

BRAIN DRAIN FROM DEVELOPING NATIONS TO
THE UNITED STATES: A CASE STUDY AT TWO AMERICAN CAMPUSES

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CHAPTER I

INTRODUCTION

The dramatic increases in numbers of foreign students in the United States since World War II, the explosion of international communications, the decline in the cost of travel, and the full employment in the West have greatly increased competition for professional manpower. For some countries this international competition has brought trouble; for many individuals it has brought opportunity. The traffic in high-level manpower is heavily one-way. As the Committee on the International Migration of Talent pointed out, it is a cruel fact of today's world that the developing nations that have the greatest need to use the high-level manpower to help them along the road of economic and social development are not using it effectively and are in fact losing of their best educated men to the developed countries. 1

The Problem of Brain Drain

It is generally acknowledged that the American institutions of higher education have become focal centers in the interchange of persons across national boundary lines. There were 140,126 foreign students reported enrolled in the United States' colleges and universities during the academic year 1971-72. And the proportion from the Far East, always the largest, increased gradually, from 30 per cent in 1954-55 to 37 per cent in 1971-72. In the academic year 1971-72, India was the country with the largest number of students reported in the United States, Canada was second, followed by Hong Kong, The Republic of China, Cuba, and Iran, in that order. 2 The annual migration of talent from India is large, and it has been growing larger over the last

several years. As many as 11,000 college graduates, half of them doctors, engineers and scientists, leave India every year for further study or employment abroad.³ The estimate is that 15 per cent of India's annual higher educated young men go abroad soon after graduation, and 40 per cent of these fail to return. The proportions vary considerably by field of study, and by level of degree: the higher the level of study, the greater the loss.⁴ The reason is simple, the abler a person is, the more is he to need the facilities and colleagues that are now available only in advanced countries.⁵

By every quantitative measure available, Taiwan presented one of the most significant brain drain phenomena of any country in the world. A total of 2,109 professional, technical, and other high-level manpower migrated to the United States alone in 1967, a number that had grown by an average of 98% annually over the previous five years. This amounted to the greatest number of emigrating professional workers to the United States per 100,000 of population of any country of Asia.⁶ And the total number of students abroad from Taiwan had grown by almost 30% per year between 1959 and 1965.⁷ Taiwan may have the lowest rate of return from foreign study of any country in the world. That is, fewer than five per cent of her students have returned to Taiwan after completing their studies in a foreign land.⁸

The drain of highly trained people has alarmed the international organizations, and UNESCO, the organization for Economic Cooperation and Development, the International Labor Organization, and the Pan American Health Organization have initiated studies of the problem. And EWA, Education and World Affairs, especially formed a Committee on the International

Migration of Talent to research this topic.

Discussion of Research Proposed

The difficulty of studying the brain drain lies in the interplay between fundamental individual rights and national requirements and lies in our lack of knowledge of the real impact of the migration of highly educated personnel on the developing countries. One thing seems sure that modernization depends on heavily trained manpower, for it tends to generate the sophisticated skills required to design and operate a complex economy. Thus, the highly trained persons have four roles to play in the development process. These are "(1) they constitute the intellectual bridge to the developed world; that is, they assess and adapt relevant ideas and technologies originating elsewhere; (2) they develop, maintain and manage the productive process, the resources, and the complex structures of modern society; (3) as the intellectual elite, they bring about the structural and institutional changes necessary if a nation is to become a modern state; and (4) their irreplaceable efforts, and the standards they set, heavily influence the educational and other institutions which shape future generations of educated persons."⁹ The highly trained person is absolutely vital to the developing nations which can not afford to waste them.

The migration of highly trained individuals from one nation to another is a complex phenomenon in human behavior. The modern pattern shows the skilled labor and scientific personnel are moving from the less prosperous countries to the richer nations in the world. Research studies in recent years have shown that variation in the educational, economic,

and political systems in various nations have contributed to the "push" and "pull" factors in the direction of migration. In this study, the writer directly interviewed some Asian students about their attitudes toward the "brain drain", for the reason that the individual makes the final decision to return or to stay behind. The writer hopes that the information produced by this study is useful for policy makers of various nations, especially those developing nations, to evaluate their policies dealing with this problem. Therefore, the purpose of this study is to investigate migration of the highly educated personnel as a phenomenon insofar as it results from the decision of the individuals involved in the process of migration.

Footnotes

1 The Committee on the International Migration of Talent, Modernization and the Migration of Talent (New York, 1970), p. 15.

2 Institute of International Education, Open Door, 1973: Report on International Education (New York, 1973), p. 5.

3 The Committee on the International Migration of Talent, The International Migration of High-Level Manpower: Its impact on the Development Process (New York: Praeger, 1970), p. 217.

4 G.B. Baldwin, "Brain Drain or Overflow?" Foreign Affairs, January 1970. p. 365.

5 The Committee on the International Migration of Talent, The International Migration of High-Level Manpower: Its impact on the Development Process, p. 44.

6 Ibid., p.21.

7 Ministry of Education, Executive Yuan, Educational Statistics of the Republic of China (Taipei, 1966), p. 66.

8 Ibid., p.21.

9 The Committee on the International Migration of Talent, Modernization and the Migration of Talent, p. 42.

CHAPTER II

METHODOLOGY

The brain drain is a term originally coined by the British to describe the emigration of British engineers and scientists to the United States, and originally had a strong connotation of loss. Now it is applied to emigration of all highly trained people from one country to another.

Definitions

Since the objects of this study are the Asian students studying in the American Campuses maybe it is more appropriate to narrow down the brain drain as M. Kapoor defined it as "non-return of foreign nationals to their native countries, after training or education abroad." This definition "poses brain drain as a triangular problem involving the individual, his native country, and the country which he opts to make his home."¹

According to Enrique Oteiza, the "push" factors are those aspects in the country of origin that produce emigration, and the "pull" factors are those aspects in the country of destination that induce the immigration.² Attitude, according to Katz, is defined "at the individual level, namely, the specific organization of feelings and beliefs according to which a given person evaluates an object or symbol positively or negatively."³

Brief Review of Previously Related Approaches

Most previous discussions of "brain drain" have focused on the gain and loss a nation experiences from the migration and its relationship to

modernization . Only a few of them have discussed the individual level. Among these discussions, several approaches can be differentiated. The first approach is the economic approach which concerns the highly educated people as human capital and tries to explain the outflow from the points of view of demand-and-supply in economic theories. It divides two different thoughts. One is the "internationalist" or "cosmopolitan" view which admits the existence of the brain drain but sees in it a great deal of benefit for all mankind. This opinion is based on the increasing effectiveness of international communication from the free flow of skills, knowledge, and manpower which make the most significant contributions to world civilization.⁴ Another is the "nationalist" view that migration today favors the most advanced and affluent nations, thus, will widen the gap between production and living standards between the developing and the developed countries.⁵ The second approach is the "policy-oriented" approach, the flow of highly educated people can be controlled and restricted by laws or policies of a nation, or through mutual agreements of both gaining and losing countries.⁶ The third approach is the theory of development or modernization which points out that the patterns of culture, tradition, attachment to one's own land, and inertia will combine to contribute to the migration of high-level manpower. It suggests that whenever development is at a stage that provides reasonable opportunities for employment of the current output of the higher education system, the migration will not occur. If development is not at a stage requiring available highly educated people, then the migration of manpower cannot be the factor which has interfered with development.⁷ The fourth approach is the "decision-making" of the individual. It points out that the personal motivations and the attitudes of the individual such as

his drive for scientific fulfilment, his likings or adapting to a different culture and way of life, his settlement and family involvement; those contribute to his decision to stay or go home.

In short, the problem of the brain drain from the developing to the advanced countries can be discussed from three points of view: that of the migrant himself, the country of origin, and the receiving country. In this study, the individual in the process of outflow is taken as the basic unit of analysis. Each individual is considered as an actor whose motivation, perception, and decision in regard to the outflow contributes to this study.

Theoretic Model

In order to explain the behavior pattern of the individual engaged in the process of outflow, the writer chose Dr. Wei's model of international migration of talent as a guide for deriving hypotheses in this study. Figure 1 is Dr. Wei's model with three time spans: the stage of predisposition, the stage of conflict, and the stage of resolution.⁹

1) The stage of predisposition

The motivation for people to migrate is to pursue a better life as they perceive it. One perceives the situation through the socialization process which is related to education, mass media, and the contacts with relatives and foreign people.

