying in a developed country (i.e. the U.S.A.) upon modernity, it would be worthy of further research effort to ascertain, more precisely, which aspects of this experience contribute to modernity.

2. As Saudi students are studying in other Western countries, as well as developing countries, a comparative study of the impact of different environments on individual modernity would be of great help to policy makers regarding

the discovery of possible advantages in each environment as they relate to the needs of the country.

3. To ascertain the true impact of the experience of studying abroad on Saudi students' individual modernity, it is recommended that a replication of this study, employing a longitudinal design, should be conducted. This could be executed by asking students to respond to a modernity questionnaire, such as the one used in this study, prior to their arrival at a host country and again at the end of their sojourn.

4. The sample of this study was drawn from students at the upper three educational levels (i.e. secondary, undergraduate, graduate). Therefore, further studies could be conducted to measure the impact of lower levels of formal education (i.e. intermediate and elementary) on Saudi students' individual modernity.

5. This study, like the majority of the previous studies, has shown in general terms the affect of level of education, or the amount of schooling, on modernity without examining how such variables affect modernity. Hence, it would be a worthwhile effort to conduct further research to identify dimensions and elements within the school environment which may be closely related to individual modernity. Such an investigation could consider teachers' pedagogical styles, teachers' quality, teachers' modernity level, the reward structure of the school, school physical characteristics, and the like.

APPENDICES

APPENDIX A

ARABIC AND ENGLISH VERSIONS OF THE STUDY QUESTIONNAIRE

Dear Colleague:

I am a graduate student at Michigan State University, and am currently conducting doctoral research as part of my degree program in comparative education. I am interested in investigating the impact of formal and cross-cultural education on modernizing the values and attitudes of Saudi students in the United States and Saudi Arabia.

Dear colleague, the attached questionnaire is designed to collect general background information about you and your attitudes and feelings. I realize that your time is very valuable and limited. Your help, however, and contribution to this study is needed and would be very much appreciated. Please respond to each item of the questionnaire objectively and honestly.

Dear colleague, it will be appreciated if you will complete and return the questionnaire promptly in the self-addressed, stamped envelope enclosed. All information you give and opinions you express will be kept confidential. Please do not write your name on the questionnaire.

Thank you very much for your consideration and cooperation.

Your colleague,

Mahroos A. Ghaban

MODERNITY QUESTIONNAIRE
SECTION ONE (Students in the U.S.A.)

Please mark by crossing (X) for each question below.

1. Your sex?

___1. Male

___2. Female

2. Your age?

___1. 18-20

___2. 21-23

___3. 24-26

___4. 27-29

___5. 30-32

___6. 33-35

___7. 36 or Over

3. How long have you been studying in the United States?

___1. Two years or less

___2. Three years

___3. Four years

___4. Five years

___5. Six years or over

4. What is your academic level?

___1. Undergraduate

___2. Graduate

5. Your major college?

___1. Education

___2. Engineering

___3. Business Administration

___4. Other _____
(specify)

MODERNITY QUESTIONNAIRE
SECTION ONE (Secondary Students in Saudi Arabia

Please mark by crossing (X) for each question below.

1. Name of School: _____

2. Your class standing?

___1. Tenth grade

___2. Eleventh grade

___3. Twelfth grade

3. Your age?

___1. 14-15

___2. 16-17

___3. 18-20

___4. 21-23

___5. 24-26

___6. 27 or more

4. Have you ever studied outside the country?

___1. Yes

___2. No

5. If your answer to question #4 was yes, then answer this question.

1. Name of the country or countries: _____

2. Length of stay _____

MODERNITY QUESTIONNAIRE
SECTION ONE (College Student in Saudi Arabia)

Please mark by crossing (X) for each question below.

1. Your academic level?

___1. Undergraduate

___2. Graduate

2. Your age?

___1. 18-20

___2. 21-23

___3. 24-26

___4. 27-29

___5. 30-32

___6. 33-35

___7. 36 or over

3. Your major or college?

___1. Education

___2. Engineering

___3. Business Administration

___4. Other _____
(specify)

4. Have you studied outside the country?

___1. Yes

___2. No

5. If your answer to question #4 was yes, then answer this question.

___1. Name the country or countries: _____

___2. Length of stay _____

6. The place of schools in which you obtained your general education (elementary, intermediate, secondary) or a greater portion of it, can be described as a: (Choose one answer.)

___1. Big city (population over 100,000)

___2. Medium city (population over 20,000 but less than 100,000)

___3. Small city or town (population less than 20,000)

7. What is your father's level of education?

___1. Illiterate

___2. Some elementary education

___3. Elementary certificate

___4. Some intermediate education or its certificate

___5. Some secondary education or its certificate

___6. Some college education or its certificate

___7. Graduate degree or some of its education

___8. Other _____ (specify)

8. In general, how often do you do the following:

Watch television:

___1. Every day

___2. A few times a week

___3. Rarely

___4. Never

9. Listen to the radio:

___1. Every day

___2. A few times a week

___3. Rarely

___4. Never

10. Read a newspaper and/or a magazine:

___1. Every day

___2. A few times a week

___3. Rarely

___4. Never

SECTION TWO

Please indicate to what extent you agree or disagree with the following statements. Enter the number corresponding to one of the four scales on the line next to each item.