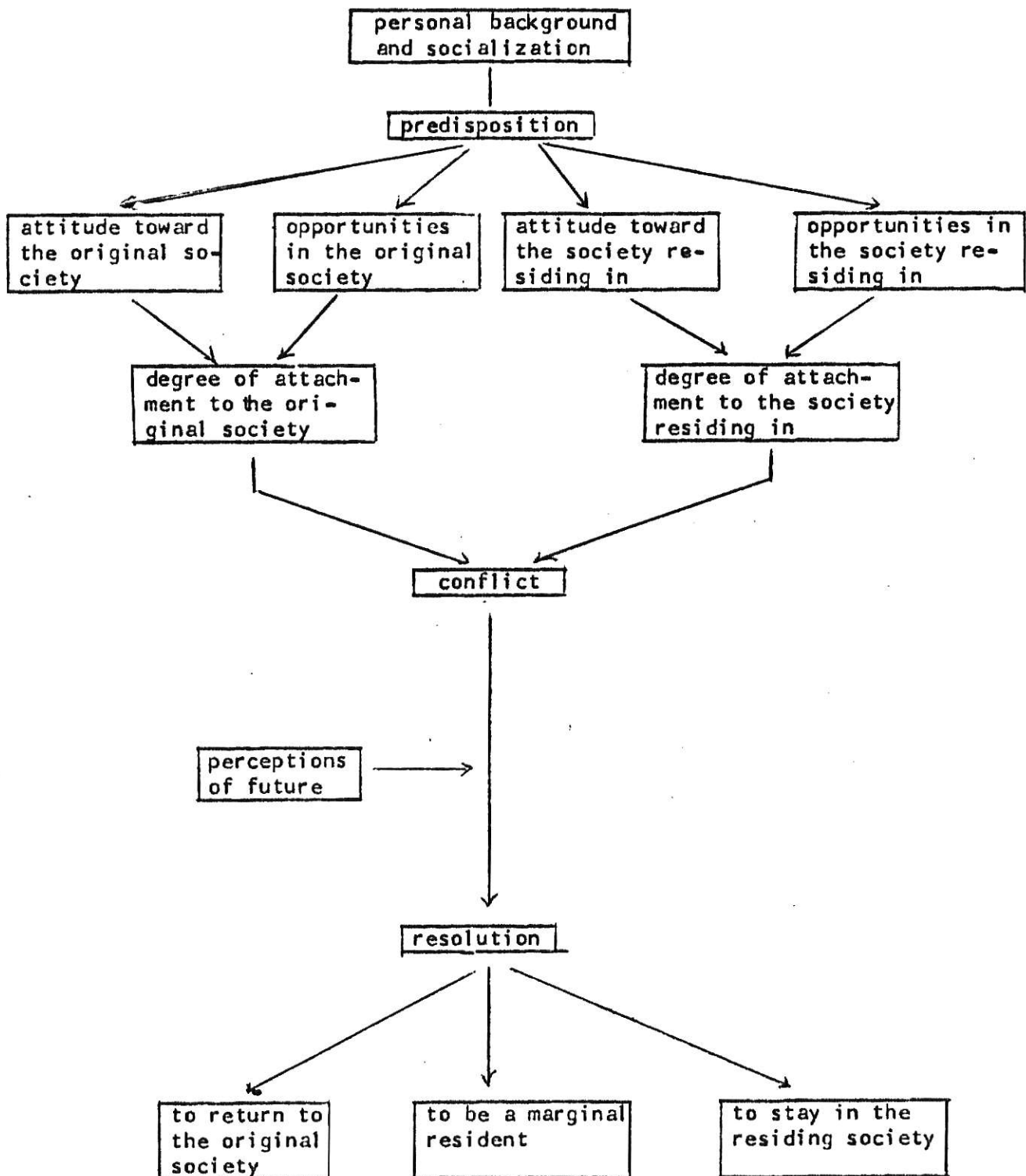
2) The stage of conflict

After a person lives in a foreign land, his experience of the real life in the foreign country, the advantage and disadvantage both in the original country and the country now resided in become more apparent than ever. In this situation, the person is facing a conflict in the process of

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FIGURE 1

An Operational Model of Brain Drain

decision making on whether he should go home or stay in the country of residence.

3) The stage of resolution

The final result of the conflict of a person in the process of decision making on whether he should go home or stay in the United States is determined by his attitude and attachment to the original country and the country now resided in. To resolve this conflict, three choices are available: to return to the original country, to stay in the host country, or to become a marginal man, one who lives in two or more cultures and societies.

Hypotheses

Based on the theoretic model, three hypotheses are stated as follows:

1) Hypothesis One

The individual's impressions of the education system, economic conditions, and the political life in both nations; his attachment to the original nation compared with that the nation he lives in now; and the future development in these societies and his role in them. These determine the decision of the individual to go home or stay in the nation which is now his home. The political life, as David Easton defined it, "concerns all those varieties of activity that influence significantly the kind of authoritative policy adopted for a society and the way it is put into practice."¹⁰

2) Hypothesis Two

Though situations vary in every nation, each has as its main problem in the process of modernization through the eyes of its people who are staying in some foreign countries. The writer supposes that the Indian students

will be most concerned about economic development and the Chinese students will be most attracted by political development.

3) Hypothesis Three

Those students whose attitudes are more favorable to their own government will go home after completing their studies abroad; and contrarily, those students whose attitudes are less favorable to their government will stay in the country where they are residing.

The fundamental conditions of life and the uneven character of the developing nation's economic, educational, political and institutional development stimulate the migration. One of the fundamental causes of the brain drain is the inadequate educational capacities and facilities of the developing countries. In an economy characterized by underdeveloped resources and a limited market, these countries are almost unable to absorb the modern men trained by foreign universities for modern tasks. Mr. J. Useem, in his book The Western-Educated Men in India pointed out that 55 per cent of such Indians were not employed in the work for which they had been sent for training and additional persons were being sent for training in fields where the previously trained were still unemployed drawn from an independent survey of the students sponsored by the Central and State Governments of India.¹¹

Furthermore, the present organizational structure of developing nation inhibits the efficient use of highly qualified personnel. These features include the rigidity of the government employment system, failure to separate research from staff work, professional isolation, inability to move from one career ladder to another, inadequate recognition of talent in younger generations. These factors make the highly qualified personnel lose confidence in their professional future and become frustrated.

Political factors are also important. The lack of political freedom and security affects highly trained personnel. And political unrest hampers the preparation and implementation of development plans. The rise to power of a new political group at home may alter the student's position in regard to his home land. As the Committee on the International Migration of Talent pointed out "when ancient traditions and attachment to homeland are overshadowed by intolerable political suppression or by the fear that it may become real, then migration could well become so great as to impede development--even in the presence of job opportunities at home--provided gates remain open at both the sending and the receiving end. Of the countries studied, Taiwan, Korea--for the Chinese--Malaysia, and Singapore provided some hints that politics and fear might be of significance in migration."¹²

For the other side, the students were linked with many ties to the country in which they had grown up. The "home" life of students, their social life, their love of country may have reduced the migration. In most cases the foreign student is separated from his family and close friends. He feels uprooted and lonely, no longer a part of a social structure in which he plays a part especially for his first year in a foreign country.

From the psychological point of view, the individual's sense of belonging to a nation, his presence or absence of social cohesion, his hope or despair for the future of the next generation, his status in the community, his sense of satisfaction or dissatisfaction with the circumstances of both the original nation and the nation where he now lives will determine the decision as to staying or going home.

In short, after consideration of these complicated factors it is very natural for the career-oriented individual to settle down in the country which offers him opportunities to be creative, a chance to use his professional training effectively, and to work with respected associates, and a feeling that he is held in esteem.

Method

Data were gathered through a mailed questionnaire. The sample completing the questionnaire was taken from those students from India, Taiwan, Hong Kong, Pakistan, and Bangladesh who constituted the largest number of foreign students in the University of Kansas (KU) and Kansas State University (KS). The selection of the respondents was based upon the lists of the foreign students on both campuses in the Spring semester of 1973. Table 1 presents the sample of this study.

TABLE 1

The Sample of This Study: Mailed and Returned

| | | places where students come from | | | | |
|----|----------|---------------------------------|------|-------|----------|------------|
| | | Taiwan | H.K. | India | Pakistan | Bangladesh |
| KS | mailed | 71 | 6 | 67 | 7 | 2 |
| | returned | 51 | 3 | 30 | 5 | 0 |
| KU | mailed | 68 | 55 | 43 | 6 | 1 |
| | returned | 27 | 30 | 12 | 0 | 1 |
| | | Total | | | | |

One of the valid returns was that of a student from Hong Kong, attending at KS, who achieved American citizenship during this study. A total of 326 questionnaires were mailed out. And a total of 160 questionnaires with valid answers were received, which accounted for 49 per cent of mailed questionnaires.

Secondly to test the hypotheses it was necessary to develop a questionnaire that would yield data on (1) personal background, (2) convictions as to brain drain, (3) perception of attitudes to the United States and the original society, and (4) political attitude toward original government. Political attitudes were determined through use of the book Measures of Political Attitudes.¹³ In the questionnaire, 12 questions concerned personal background, 5 questions concerned views of brain drain, 12 questions concerned perceptions and attitudes toward the original society and the United States, 8 questions concerned political attitudes toward the government of origin.

Information on the returned questionnaires was coded onto IBM cards and was analyzed by computer. Most code categories for questions aimed at major study objectives were implicit in the way in which questions were worded. The individual's perception and attitude toward both the United States and his original society were coded by 3 scores: 1 to "good" impression of living conditions in the United States, 3 to "good" impression of living conditions in his original society, 2 to neutral attitude about both societies. For instance, question 16 asked, "Do you think you can have more achievement in the United States or can you have more achievement in your country?" Score 1 was given to the response of "I can have more achievement in the United States." Score 3 was given to the response of "I can have more achievement in my own country." And score 2 was given to the response of "both are the

same." Similarly, the individual's political attitudes toward the government of his origin (question 32 to question 37) were coded by four scale scores: 1 strongly unfavorable toward the government of origin, 2 somewhat unfavorable toward the government of origin, 3 somewhat favorable toward the government of origin, and 4 strongly favorable toward the government of origin. For example, question 32 asked, "As the government of your country is now organized it is hopelessly incapable of dealing with all the problems facing the country today." Score 1 was given to the response of "I agree a lot." Score 2 was given to the response "I agree a little." Score 3 was given to the response "I disagree a little." And score 4 was given to the response "I disagree a lot." The writer used four scores in the political attitude, omitted a middle category of indifference or neutrality in order to force a choice.

The "scale Score" for an individual could range from 12 to 36 according to his perception of living conditions in the United States and in his original society. It could also range from 6 to 24 according to his political attitude. These two "scale scores" are the dependent variables which would determine whether he would go home or stay in the United States.

The hypotheses were tested by use of the null hypothesis for finding statistical significance. The tests used were the chi-square test with fortran IV, and the F test by the OMNITAB programming system.¹⁴ The tests used varied depending upon the format of the table and on the statistic, the F test which most appropriately measures the strength and direction of the association for the continuing scores. First, concerning the chi-square, scores on the perception scale or political attitude scale and the individual's decision

of whether stay or go home were trichotomized. The method of trichotomization was simply to find those scores on the scales which divided each one of the samples into equal thirds. Thus, each sample that was tested could have a different scale score as the dividing points. The variables were, then, crosstabulated for the total sample and for each student's personal background. And concerning the F test, each sample that was tested on different scores from 12 to 36 according to each student's impression of the question.

Problems

Certain problems developed during the course of the study which need to be mentioned before consideration of the results. The first problem that arose was a problem that is familiar to most researchers, the problem of missing data. Five respondents omitted specific answers to questions concerning personal information such as age, the date of arriving in the United States, father's occupation and political attitude. This especially occurred in the group of the students from Taiwan. It is generally acknowledged that politics is a sensitive subject on Taiwan, and not one discussed candidly and casually outside of one's own family and close friends.¹⁵ Through this survey the writer found that this phenomenon existed not only on Taiwan, but among those Chinese living in the United States. Psychologically, this "fear" is rooted in the most of the Chinese who believe that unacceptable expressions of criticism and dissent will be promptly suppressed, and may imply cost to their families and friends as well as themselves.¹⁶ So "silence is golden" is the mode of behavior in the Chinese society.

When a respondent did not respond to a certain question, the only remedy was to leave it as unanswered. However, when the unanswered question concerned a specific question as to the perceptions and attitudes, he was given a "standard scale" rating for each question. The "standard scale" for perception and attitude questions was 2. Very few questionnaires required the use of these standard scale answers and if there were too many blanks on the questionnaire, it was deleted. Thus, the use of standard scale was minimal and could cause little bias in the final results.

According to the respondents, the students studying at KS were more responsive than those at KU. The reason was very simple. As the writer of this study is President of the Chinese Student Association at KS, it was very convenient to contact with the respondents and urge them to mail in their questionnaires.

A further problem faced was the unwillingness of many individuals to respond to the questionnaire. The written comments that accompanied several questionnaires revealed that some of the respondents were not accustomed to answer this kind of highly political-oriented questions. And it was hard for some people to make a choice between their perceptions of the living conditions in the United States and in their original society. These problems faced with a mailed questionnaire could have caused some bias in the sample, as many other researchers have already faced. However, it did not appear that anything occurred that would affect the validity of the findings.

Footnotes

1 A report of a conference held at John Carroll University, Brain-Drain--Brain Gain (Cleveland: The Business Research Center, John Carroll University, 1968), p. 15.

2 E. Oteiza, "A Differential Push-Pull Approach," in The Brain Drain, ed. by Walter Adams, (New York: The Macmillan, 1968), p. 126.

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4 T.L. Bernard, "The Brain Drain: Mountain or Molehill?" School and Society, January 1971, pp. 43-5; and H. Punke, "Brain Drain--A Great Historical Asset," School and Society, Nov. 1969, pp. 441-3.

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9 Yung Wei, Socio-Psychological Variables and International Intellectual Migration: Finding from Interviewing Returnees in the Republic of China, A report prepared for delivery at the Annual Convention of International Studies Association, Panel on "Brain Drain," Pittsburgh, Penn., April 2-4, 1970.

10 David Easton, The Political System: An Inquiry into the State of Political Science (New York: Alfred A. Knopf, 1953), p. 128.

11 John and Ruth Useem, The Western-Educated Men in India (New York: The Dryden Press, 1955), p.125.

12 Ibid., p.13.

13 J. P. Robinson and J. G. Rusk, and K.B. Head, (eds.) Measures of Political Attitudes, (sixth Printing), (Ann Arbor: The University of Michigan, 1972).

14 R. L. Chamberlain and D. Jowett, The OMNITAB Programming System: A Guide for Users (Houston Data Service Center: Shell Oil Company), 1968.

15 S. Appleton, "The Political Socialization of Taiwan's College Students," Asian Survey, Oct. 1970, p. 911.

16 Ibid., p. 910.

CHAPTER III

RESULTS

The first hypothesis in this study is that students from abroad will remain in the United States if they believe that conditions here will be better for them than will those in their homeland, and that they will have more opportunities. Conversely students who believe opportunities will be better in their homeland will return there.

Hypothesis One

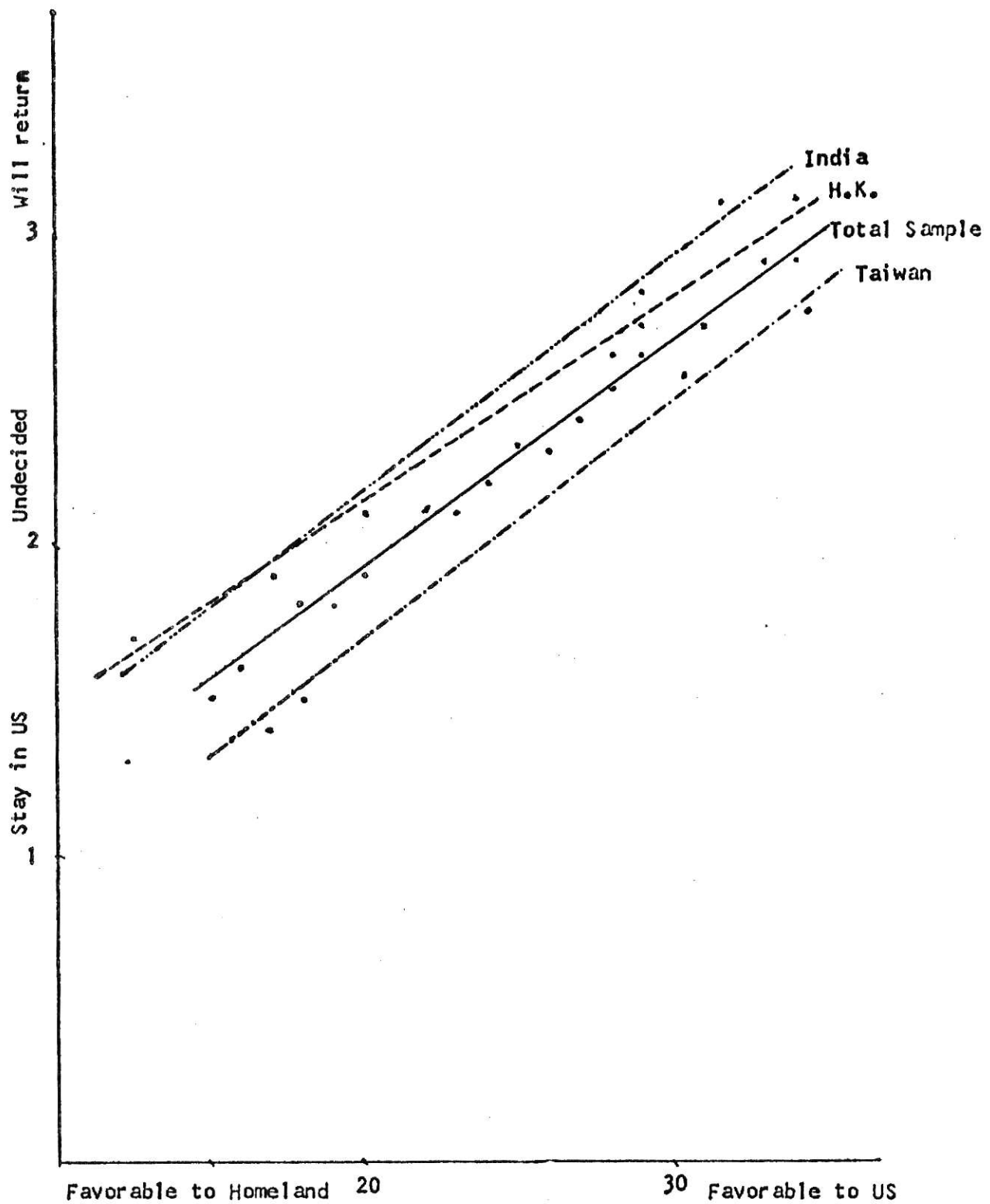
Table 2 and Figure 2 provide the data on the total sample: the students' concept of their home land and of the United States as a Land of Opportunity, and their decision as to which one they have chosen for final citizenship. Column 2 of Table 2 shows those who have equally favorable concepts of the two nations.