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	2	1

___1. Manual work is not as good as office work.

___2. When you look for a job, it is better to find one near your parents even if that means losing a better job elsewhere.

___3. If one could hire an assistant, it would be better to take a relative, rather than a stranger, to the family.

___4. Prevention of accidents depends mainly on luck.

___5. To be happy, one must conform to the wishes of others, even if that sometimes means not expressing one's own ideas.

___6. The best jobs are the ones where you won't dirty your hands.

___7. Making plans only brings unhappiness because they are difficult to realize.

___8. A married woman should stay at home and not work even if she wants to work.

___9. The most important qualities of a real man are determination and a driving ambition.

___10. It is not good for your relatives to know all about what you are doing for they might take advantage of you.

___11. Most people are honest and don't try to fool others.

___12. It is not good for your friends to know all about what you are doing for they might take advantage of you.

___13. Manual laborers represent an inferior class.

Please indicate to what extent you agree or disagree with the following statements. Enter the number corresponding to one of the four scales on the line next to each item.

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	2	1

___14. With things as they are in the world today, it is better to live from day to day without thinking too much about the future.

___15. People were happier in the past than they are today.

___16. Most people are thankful for your help.

___17. Parents should limit the number of their children.

___18. One should not bother himself by trying to change the course of events since everything is pre-determined.

___19. I feel that my determination is not strong enough to sustain me until my career goal is achieved.

___20. Members of original Arab tribes are not supposed to engage in manual and vocational work.

___21. Most of today's problems can be solved by past solutions.

___22. Children should be taught that there is only one way to do things correctly.

___23. Favoring relatives and friends in public matters is a social duty.

___24. One should learn more about the past and less about the future.

___25. In general, it's better to live in villages than in big cities.

___26. One should look for a job where there is always someone available to help him on problems that he does not know.

___27. Obedience and respect for authority at all times are the most important things for children to learn.

Please indicate to what extent you agree or disagree with the following statements. Enter the number corresponding to one of the four scales on the line next to each item.

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	2	1

___28. Kinship and friendship are the first qualities one should consider if he is in a position to select public employees.

___29. One should look for a job where one has to make many decisions by himself.

___30. On occasion, children should be allowed to disagree with their parents.

___31. Whatever we do, it is necessary that our leaders outline carefully what is to be done and exactly how to go about doing it.

___32. A wife should always obey her husband, even if he is wrong.

___33. One should look for a job where there is nearly always a person or procedure that will catch his mistakes.

___34. I prefer to live most of my life in a big city.

بسم الله الرحمن الرحيم

زميلي العزيـــــــز :

السلام عليكم ورحمة الله وبركاتـــــــه ،،

وبعـــــــد :-

أقوم حاليا باعداد رسالة الدكتوراه في التربية المقارنة في جامعة ولاية متشفـــــــن .

وموضوع اهتمامي هو دراسة ومقارنة أثر التعليم على اكتساب وتنمية بعـــض الاتجاهات بين الطلبة السعوديين الذين يدرسون في كليات المملكة والاولايـــات المتحدة الأمريكيـــة .

أخي : يسعدني أن تكون أحد المختارين للاجابة على استبيان البحث المرفـق ، أخي : على الرغم من أنني أعرف أن وقتك محدود وثمين الا أنني محتاج الـى مساعدتك ، وأنا واثق من أنـك لن تبخل بها لأنه كما تعلم يتوقف على تعاونـك واهتمامك نجاح أو فشل بحثي هذا لذلك أرجـــو التكرم بقراءة الاستبيـــان المرفق والاجابة على جميع الأسئلة الواردة فيه علما بأن المعلومات المحصول عليها سوف تستخدم لأغراض البحث فقـط .

شاكرا لكم حسن تعاونكم ومساعدتكم مع تحياتي ،،،،

زميلكـــــــم

محروس أحمد غبـــــــان

جامعة ولايـــة متشفـــــان

- (٥١٧) - ٣٠٥٧ - ٨٨٢

ج//٠٠

استبيان

الجزء الاول

من فضلك ضع علامة (x) على الخط امام العبارة المناسبة لك .

١) . ما هو مستواك العلمي ؟

— ٠١ طالب جامعي :

— ٠٢ طالب دراسات عليا :

٢) العمر :

— ٠١ من ١٨ الى ٢٠

— ٠٢ من ٢١ الى ٢٣

— ٠٣ من ٢٤ الى ٢٦

— ٠٤ من ٢٧ الى ٢٩

— ٠٥ من ٣٠ الى ٣٢

— ٠٦ من ٣٣ الى ٣٥

— ٠٧ من ٣٦ او اكبر

٣) . الجنس :

— ٠١ ذكر

— ٠٢ أنثى

٤) . كم من الوقت اصبح لك وانت تدرس في الولايات المتحدة الامريكية ؟

— ٠١ سنة أو اقل .