TABLE 2

Assessment of Opportunities in US vs. in
Homeland as Deciding choice for Citizenship: Total Sample

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .35 13 | .54 20 | .11 4 | 1.00 37 |
| undecided | .09 5 | .85 46 | .06 3 | 1.00 54 |
| will return | .13 9 | .58 40 | .29 20 | 1.00 69 |
| | 27 | 106 | 27 | 160 |

$\chi^2 = 25.1375$
significant at .001 level
 $F = 20.93$ $r = .11$
significant at .001 level



The Perception of the Living Conditions and Opportunities in the Homeland and in the US

Figure 2. Illustration of the Distribution of the Perception of the Living Conditions and Opportunities in the Homeland and in the U.S.: Total Sample and the Students from Varied Nations

The data from table 2 and the statistical tests lead to only one conclusion: Hypothesis One is valid. The chi-square is significant, with F test expressing the positive regression in the direction hypothesized. The evidence supports the hypothesis and suggests that the impression of living conditions varies with the decision to stay abroad or to go home.

To further test the importance of the impression of living conditions and opportunities on decision-making, each individual background category that was sampled was tested in the same manner as the total sample to see if the impressions of living conditions and opportunities remained the determinant in any decision rather than merely reflecting different personal backgrounds. Table 3 and Figure 2 provide the data for the students from Taiwan.

TABLE 3

Assessment of Opportunities in US vs. in Home Land
as Deciding choice for Citizenship: Students from
Taiwan

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .37 9 | .46 11 | .17 4 | 1.00 24 |
| undecided | .10 3 | .83 25 | .07 2 | 1.00 30 |
| will return | .04 1 | .54 13 | .42 10 | 1.00 24 |
| | 13 | 49 | 16 | 78 |

$\chi^2 = 20.9105$ significant at .001 level
 $F = 13.33$ $r = .39$
 significant at .01 level

The data from table 3 present evidence that hypothesis one is still valid. Next table 4 and table 5 and figure 3 provide the data for the students from Taiwan, whether born in China or in Taiwan.

TABLE 4
Assessment of Opportunities in US vs. in Home Land as Deciding
Choice for Citizenship: Students from Taiwan, born in China

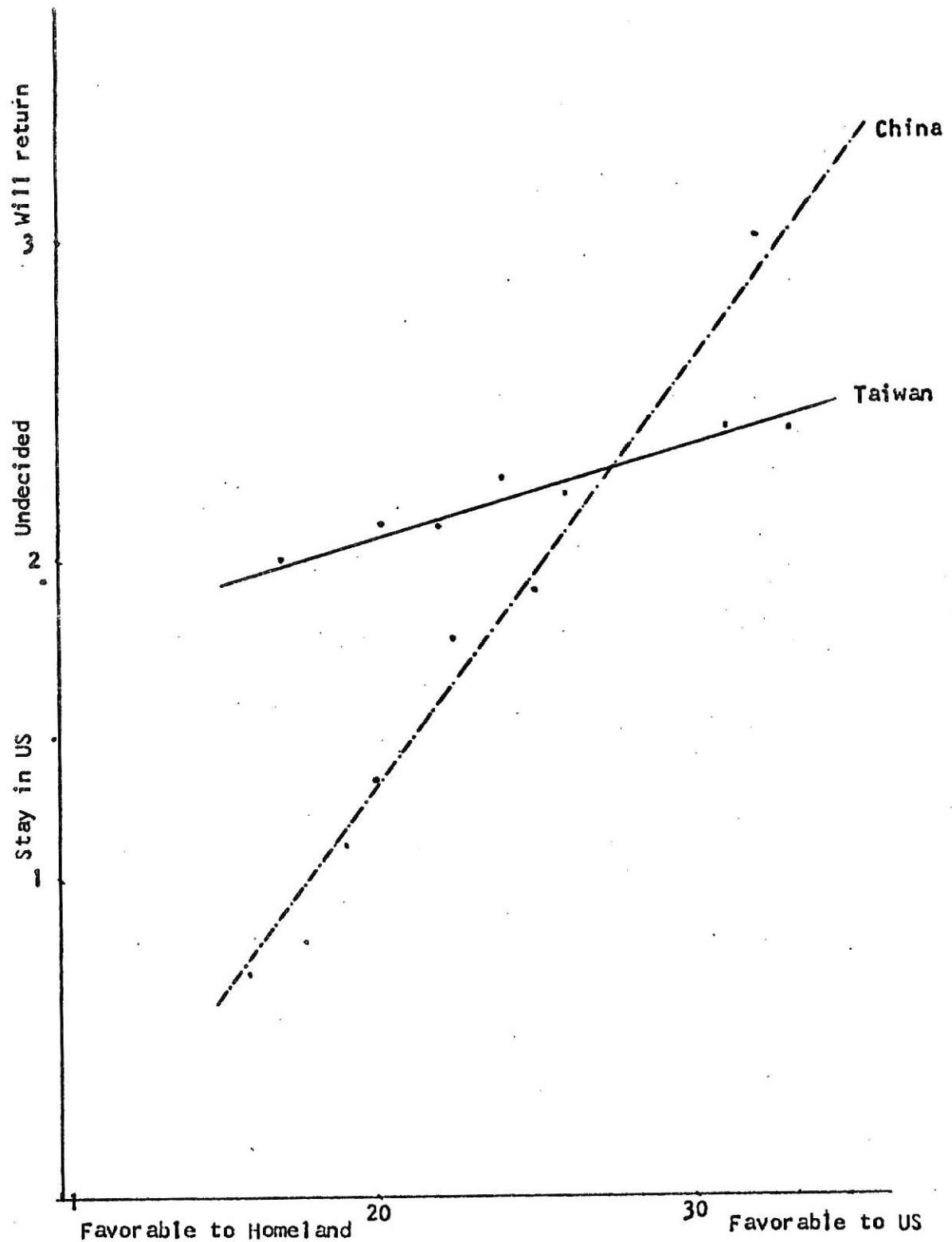
| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .47 7 | .47 7 | .06 1 | 1.00 15 |
| undecided | .00 0 | .92 12 | .08 1 | 1.00 13 |
| will return | .00 0 | .44 4 | .56 5 | 1.00 9 |
| | 7 | 23 | 7 | 37 |

$\chi^2 = 21.6426$ significant at .001 level
 $F = 26.66$ $r = .65$ significant at .001

TABLE 5
Assessment of Opportunities in US vs. in Home Land as Deciding
Choice for Citizenship: Students from Taiwan, born in Taiwan

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .22 2 | .45 4 | .33 3 | 1.00 9 |
| undecided | .18 3 | .76 13 | .06 1 | 1.00 17 |
| will return | .07 1 | .60 9 | .33 5 | 1.00 15 |
| | 6 | 26 | 9 | 41 |

$\chi^2 = 5.5217$ not significant at .05 level
 $F = .80$ not significant at .05 level



The Perception of the Living Conditions and Opportunities in the Homeland and in the US

Figure 3. Illustration of the Distribution of the Perception of the Living Conditions and Opportunities in the Homeland and in the U.S.: the Students from Taiwan, whether born in China or in Taiwan

The data from table 4 and the statistic also support hypothesis one, but the data from table 5 reject hypothesis one. The percentages on table 5 show students' responses are heavily on "undecided" or "will return" compared with those on table 4. This may be explained by the fact that students born in Taiwan are more attached to Taiwan society than are those born in China. Table 6 and figure 2 show the data for students from Hong Kong.

TABLE 6

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students from H.K.

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .25 1 | .75 3 | .00 0 | 1.00 4 |
| undecided | .09 1 | .82 9 | .09 1 | 1.00 11 |
| will return | .17 3 | .50 9 | .33 6 | 1.00 18 |
| | 5 | 21 | 7 | 33 |

$\chi^2 = 4.5857$ not significant at .05 level
 $F = 5.36$ $r = .38$
 significant at .05 level

The data from table 6 and figure 2, the chi-square rejects the hypothesis one, the F test supports the hypothesis. Table 7 and figure 2 provide the data for students from India and other nations.

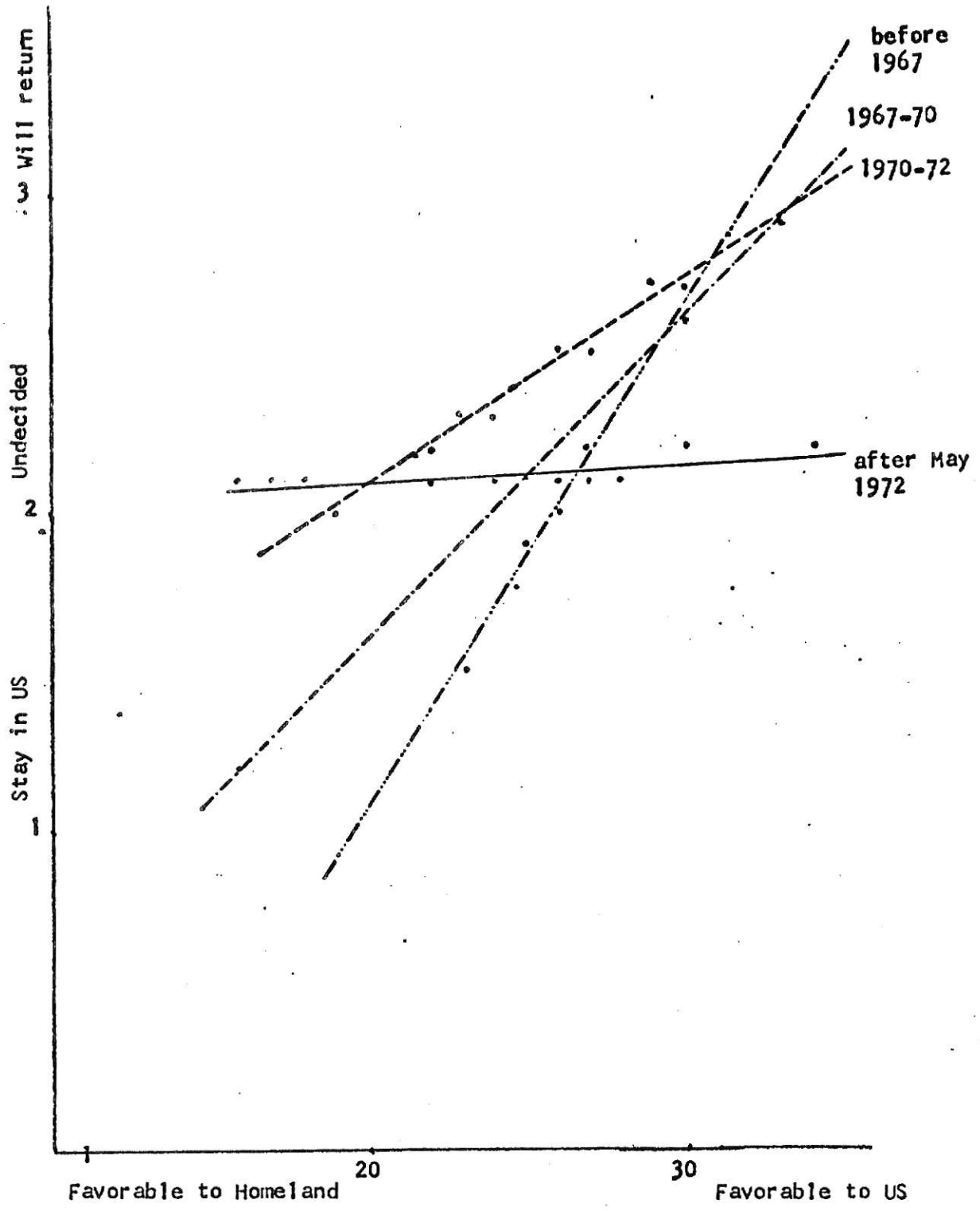
TABLE 7

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students from India
and other Nations

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .375 3 | .625 5 | .00 0 | 1.00 8 |
| undecided | .08 1 | .92 12 | .00 0 | 1.00 13 |
| will return | .18 5 | .67 18 | .15 4 | 1.00 27 |
| | 9 | 35 | 4 | 48 |

$\chi^2 = 6.3937$ significant at .05 level
 $F = 5.12$ $r = .32$
 significant at .05 level

The data indicate that the impression of better living conditions and opportunities is not as important a variable among Indian students and students from other nations as it was found to be among students from Taiwan born in China. The evidence, nevertheless, remains significant though not at a high level of significance. The data show that students from abroad intend to go home in this order: Indian students, 56%; students from Hong Kong, 54%; Taiwan students born in Taiwan, 36%; and Taiwan students born in China, the fewest, 24%. Table 8 and figure 4 present the data for students who arrived in the United States after May 1972.



The Perception of the Living Conditions and Opportunities in the Homeland and in the US

Figure 4. Illustration of the Distribution of the Perception of the Living Conditions and Opportunities in the Homeland and in the U.S.: the Students who arrived in the U.S. at different times

TABLE 8

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students arriving in
the United States after May 1972

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay | .17 1 | .83 5 | .00 0 | 1.00 6 |
| undecided | .00 0 | .875 7 | .125 1 | 1.00 8 |
| will return | .24 5 | .62 13 | .14 3 | 1.00 21 |
| | 6 | 25 | 4 | 35 |

$$\chi^2 = 3.4354 \text{ not significant at .05 level}$$

$$F = .01 \text{ not significant at .05 level}$$

The data indicate that impressions of the living conditions and opportunities is not a significant variable among those students who arrived in the United States after May, 1972. Sixty per cent intend to go home after completing their studies. Emotionally they still stick with the home land and have some problems in adjusting to the American way of life. Table 9 to table 11 provide the data for students who arrived in the United States at different time. (also in figure 4)

TABLE 9

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students arriving in
US between May 1970 and April 1972

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .30 3 | .50 5 | .20 2 | 1.00 10 |
| undecided | .04 1 | .88 21 | .08 2 | 1.00 24 |
| will return | .12 4 | .59 20 | .29 10 | 1.00 34 |
| | 8 | 46 | 14 | 68 |

$\chi^2 = 9.2923$ significant at .05 level
 $F = 5.93$ $r = .29$ significant at .05 level

TABLE 10

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students arriving in
US between May 1967 and April 1970

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .50 7 | .36 5 | .14 2 | 1.00 14 |
| undecided | .235 4 | .765 13 | .00 0 | 1.00 17 |
| will return | .00 0 | .50 6 | .50 6 | 1.00 12 |
| | 11 | 24 | 8 | 43 |

$\chi^2 = 18.4074$ significant at .01 level
 $F = 18.01$ $r = .55$ significant at .01 level

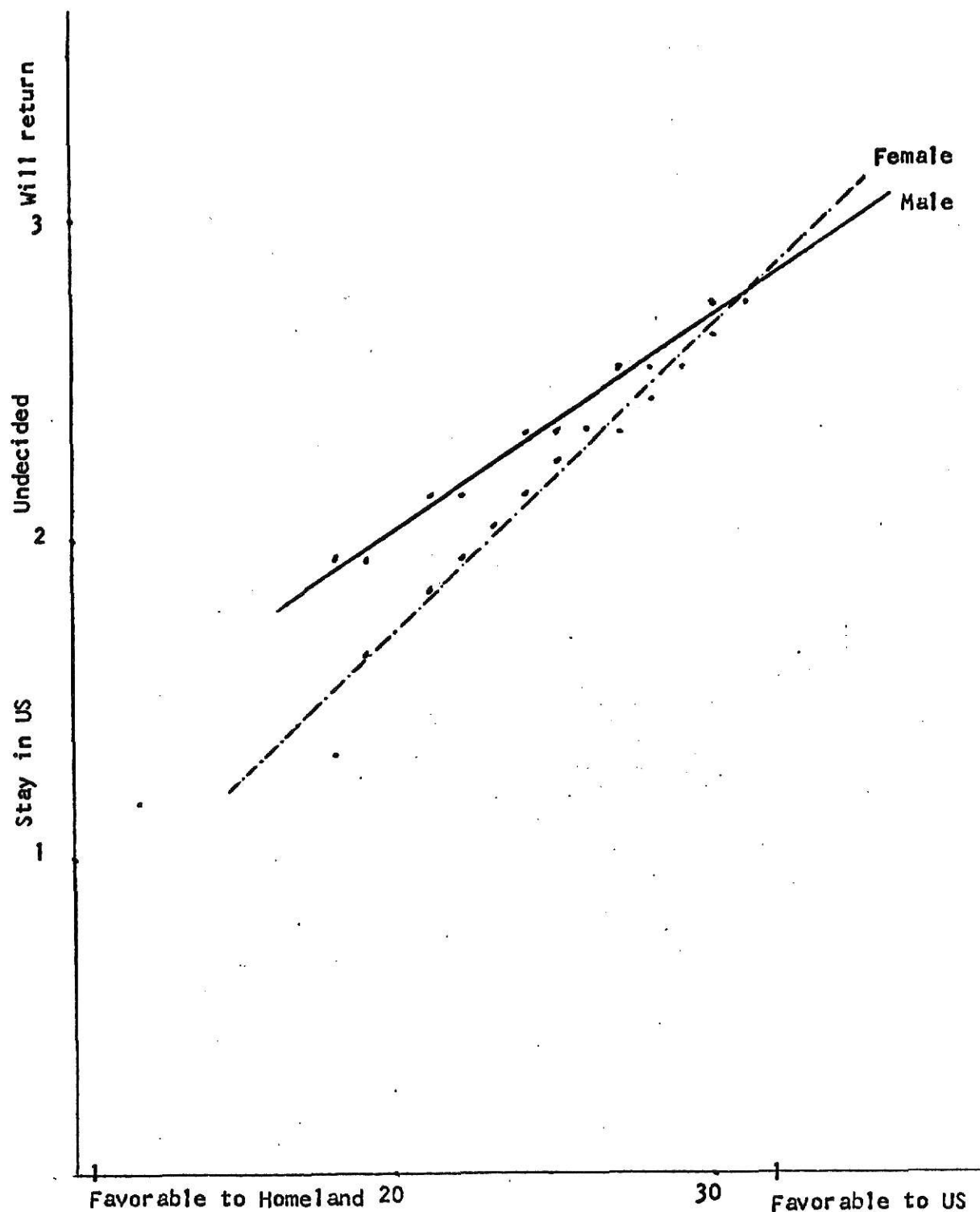
TABLE 11

Assessment of Opportunities in US vs. in Home Land as
Deciding Choice for Citizenship: Students arriving in
the US before May 1967

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|-----------|
| stay in US | .29 2 | .71 5 | .00 0 | 1.00 7 |
| undecided | .00 0 | 1.00 5 | .00 0 | 1.00 5 |
| will return | .00 0 | .50 1 | .50 1 | 1.00 2 |
| | 2 | 11 | 1 | 14 |

$\chi^2 = 8.5456$ significant at .05 level
 $F = 9.11$ $r = .21$ significant at .05 level

The data from table 9 to table 11 (and in figure 4) indicate that perception of living conditions and opportunities is an important variable among those students, especially in the table 9 group. Moreover, based on the data from table 8 to table 11, it can be concluded that the longer the students stay in the United States, the less they intend to go home. (60% in table 8, 50% in table 9, 26% in table 10, 14% in table 11) The reasons are, the longer the students stay in the United States, the more easily they adjust to the American way of life; and the longer they stay, the higher the academic level of their study, the greater the loss of manpower of their home land. Table 12 and table 13 and figure 5 present the data for the male and female students.