— ٠٢ ما بين سنتين الى ثلاث .

— ٠٣ ما بين اربع الى خمس .

— ٠٤ ست أو اكثر .

٥) . ما هى الكلية التي تدرس او سوف تلتحق بها ؟

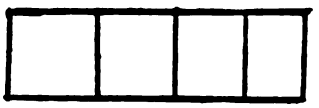
— ٠١ التربية .

— ٠٢ الهندسة .

— ٠٣ ادارة اعمال .

— ٠٤ غير ما سبق _____ .

من فضلك حددها _____ .



استـــــبيـــــان

الجزء الاول

من فضلك ضع علامة (x) على الخط امام العبارة المنـاسبة لك .

١) اسم المدرسة :ـــــ ـــــ ـــــ ـــــ ـــــ .

٢) ما هو مستواك العلمي ؟

ـــأ. الصف الاول ثانوي .

ـــبـ الصف الثاني .

ـــتـ الصف الثالث .

٣) العمر :

ـــأ. من ١٤ الى ١٥ .

ـــبـ من ١٦ الى ١٧ .

ـــتـ من ١٨ الى ٢٠ .

ـــثـ من ٢١ الى ٢٣ .

ـــج. من ٢٤ الى ٢٦ .

ـــد. من ٢٧ أو اكبر .

٤) هل سبق وان درست خارج المملكة ؟

( ) نعم ( ) لا .

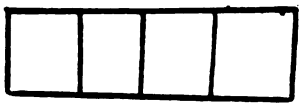
٥) اجب على السؤال الآتي ان كانت اجابتك على السؤال السابق نعم .

أ. اسم الدولة او الدول :ـــــ ـــــ ـــــ ـــــ .

بـ مدة الدراسة :ـــــ ـــــ ـــــ ـــــ .

تـ المرحلة الدراسية :

ـــــ ـــــ ـــــ ـــــ .



استـــبيـــان

الجزء الأول

من فضلك ضع علامة (x) على الخط امام العبارة المناسبة لك .

١) ما هو مستواك العلمي ؟

ـــ* طالب جامعي :

ـــأ. المستوى الأول .

ـــب. المستوى الثاني .

ـــج. المستوى الثالث .

ـــد. المستوى الرابع .

ـــ* طالب دراسات عليا .

٢) هل سبق وان درست خارج المملكة ؟

( ) نعم ( ) لا .

٣) فضلا اجب على السؤال الآتي ان كانت اجابتك على السؤال السابق نعم .

ـــ* اسم الدولة او الدول : ـــ ـــ ـــ ـــ ـــ ـــ ـــ .

ـــ* مدة الدراسة : ـــ ـــ ـــ ـــ ـــ ـــ .

ـــ* المرحلة الدراسية : ـــ ـــ ـــ ـــ ـــ ـــ .

٤) ما هي الكلية التي تدرس بها ؟

ـــأ. التربية .

ـــب. الهندسة .

ـــج. ادارة اعمال .

ـــد. غير ما سبق .

من فضلك حددها .ـــ ـــ ـــ ـــ ـــ ـــ .

٥) العمـــــر :

ـــ ٠١ من ١٨ الى ٢٠

ـــ ٠٢ من ٢١ الى ٢٣

ـــ ٠٣ من ٢٤ الى ٢٦

ـــ ٠٤ من ٢٧ الى ٢٩

ـــ ٠٥ من ٣٠ الى ٣٢

ـــ ٠٦ من ٣٣ الى ٣٥

ـــ ٠٧ من ٣٦ او اكبر

٦)٠ هل مكان المدارس التي حصلت فيها على تعليمك العام (ابتدائي٠متوسط ٠ ثانوى) أو معظمه يمكن وصفه بأنه : (اختر اجابة واحدة فقط)٠

— ١٠ مدينة كبيرة (سكانها اكثر من مائة ألف)٠
— ٢٠ مدينة متوسطة (سكانها أكثر من عشرين ألف وأقل من مائة ألف)٠
— ٣٠ مدينة صغيرة أوقرية (سكانها أقل من عشرين ألف)٠

٧)٠ ماهو التحصيل العلمي لوالدك ؟٠

— ١٠ لايجيد القراءة أو الكتابة — ٢٠ بعض التعليم الابتدائي٠
— ٣٠ الشهادة الابتدائية — ٤٠ الشهادة المتوسطة أوبعض تعليمها٠
— ٥٠ الشهادة الثانوية أو بعض تعليمها — ٦٠ الشهادة الجامعية أوبعض تعليمها٠
— ٧٠ شهادة عليا (ماجستيرأو دكتوراه) أو بعض تعليمها٠
— ٨٠ غير ماسبق ، حدده .....
.....