The Perception of Living Conditions and Opportunities in the Homeland and in the US

Figure 5. Illustration of the Distribution of the Perception of the Living Conditions and Opportunities in the Homeland and in the U.S.: Male and Female Students

TABLE 12

Assessment of Opportunities in US vs. in Home Land
as Deciding choice for Citizenship: Male students

| | USA best 12-20 | Ambivalent 21-28 | HomeLand best 29-36 | Total |
|-------------|-------------------|---------------------|------------------------|------------|
| stay in US | .30 7 | .61 14 | .09 2 | 1.00 23 |
| undecided | .11 4 | .86 32 | .03 1 | 1.00 37 |
| will return | .16 8 | .53 27 | .31 16 | 1.00 51 |
| | 19 | 73 | 19 | 111 |

$\chi^2 = 18.5776$ significant at .01 level
 $F = 11.84$ $r = .31$ significant at .01 level

TABLE 13

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Female Students

| | USA best | Ambivalent | Home Land best | Total |
|-------------|----------|------------|----------------|------------|
| stay in US | .43 6 | .43 6 | .14 2 | 1.00 14 |
| undecided | .06 1 | .82 14 | .12 2 | 1.00 17 |
| will return | .06 1 | .72 13 | .22 4 | 1.00 18 |
| | 8 | 33 | 8 | 49 |

$\chi^2 = 10.9649$ significant at .01 level
 $F = 9.95$ $r = .42$ significant at .01 level

The data from table 12 and table 13 and statistic tests also support the hypothesis one.

Table 14 to table 18 and figure 6 present the data for the students divided by the different occupations of their fathers.

TABLE 14

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Businessmen

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .40 2 | .40 2 | .20 1 | 1.00 5 |
| undecided | .07 1 | .80 12 | .13 2 | 1.00 15 |
| will return | .04 1 | .70 16 | .26 6 | 1.00 23 |
| | 4 | 30 | 9 | 43 |

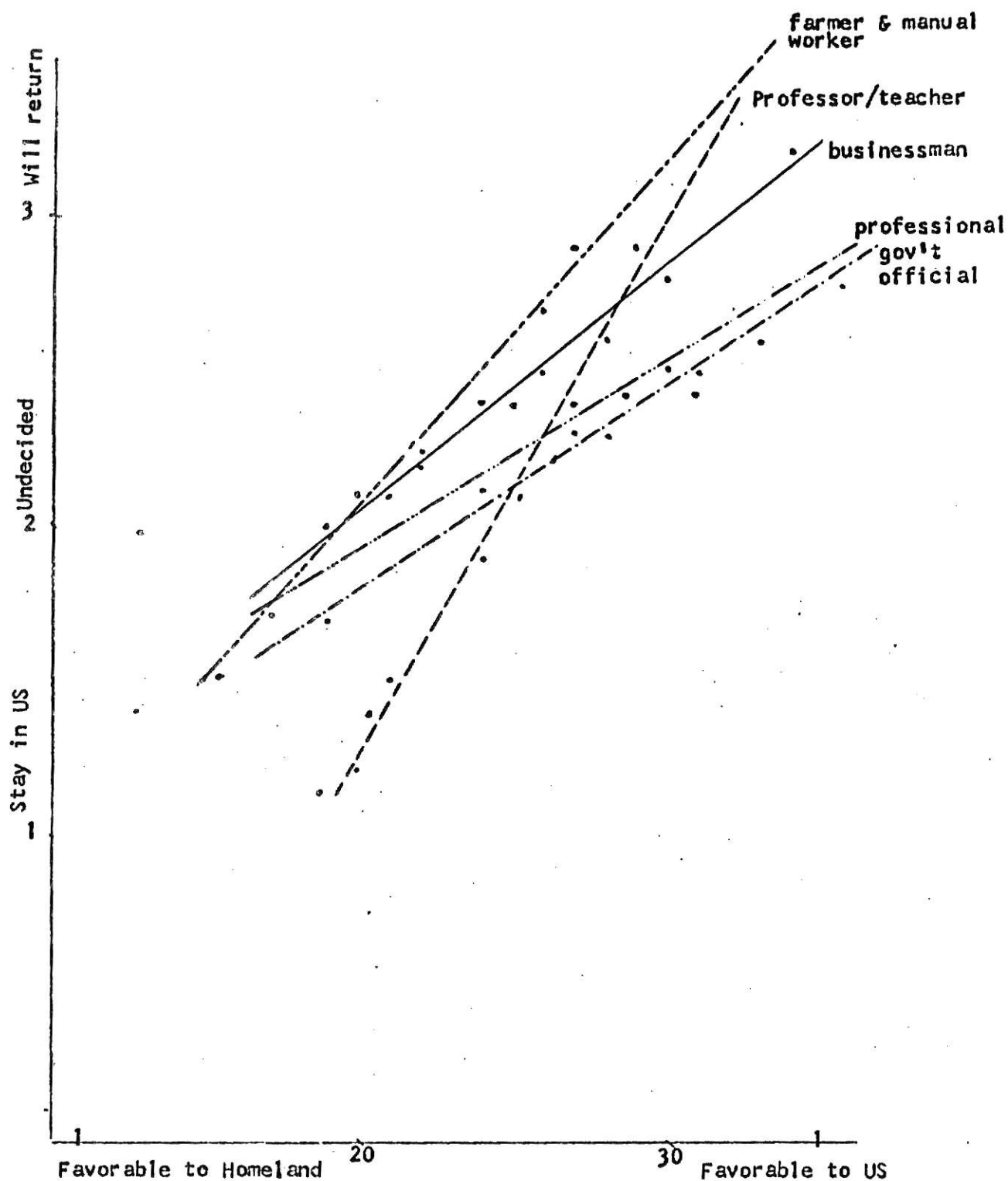
$\chi^2 = 7.3522$ significant at .05 level
 $F = 7.82$ $r = .404$ significant at .05 level

TABLE 15

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Government Official

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|-------------------|---------------------|-------------------------|------------|
| stay in US | .18 2 | .64 7 | .18 2 | 1.00 11 |
| undecided | .07 1 | .86 13 | .07 1 | 1.00 15 |
| will return | .12 2 | .44 7 | .44 7 | 1.00 16 |
| | 5 | 27 | 10 | 42 |

$\chi^2 = 7.6034$ significant at .05 level
 $F = 4.20$ $r = .31$ significant at .05 level



The Perception of the Living Conditions
and Opportunities in the Homeland and in the US

Figure 6. Illustration of the Distribution of the Perception of the Living Conditions and Opportunities in the Homeland and in the U.S.: Students divided by the different occupations of their fathers

TABLE 16

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Professionals

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|--------------------------------|---------------------|--|------------|
| stay in US | .333 4 | .583 7 | .083 1 | 1.00 12 |
| undecided | .09 1 | .91 10 | .00 0 | 1.00 11 |
| will return | .25 4 | .375 6 | .375 6 | 1.00 16 |
| | 9 | 23 | 7 | 39 |
| | $\chi^2 = 10.6592$ F = 2.05 | | significant at .01 level not significant at .05 level | |

TABLE 17

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Professors/teachers

| | USA best 12-20 | Ambivalent 21-28 | Home Land best 29-36 | Total |
|-------------|---------------------------------|---------------------|--|-----------|
| stay in US | .60 3 | .40 2 | .00 0 | 1.00 5 |
| undecided | .00 0 | 1.00 6 | .00 0 | 1.00 6 |
| will return | .00 0 | .80 4 | .20 1 | 1.00 5 |
| | 3 | 12 | 1 | 16 |
| | $\chi^2 = 10.1333$ F = 13.00 | | significant at .01 level significant at .01 level | |
| | r = .69 | | | |

TABLE 18

Assessment of Opportunities in US vs. in Home Land
as Deciding Choice for Citizenship: Farmers and
Manual Workers

| | USA best | Ambivalent | Home Land best | Total |
|-------------|----------|------------|----------------|-----------|
| stay in US | .50 2 | .50 2 | .00 0 | 1.00 4 |
| undecided | .29 2 | .71 5 | .00 0 | 1.00 7 |
| will return | .22 2 | .78 7 | .00 0 | 1.00 9 |
| | 6 | 14 | 0 | 20 |

$$\chi^2 = 1.028$$

$$F = 4.39$$

not significant at .05 level
not significant at .05 level

The data from table 14 to table 18 and figure 6 and the statistical tests support hypothesis one on table 14, table 15, table 16, and table 17 by chi-square; on table 14, table 15, and table 17 by F test. Moreover, the data from these tables lead to the conclusion that student intention to go home is influenced by the occupation of the parent in this order: businessmen, 53%; farmers and manual workers, 45%; professionals, 41%; government officials, 38%; and professors/teachers, 31%, the last. Obviously the lack of sufficient opportunity for further growth in the home land and the quality and type of experience or knowledge to be acquired are the characteristics of the developing countries.¹ This is especially true of

these students whose fathers are professors or teachers. Students whose families are in business or who themselves are in business can influence² opinion and use their newly gained skill most efficiently. Therefore they have the greatest inclination to go home.