٨)٠ هل تشاهد التلفاز ؟٠

— ١٠ يوميا تقريبا٠ — ٢٠ بضع مرات أسبوعيا٠
— ٣٠ نادرا٠ — ٤٠ لا أشاهده٠

٩)٠ هل تقرأ الصحف والمجلات العامة ؟٠

— ١٠ يوميا تقريبا٠ — ٢٠ بضع مرات أسبوعيا٠
— ٣٠ نادرا٠ — ٤٠ لا أقرأ٠

١٠) هل تستمع الى المذياع ؟٠

— ١٠ يوميا تقريبا٠ — ٢٠ بضع مرات أسبوعيا٠
— ٣٠ نادرا٠ — ٤٠ لا أستمع٠

الجزء الثانـــــــــــــى

يتألف هذا الجزء من عبارات تمثل وجهات نظر مختلفة ، فالمأمول منك أن تشير الى درجة موافقتك أو عدم موافقتك على كل عبارة وذلك بأن تضع على الخط الـــــذي أمامها الرقم الذي يعكس استجابتك كما هو موضح أدنـــاه .

موافق تماما	موافـــق	لا أوافـــق	لا أوافق مطلقا
٤	٣	٢	١

فمثلا ان كنت موافقا تماما على احدى العبارات فانك من المتوقع أن تضع على الخط الذي أمامها الرقم ٤ وهكـــذا.

ـــ ١١). العمل المكتبي أفضل من العمل اليـــــدوي .

ـــ ١٢). عندما تبحث عن عمل فمن الأفضل أن تختاره بالقرب من الوالدين حتى ولـــو كان ذلك على حساب فقدانك لعمل أحسن في مكـان آخـر.

ـــ ١٣). اذا كان بامكان المرء أن يوظف مساعدا له في عمل ما فمن الأفضل أن يكون أحد أقاربه .

ـــ ١٤). منع وقوع الحوادث بشكل عام يعتمد غالبـــا على الحظ .

ـــ ١٥). لكي يكون المرء مرتاحا لابد أن يعمل وفق رغبـات الآخرين حتى ولو كـــان ذلك في كثيـــر من الأحيان ضد رغبتـه وأفكاره .

ـــ ١٦). أحسن الوظائف هي التي لاتتطلب تلويث أو توسيخ اليديـن.

ـــ ١٧). عمل الخطط المستقبلية يجلب عدم الارتياح لأنه من الصعب تحقيقه .

ـــ ١٨). المرأة المتزوجة يستحسن ألا تعمل خارج المنزل حتى ولو أرادت ذلك.

ـــ ١٩). الطموح والأصرار على النجـــاح أهم صفـــات الرجل الحقيقـــى.

ـــ ٢٠). من الأفضل للمرء أن لايطلع أقاربه على ماينـــوي عمله لأنه من الممكـــن أن يفسدوا عليه أمره أو يستغلـــوه .

ـــ ٢١). معظم النـاس صادقون فلا تحاول خديعتهـــم أو استغفالهـــم.

ـــ ٢٢). ليس من المستحسن أن تطلع أصدقاءك على ماتنوي عملـه حتى لايستغلونـــك أو يفسدوا عليك أمرك.

ـــ ٢٣). عمال المهن اليدوية يمثلـــون طبقة دنيا .

موافق تماما	موافق	لا أوافق	لا أوافق مطلقا
٤	٣	٢	١

٢٤). بالنظر الى الأمور في عالمنا اليوم ، فانه من الأفضل أن يعيش المرء يوما بيوم من غير التفكير كثيرا في المستقبل.

٢٥). الناس في الماضي أكثر سعادة من الناس في الوقت الحاضر.

٢٦). معظم الناس يقدرون الخدمة التي تقدمها لهم.

٢٧). من الضروري على الزوج والزوجة أن يحدوا عدد أطفالهما.

٢٨). على المرء أن لا يتعب نفسه في محاولة تغيير مجرى الأحداث لأن ما سوف يحصل قد سبق تحديده.

٢٩). أشعر بأن عزيمتي ليست كافية لدرجة تمكنني من تحقيق طموحي المهني أو العلمي.

٣٠). أبناء القبائل العربية الأصلية من المفروض ألا يمارسوا العمل اليدوي المهني.

٣١). على أكثر مشاكل اليوم يمكن التغلب بالحلول التي استخدمت في الماضي.

٣٢). يستحسن أن نعلم الأطفال أن هناك طريقا واحدا فقط لعمل الأشياء بصورة صحيحة.

٣٣). تفضيل الأقارب والأصدقاء في الأمور العامة واجب اجتماعي.

٣٤). على المرء أن يتعلم الشيء الكثير عن الماضي والحاضر والقليل من المستقبل.

٣٥). العيش في المدن الكبيرة أفضل من العيش في القرى غالبا.