In conclusion, in most cases, the impression of living conditions and opportunities is a statistically significant variable and the regression-association is in the direction hypothesized as displayed by the positive F and r values except with groups (1) students born in Taiwan, (2) those who arrived in the United States after May 1972, and (3) those whose fathers' occupation is farming or manual labor. The conclusion that can be drawn from the evidence is that hypothesis one is valid and that their impression of living conditions and opportunities is an important variable which affects their decision-making, whether they go home or to stay in the United States after completing their study.

Hypothesis Two

The second hypothesis is based on the varied conditions in every nation, assumes each nation has its main problem in the process of modernization in the eyes of its people who stay in the foreign country. The writer believes that Indian students and students from other nations will be most influenced by economic development of the home country and the Chinese students from Taiwan will value political development more in regard to this hypothesis. Table 19 presents the data concerning the hypothesis two.

TABLE 19
Nationality and Perception of Problem: Total Sample

| perception of problem | | | | |
|---------------------------------------|-----------------------|----------------|-----------|------------|
| | political development | other problems | economic | total |
| Taiwan students | .77 60 | .22 17 | .01 1 | 1.00 78 |
| students from H.K. | .52 17 | .24 8 | .24 8 | 1.00 33 |
| students from India and other nations | .15 7 | .29 14 | .56 27 | 1.00 48 |
| | 84 | 39 | 36 | 159 |

$\chi^2 = 62.2318$ significant at .001 level

The data from table 19 support the hypothesis and this is consistent with the finding in Braunthal's article that 82 percent of Indians he interviewed responded on economic issues such as food scarcity while only small numbers cited the population explosion, national unity, or defense.³ This also was consistent with Dr. Wei's suggestion that the political situation and the division of China into two mutually hostile political entities have some impact on the decisions of the individuals.⁴ This finding is consistent with the data presented in the Book International Migration of High-Level

Manpower: Its Impact on the Development Process: that intolerable political suppression and fear that it may become worse provide the "push" factors for migration.⁵

Hypothesis Three

The last hypothesis concerns the political attitude of an individual toward the government of his origin. It hypothesizes that these students whose attitudes are favorable to and satisfied with their government will go home; and conversely, those students who are less satisfied with their government will stay in the United States. Table 20 and figure 7 present the data on the total sample of individual decision and political attitudes toward the government of his homeland.

TABLE 20

Decision and Political Attitude: Total Sample

| | Attitude Scale | | | total |
|-------------|----------------|-----------|-----------|------------|
| | less favorable | | satisfied | |
| | 8-13 | 14-19 | 20-24 | |
| stay in US | .16 6 | .65 24 | .19 7 | 1.00 37 |
| undecided | .24 13 | .63 34 | .13 7 | 1.00 54 |
| will return | .22 15 | .58 40 | .20 14 | 1.00 69 |
| | 34 | 98 | 28 | 160 |

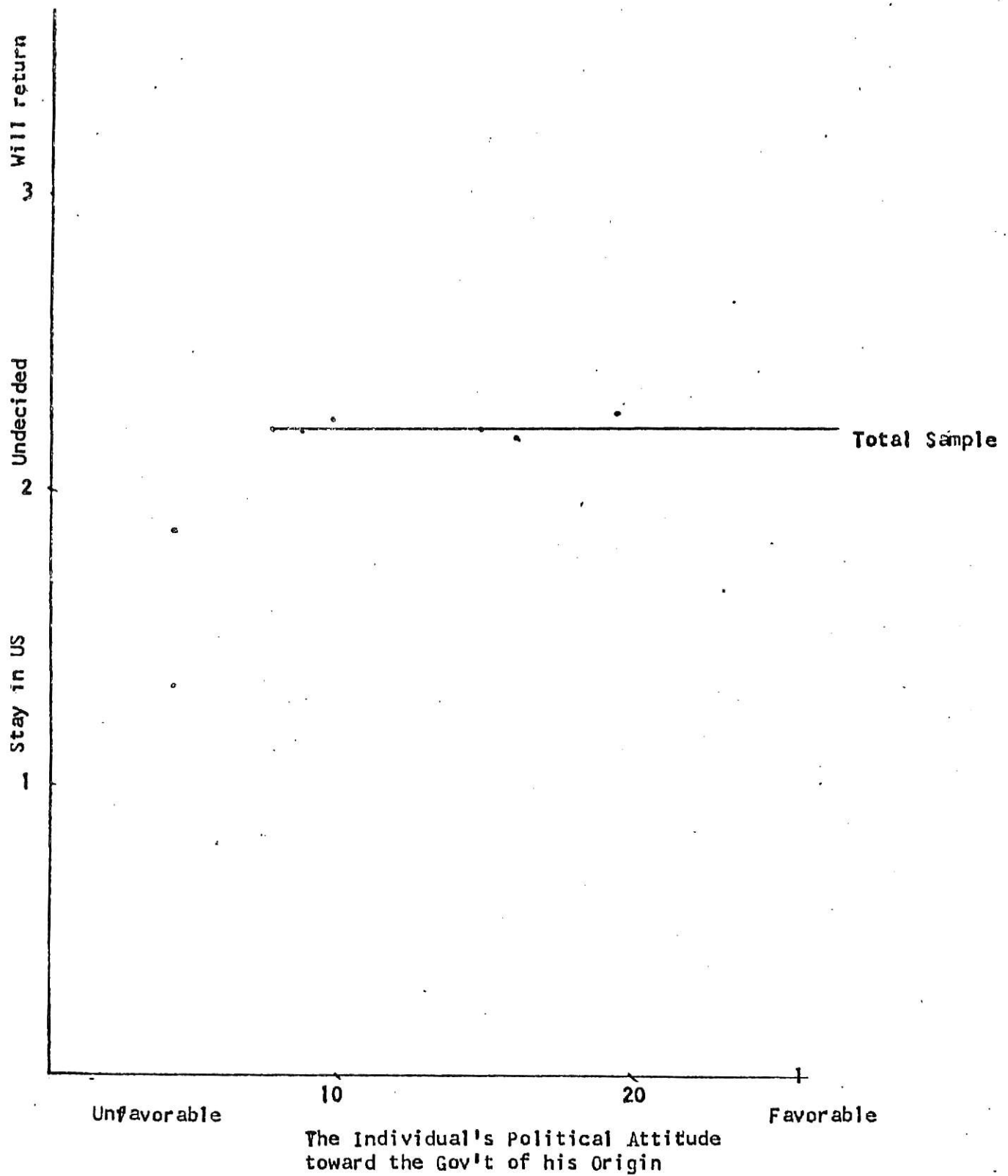


Figure 7. Illustration of the Distribution of Political Attitude and Decisions: Total Sample

$$\chi^2 = 1.8622 \quad \text{not significant at .05 level}$$

$$F = .05 \quad \text{not significant at .05 level}$$

The data from table 20 and figure 7 and the statistical tests lead to only one conclusion, that hypothesis three is not valid. Both the chi-square and F test are not significant. To further test the hypothesis, each category that was sampled on personal background was tested by the chi-square. Table 21 presents the data for the students from Taiwan.

TABLE 21

Decision and Political Attitude: Students from Taiwan

| Attitude Scale | | | | |
|----------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | Total |
| stay in US | .21 5 | .62 15 | .17 4 | 1.00 24 |
| undecided | .33 10 | .57 17 | .10 3 | 1.00 30 |
| will return | .25 6 | .50 12 | .25 6 | 1.00 24 |
| | 21 | 44 | 13 | 78 |

$$\chi^2 = 2.9544 \quad \text{not significant at .05 level}$$

The data from table 21 also reject the third hypothesis. Table 22 and table 23 provide the data for the students from Taiwan born in China and those born in Taiwan.

TABLE 22

Decision and Political Attitude: Students born in China

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .27 4 | .53 8 | .20 3 | 1.00 15 |
| undecided | .08 1 | .84 11 | .08 1 | 1.00 13 |
| will return | .22 2 | .56 5 | .22 2 | 1.00 9 |
| | 7 | 24 | 6 | 37 |

$$\chi^2 = 3.5185$$

not significant at .05 level

TABLE 23

Decision and Political Attitude: Students born in Taiwan

| | Attitude Scale | | | Total |
|-------------|------------------------|----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .11 1 | .78 7 | .11 1 | 1.00 9 |
| undecided | .53 9 | .35 6 | .12 2 | 1.00 17 |
| will return | .25 4 | .50 7 | .25 4 | 1.00 15 |
| | 14 | 20 | 7 | 41 |

$$\chi^2 = 5.9155$$

not significant at .05 level

The data from table 22 and table 23 still reject the hypothesis. The students born in Taiwan are much less favorable to and less satisfied with the nationalist government than the students born in China as indicated by the percentages in category of 8-13 scale. (19% born in China, 34% born in Taiwan) Table 24 and table 25 present the data for the students from Hong Kong, India, and other nations.