٣٦). من المستحسن للمرء أن يبحث عن عمل يتاح له به دوما امكان الحصول على شخص يساعده على حل المشكلات التي لايعرفها.

٣٧). الطاعة واحترام السلطة أهم الأمور التي يجب على الطفل تعلمها.

٣٨). على المرء الذي بيده سلطة تمكنه من تعيين موظفين حكوميين أن يعتبر أولا عامل الصداقة أو القرابة في عملية التعيين.

٣٩). من المستحسن للمرء أن يبحث عن عمل يتخذ فيه الكثير من القرارات بنفسه.

٤٠). من المستحسن أحيانا أن نسمح للطفل أن يعارض أو يخالف والديه.

موافق تماما	موافق	لا أوافق	لا أوافق مطلقا
٤	٣	٢	١

٤١). من الضروري على قادتنا ورؤسائنا المباشرين في العمل أن يحددوا لنا بدقة ما يجب أن نعمل وطريقة تنفيذه.

٤٢). من المستحسن دائما أن تطيع الزوجة زوجها حتى ولو كان على خطأ.

٤٣). من المستحسن للمرء أن يبحث عن مكان عمل يتاح له فيه دائما وجود شخص أو اجراء معين يلفت انتباهه الى أخطائه في العمل.

٤٤). أفضل أن أعيش معظم حياتي في مدينة كبيرة.

***** ***** *****

ج//..

APPENDIX B
FOLLOW-UP LETTER

Dear Colleague:

If you have not returned my questionnaire, another copy of the same questionnaire is enclosed. My brother, I am sure you have a firm desire to help me by responding to the questionnaire, but perhaps, due to conditions out of your control, you did not complete it.

Dear colleague, you know the completion of my doctoral dissertation depends on your cooperation. Please, if it has happened that you did not send my questionnaire, I urge you to take a few minutes of your valuable time to respond and return it promptly with the enclosed self-addressed stamped envelope.

Thank you for your help.

Your colleague,

Mahroos A. Ghaban

بسم الله الرحمن الرحيم

زميلي العزيز :

السلام عليكم ورحمة الله وبركاته وبعد :-

أخي : ان لم تكن قد أرسلت الاستبيان السابق فانه مرفق مع هذه الرسالة نسخة أخرى لنفس الاستبيان .

أخي انني متأكد أنه لديك الرغبة الأكيدة لتعبئة الاستبيان ولكن لظروف خارجة عن ارادتك لم تقم بذلك .

أخي الكريم ان الخدمة التي تقدمها بتعبئتك واعادتك لهذا الاستبيان الذي هو جزء أساسي من رسالتي للدكتوراه أمر أهميته لا تخفى على شخص متعلم مثلك . لذلك أرجو التكرم بأعطائي بضع دقائق من وقتك الثمين للاجابة على أسئلة الاستبيان المرفق وارساله على وجه السرعة بالظرف البريدي المرفق .

شاكرا ومقدرا لكم حسن تعاونكم .

زميلكم

محروس أحمد غبان

مرشح لدرجة الدكتوراه

جامعة ولاية متشيغن

ن/م غ .

APPENDIX C

LETTERS FROM THE DEAN OF THE COLLEGE OF EDUCATION TO OTHER AGENCIES ASKING THEM TO HELP THE RESEARCHER IN HIS STUDY

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING ABDULAZIZ UNIVERSITY
College of Education
MADINAH MUNAWWARAH

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref.
Date

الرقم ١٠٩٩/٢/٦/١٤٠٦هـ/٤٤٠
التاريخ ١٩/٢/١٤٠٦هـ

سعادة/مدير ادارة تعليم منطقة تبوك   الموقر

السلام عليكم ورحمة الله وبركاته

نفيد سعادتكم بأن السيد/ محروس احمد غبان مبعوث كلية التربية بالولايات المتحدة الامريكية للتحضير لدرجة الدكتوراه يقوم الآن بجمع المادة العلمية اللازمة لدراسته بالمملكة .

وجريا على التعاون القائم بين جامعاتنا والجهات العلمية المختلفة ذات الصلة ،فانني اتقدم الى سعادتكم راجيا التفضل بمساعدته فى تطبيق الاستبيان الخاص بدراسته وهو ميدان علاقة التعليم بتنمية بعض الاتجاهات الحديثة .

شاكرين ومقدرين حسن تعاونكم .

والسلام عليكم ورحمة الله وبركاته

عميد كلية التربية بالمدينة المنورة

(د.عمر بن حسن عثمان فلاته)

م /يحيى /

ص. ب : ٣٤٤ – المدينة المنورة   تليفون : ٨٢٥٢٣٨٨ / ٨٢٥٢٨١٦ / ٨٢٥٢٥٤٨ / ٨٢٥٢٣٨٤   تلكس العربي : ٤٧٠١٨٣ التربية
P. O. Box : 344 - Madinah Munawwarah   Phones : 8252384 / 8252548 / 8252816 / 8252388   Telex : 470023 KAUMAD SJ

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING ABDULAZIZ UNIVERSITY
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MADINAH MUNAWWARAH

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref الرقم
Date التاريخ

سعادة/عميد كلية الادارة والاقتصاد بجامعة الملك عبد العزيز بجده المحترم

السلام عليكم ورحمة الله وبركاته

نفيد سعادتكم بأن السيد/ محروس احمد غنيان مبعوث كلية التربية بالولايات المتحدة الامريكية للتحضير لدرجة الدكتوراه يقوم الآن بجمع المادة العلمية اللازمة لدراسته بالمملكة .

وجريا على التعاون القائم بين جامعاتنا والجهات العلمية المختلفة ذات الصلة ،فاننى اتقدم الى سعادتكم راجيا التفضل بمساعدته فى تطبيق الاستبيان الخاص بدراسته وهو ميدان علاقة التعليم [illegible] بمتطلبات الوظائف المدنية .

شاكرين ومقدرين حسن تعاونكم .

والسلام عليكم ورحمة الله وبركاته

عميد كلية التربية بالمدينة المنورة
(د.عمر بن حسن عثمان فلاته)

م/يحيى/

بسم الله الرحمن الرحيم

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وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref — الرقم ٢٨/ ١٤٠٦/١/١
Date — التاريخ ٩/٢/١٤٠٦هـ

سعادة/مدير ادارة تعليم منطقة المدينة المنورة   المو قر
السلام عليكم ورحمة الله وبركاته

نفيد سعادتكم بأن السيد/ محروس احمد غبان مبعوث كلية التربية بالولايات المتحدة الامريكية للتحضير لدرجة الدكتوراه يقوم الآن بجمع المادة العلمية اللازمة لدراسته بالمملكة .

وجريا على التعاون القائم بين جامعاتنا والجهات العلمية المختلفة ذات الصلة،فانني اتقدم الى سعادتكم راجيا التفضل بمساعدته في تطبيق الاستبيان الخاص بدراسته وهو ميدان علاقة التعليم بتنمية بعض الاتجاهات الحديثة .

شاكرين ومقدرين حسن تعاونكم .

والسلام عليكم ورحمة الله وبركاته

عميد كلية التربية بالمدينة المنورة

(د.عمر بن حسن عثمان فلاته)

م/يحيى/

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
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المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

Ref. ..... الرقم .....

Date ..... التاريخ .....

سعادة / عضو هيئة التدريس بكلية التربية بالمدينة المنورة المحترم
السلام عليكم ورحمة الله وبركاته

تفيد سعادتكم بأن السيد/ محروس احمد غنيم مبعوث كلية التربية بالولايات المتحدة الامريكية للتحضير لدرجة الدكتوراه يقوم الآن بجمع المادة العلمية اللازمة لدراسته بالمملكة .

وجريا على التعاون القائم بين جامعاتنا والجهات العلمية المختلفة ذات الصلة فاننى اتقدم الى سعادتكم راجيا التفضل بمساعدته فى تطبيق الاستبيان الخاص بدراسته وهو ميدان علاقة التعليم [illegible] بتنمية بعض المجالات الحيوية .

شاكرين ومقدرين حسن تعاونكم .

والسلام عليكم ورحمة الله وبركاته

عميد كلية التربية بالمدينة المنورة
(د.عمر بن حسن عثمان فلاته)

م/بحيي/

ص.ب : ٣٤٤ - المدينة المنورة تلفون : ٨٢٥٢٣٨٨ / ٨٢٥٢٨١٦ / ٨٢٥٢٥٤٨ / ٨٢٥٢٣٨٤ تلكس العربي : ٤٧٠١٨٣ التربية
P. O. Box : 344 - Madinah Munawwarah Phones : 8252384 / 8252548 / 8252816 / 8252388 Telex : 470023 KAUMAD SJ

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
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KING ABDULAZIZ UNIVERSITY
College of Education
MADINAH MUNAWWARAH

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك عبد العزيز
كلية التربية بالمدينة المنورة

الرقم ٨٩٠٠/٢/٦/٤٠٦/٤٨٠٤
التاريخ ١٩/٢/١٤٠٦هـ

سعادة / عميد كلية الهندسة جامعة الملك عبدالعزيز بجده المـوقر
السلام عليكم ورحمة الله وبركاته

نفيد سعادتكم بأن السيد/ محروس احمد غسان مبعوث كلية التربية بالولايات المتحدة الامريكية للتحضير لدرجة الدكتوراه يقوم الآن بجمع المادة العلمية اللازمة لدراسته بالمملكة .

وجريا على التعاون القائم بين جامعاتنا والجهات العلمية المختلفة ذات الصلة ،فانني اتقدم الى سعادتكم راجيا التفضل بمساعدته فى تطبيق الاستبيان الخاص بدراسته وهو ميدان علاقة التعليم [illegible] . بتنمية بعض الاتجاهات الحديثة .

شاكرين ومقدرين حسن تعاونكم .

والسلام عليكم ورحمة الله وبركاته

عميد كلية التربية بالمدينة المنورة

(د. عمر بن حسن عثمان فلاته)

م / يحيى /

ص . ب : ٣٤٤ - المدينة المنورة تلفون : ٨٢٥٢٣٨٨ / ٨٢٥٢٨١٦ / ٨٢٥٢٥٤٨ / ٨٢٥٢٣٨٤ تلكس : ٤٧٠٠٢٣
P. O. Box : 344 - Madinah Munawwarah Phones : 8252384 / 8252548 8252816 / 8252388 Telex 470023 KAUMAD SJ

APPENDIX D

PRINCIPAL FACTOR AND ROTATED FACTOR SOLUTIONS FOR THE MODERNITY ITEMS

APPENDIX D

Principal Factor and Rotated Factor Solutions for the Modernity Items
Factor Matrix--Principal Factor Solution (See Table 6)

Question Number*	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11
14	.35941	-.12644	-.25065	.21932	.6208	.10243	-.18501	-.26960	.39956	-.09853	-.18043
17	.25705	-.12191	.25876	.35740	-.1308	-.12151	.18186	-.28944	.10289	-.23252	-.01999
24	.43844	-.13006	.07545	.18784	.09453	-.00838	-.08611	-.09900	.00206	.39431	-.18401
3	.38778	.24239	-.02310	.02892	.19442	-.13785	.15483	.04420	-.08195	-.16453	-.36312
5	.20585	.20742	-.09749	.11789	.34761	-.35035	.04581	-.02774	.08762	.01044	.52638
11	.45381	-.00314	-.26247	.09420	.01759	-.04426	-.11963	-.27544	.20872	-.10422	.05520
1	.47253	.24367	.02745	-.00810	.06340	.24272	-.02657	-.11285	-.05278	.03859	-.05732
15	.44328	.08753	.11107	-.00164	-.31145	-.04480	.07464	-.38310	-.20443	-.03999	.05016
6	-.20925	.33377	-.11679	.29121	.15925	.06487	.09640	.07446	-.01492	-.21561	.04724
8	.37274	.26183	-.07791	-.47791	-.18829	-.27644	.26934	.00141	.13354	-.01151	-.07868
9	-.08266	.33497	-.30148	.10539	-.12686	.40309	.14580	.12817	.13483	.14075	.18935
7	.40043	.16129	-.03958	-.45054	-.23594	-.39420	.20191	-.06633	.14598	-.03001	-.08949
13	.37600	.14975	.09630	.02700	.08913	-.03629	-.19137	.24856	.27331	.11531	-.06031
19	.43708	.35345	.12533	-.20713	.12545	.11622	-.19485	.04249	-.14811	-.21897	-.10347
22	.29771	.16076	.23335	-.16715	.11976	.36810	.01794	-.19861	-.25000	-.07635	.16765
10	-.03084	.42216	-.07199	.01026	-.11337	.38847	.29680	-.23632	.23300	.20523	.11068
18	-.04820	.01500	.28424	.35578	-.46283	-.07224	.15309	-.24246	-.24984	-.08465	-.01637
2	.46688	.21131	-.00962	-.12319	.04508	.11058	-.01790	.23278	-.32792	-.03171	-.02964
4	.34111	.30708	-.12894	.08352	.06329	.09364	.21764	.01740	-.11416	.11335	.03010
12	.41040	.17886	-.12863	.22974	-.06345	-.07067	-.24724	.03841	-.16370	.22838	-.04754
21	.30996	-.07521	.38215	.14318	.00316	-.03401	-.08921	.05786	.22796	-.13222	.04551
26	.47047	-.04069	.09240	-.08938	-.05702	.03664	-.13522	.07791	.25099	.17481	.00529
23	.48249	-.16078	.01638	.11902	-.14138	.18473	-.09968	-.00535	.07634	.06770	-.09177
20	.33595	-.00654	.13407	-.06595	.25764	.14232	-.07238	.09903	.09910	-.55279	.17321
33	-.23654	.36874	.64457	-.05637	.08978	-.07230	-.11216	.04035	.12563	.16114	.03370
30	.33288	-.32569	.04303	.03333	.36154	.09303	.43337	.01731	-.07808	.07471	-.23244
27	.43560	-.30846	.15697	-.16212	-.24284	.10707	.10101	.28380	.08941	-.05734	.06148
25	.36727	.13879	-.09779	.24198	-.00095	-.29349	-.22219	.22373	-.30073	.13222	
32	-.20952	.12363	-.05796	.31177	.14254	-.04039	.52354	.23917	.09937	-.04317	
28	.24058	-.13982	.22769	.24463	-.36385	.11217	.11608	.45559	.09532	-.01998	
29	.43387	-.31648	.11353	-.09800	.09543	.18041	.18534	.14143	-.07905	.04703	
16	.35418	.02661	-.04866	.27582	-.12321	-.27709	.18296	.08587	.04533	.06453	
31	.18329	-.34160	.18871	-.09035	.40944	-.09988	.17456	-.19791	-.06972	.33274	
34	-.23737	.36620	.61005	.04248	.10851	-.04245	-.04118	.00204	.21082	.15129	

*The number of the question refers to the questions as they are numbered in Table 6 (p. 66).

APPENDIX D
(continued)

Varimax Rotated Factor Matrix

Question Number*	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11
14	.01370	.01441	.04938	.74344	-.02468	-.14225	.01655	.02572	-.03135	.01205	-.02852
17	.06541	.12097	-.08435	.34218	-.02945	.08673	.13830	-.14586	.47195	.18648	.17406
24	-.00176	.10350	.43497	.29600	-.00530	.07602	.40272	.00546	.05186	-.04309	-.07473
3	.34300	-.05871	.22551	.15614	.28053	.00381	.06133	-.11398	.00865	.40741	-.03185
5	.07478	-.12478	.09192	.05513	.06257	.03342	.09147	.01444	-.10314	-.00312	.76367
11	.12314	-.02906	.12052	.55005	.15112	-.20454	.01370	.02462	.04417	-.07629	.15586
1	.44042	.04564	.21856	.21799	.01331	.02719	.11549	.21700	.04032	-.03597	-.03624
15	.24805	.03875	.15504	.13381	.28224	-.08003	.07735	.06293	.52018	-.20323	.02965
6	.05811	-.20832	-.01458	-.05646	-.16149	.04341	-.27304	.08214	.00749	.36145	.23842
8	.11260	.06010	.02254	.00643	.78889	-.02206	-.00109	.07865	-.04163	.01810	.05095
9	.00854	.05031	.01184	-.04161	-.10555	-.10038	-.20653	.64539	-.13960	.06634	.04874
7	.04131	.06799	.03989	.07540	.80774	-.02014	.00665	-.05526	.03805	-.04382	.06660
13	.08481	.20076	.30759	.28767	.13269	.09023	-.04760	.04421	-.32745	.03468	.09923
19	.60477	.02400	.23223	.13047	.08497	.11272	-.11287	-.04779	-.01663	.02930	-.00210
22	.58662	.00555	-.05952	-.04742	-.02227	.05110	.19752	.16903	.13531	-.20953	-.00773
10	.05302	-.09207	-.12787	.08345	.08116	.13598	-.00969	.73035	.08284	.02717	-.00531
18	-.07634	.08289	.05787	-.09703	-.06682	.06878	-.12197	.00200	.72653	.03262	-.05457
2	.50429	.15861	.33698	-.12690	.15716	-.11857	.04136	.02220	-.07292	.02365	-.01046
4	.26392	.00293	.25964	.01334	.13823	-.07623	.10608	.31548	.03769	.17098	.13373
12	.12420	.03124	.60343	.15752	.01030	-.04719	-.02094	.05410	.04438	-.07093	.06733
21	.14115	.36046	-.00920	.25919	-.01315	.27381	.04551	-.17787	.09706	-.01206	.12929
26	.08684	.32926	.19495	.29194	.19770	.10439	.13964	.04281	-.13230	-.18394	.01512
23	.13509	.33827	.22252	.33834	.00992	-.10025	.13023	.04380	.08066	-.10018	-.11732
20	.54560	.22397	-.26177	.21311	-.03606	-.03828	-.06641	-.21336	-.11629	.04257	.22910
33	.04575	-.03427	-.04386	-.20524	-.01734	.79124	-.04593	.00253	.00399	-.06346	.03364
30	.14055	.13729	-.01641	.08921	.03130	-.16361	.63006	-.06461	-.01227	.36030	-.08560
27	.10980	.63484	-.02396	.03706	.19763	-.13060	.13672	-.07666	-.00799	-.10497	-.05720
25	.10852	.05357	.65285	-.02307	.02792	-.07401	-.05510	-.18260	.01774	.05176	
32	-.16942	.00750	-.06618	-.09731	-.03879	.04416	.02190	.14077	.00268	.73277	
28	-.03936	.71383	.11773	-.05025	-.05830	.02803	-.09481	.04296	.12101	.11175	
29	.22918	.41476	-.01609	-.01515	.01878	-.18269	.42176	-.00630	-.03193	-.08146	
16	-.07492	.27220	.22350	.05028	.11737	-.10043	.04730	.07958	.19420	.03635	
31	-.02770	-.04827	-.01832	-.00693	-.01535	.05160	.71823	-.10844	-.01926	-.11794	
34	.00091	-.05643	-.04704	-.07748	-.02582	.79879	-.02941	.03380	.02935	.09731	

*The number of the question refers to the questions as they are numbered in Table 6 (p. 66).

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