TABLE 24

Decision and Political Attitude: Students from Hong Kong

| Attitude Scale | | | |
|----------------|------------------------|-----------|--------------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 |
| Total | | | |
| stay in US | .00 0 | 1.00 4 | .00 0 |
| undecided | .18 2 | .73 8 | .09 1 |
| will return | .33 6 | .56 10 | .11 2 |
| | 8 | 22 | 3 |
| | | | 33 |

$$\chi^2 = 3.2551$$

not significant at .05 level

TABLE 25

Decision and Political Attitude: Students from India and Other nations

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .11 1 | .56 5 | .33 3 | 1.00 9 |
| undecided | .08 1 | .69 9 | .23 3 | 1.00 13 |
| will return | .11 3 | .67 18 | .22 6 | 1.00 27 |
| | 5 | 32 | 12 | 49 |

$\chi^2 = .6334$ not significant at .05 level

The evidence on table 24 and table 25 indicates that hypothesis three is not valid. Table 26 to table 29 present the data for the students based on the different dates they arrived in the United States.

TABLE 26

Decision and Political Attitude: Students Arriving in the US after May 1972

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .17 1 | .83 5 | .00 0 | 1.00 6 |
| undecided | .375 3 | .375 3 | .25 2 | 1.00 8 |
| will return | .33 7 | .43 9 | .24 5 | 1.00 21 |

$\chi^2 = 3.8222$ not significant at .05 level

TABLE 27

Decision and Political Attitude: Students arriving in the
US between May 1970 and April 1972

| Attitude Scale | | | | |
|--|------------------------|-----------|--------------------|------------|
| | Less Satisfied 8-13 | 14-19 | Satisfied 20-24 | Total |
| stay in US | .20 2 | .50 5 | .30 3 | 1.00 10 |
| undecided | .33 8 | .58 14 | .08 2 | 1.00 24 |
| will return | .17 6 | .62 21 | .21 7 | 1.00 34 |
| | 16 | 40 | 12 | 68 |
| $\chi^2 = 3.9278$ not significant at .05 level | | | | |

TABLE 28

Decision and Political Attitude: Students arriving in the
US between May 1967 and April 1970

| Attitude Scale | | | | |
|--|------------------------|-----------|--------------------|------------|
| | Less favorable 8-13 | 14-19 | Satisfied 20-24 | Total |
| stay in US | .21 3 | .71 10 | .07 1 | 1.00 14 |
| undecided | .12 2 | .76 13 | .12 2 | 1.00 17 |
| will return | .08 1 | .75 9 | .17 2 | 1.00 12 |
| | 6 | 32 | 5 | 43 |
| $\chi^2 = 1.4221$ not significant at .05 level | | | | |

TABLE 29

Decision and Political Attitude: Students arriving in
the US before May 1967

| | Attitude Scale | | | Total |
|-------------|------------------------|----------|--------------------|-----------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .00 0 | .57 4 | .43 3 | 1.00 7 |
| undecided | .00 0 | .80 4 | .20 1 | 1.00 5 |
| will return | .50 1 | .50 1 | .00 0 | 1.00 2 |
| | 1 | 9 | 4 | 14 |

$\chi^2 = 7.5111$ significant at .05 level

The data on table 29 support the hypothesis but for the reason that the relationship between the variables is the reverse of the hypothesis.

Table 29 shows that those students whose attitudes are more favorable to their government will stay in the United States. So based on the data from table 28 and table 29 hypothesis three is not valid. Table 30 and table 31 present the data for the male and female students.

TABLE 30

Decision and Political Attitude: Male Students

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .17 4 | .57 13 | .26 6 | 1.00 23 |
| undecided | .30 11 | .59 22 | .11 4 | 1.00 37 |
| will return | .18 9 | .57 29 | .25 13 | 1.00 51 |
| | 24 | 64 | 23 | 111 |

$$\chi^2 = 4.3527$$

not significant at .05 level

TABLE 31

Decision and Political Attitude: Female Students

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .14 2 | .79 11 | .07 1 | 1.00 14 |
| undecided | .12 2 | .71 12 | .17 3 | 1.00 17 |
| will return | .33 6 | .61 11 | .06 1 | 1.00 18 |
| | 10 | 34 | 5 | 49 |

$$\chi^2 = 4.1370$$

not significant at .05 level

The data from table 30 and table 31 reject the hypothesis too. Table 32 to table 36 present the data for the students in regard to the differentiation of their fathers' occupations.

TABLE 32

Decision and Political Attitude: Businessmen

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .20 1 | .60 3 | .20 1 | 1.00 5 |
| undecided | .33 5 | .47 7 | .20 3 | 1.00 15 |
| will return | .26 6 | .52 12 | .22 5 | 1.00 23 |
| | 12 | 22 | 9 | 43 |

$\chi^2 = .4532$ not significant at .05 level

TABLE 33

Decision and Political Attitude: Government official

| | Attitude Scale | | | Total |
|-------------|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .09 1 | .82 9 | .09 1 | 1.00 11 |
| undecided | .27 4 | .67 10 | .06 1 | 1.00 15 |
| will return | .19 3 | .56 9 | .25 4 | 1.00 16 |
| | 8 | 28 | 6 | 42 |

$\chi^2 = 3.7726$ not significant at .05 level

TABLE 34

Decision and Political Attitude: Professionals

| | Attitude Scale | | | Total |
|--|------------------------|-----------|--------------------|------------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | |
| stay in US | .17 2 | .75 9 | .08 1 | 1.00 12 |
| undecided | .27 3 | .55 6 | .18 2 | 1.00 11 |
| will return | .19 3 | .62 10 | .19 3 | 1.00 16 |
| | 8 | 25 | 6 | 39 |
| $\chi^2 = 1.3028$ not significant at .05 level | | | | |

TABLE 35

Decision and Political Attitude: Professor/teacher

| | Attitude Scale | | | Total |
|---|------------------------|-----------|--------------------|-----------|
| | Less Favorable 8-13 | 14-29 | Satisfied 20-24 | |
| stay in US | .20 1 | .20 1 | .60 3 | 1.00 5 |
| undecided | .00 0 | 1.00 6 | .00 0 | 1.00 6 |
| will return | .40 2 | .60 3 | .00 0 | 1.00 5 |
| | 3 | 10 | 3 | 16 |
| $\chi^2 = 11.7333$ significant at .05 level | | | | |

TABLE 36

Decision and Political Attitude: farmer and manual worker

| Attitude Scale | | | | |
|----------------|------------------------|----------|--------------------|-----------|
| | Less Favorable 8-13 | 14-19 | Satisfied 20-24 | Total |
| stay in US | .25 1 | .50 2 | .25 1 | 1.00 4 |
| undecide | .14 1 | .72 5 | .14 1 | 1.00 7 |
| will return | .11 1 | .67 6 | .22 2 | 1.00 9 |

$$X^2 = .7331 \quad \text{not significant at .05 level}$$

The data from table 35 support the hypothesis but for the same reason as table 29 (p.46) that the relationship between the variables is the reverse of the hypothesis. The conclusion can be drawn from the evidence from table 20 to table 36 that hypothesis three is not valid. The data show that the approval of the government of the homeland is not an important variable which affects an individual's decision as to going home.

Hypothesis three is rejected because it failed X^2 test. It failed because the individual thinks of his homeland in terms of its various social aspects not just its government. There is quite a difference among groups of "conformers" and "deviants". The "deviants" divide into two that are "ideologists" and "isolates". The "conformer" identifies himself with those groups living in the current of officially-announced goals of national modern-

in the political, financial and educational fields." The "ideologist" is "looking toward the liberal and progressive aspects of American culture with the hope of introducing them in his own society." And the "isolate" "having largely rejected his own national identification, may have gone abroad not only for an education, but even with the hope of settling there."⁶ In this study, the conformers are those who favor and are satisfied with their government and will go home. Thus the conformer's attitude is consistent with hypothesis three. The isolates are those who are less favorable to and satisfied with their government and will stay in the United States after completing their studies. Thus, the isolate's attitude is consistent with the hypothesis three also. Only the ideologists are those who are less in favor of and satisfied with their government but they will go home. Thus, the ideologist's attitude is contrary to hypothesis three. Another situation is the "career-oriented" person who will stay in the most fruitful place where he has the most helpful equipment, most stimulating associates, and satisfaction with the economic and political conditions. The career-oriented person will stay in the United States no matter whether he is more or less favorable to his government. One frequently hears that scientists and technicians tend to be apolitical and interested only in selling their services to the highest bidder.⁷ Hypothesis Three is rejected by those "career-oriented" people who are more favorable to and satisfied with their government but intend to stay in the United States.

In short, the simple political attitude alone can not determine the individual's decision on whether he will stay or go home. More important is the individual's personality and his attachment to living within the cultural,

ideological, and historical milieu of his original society.

Furthermore, the writer has drawn the pictures presenting the frequencies of the sample of different score of political attitude toward the government of origin. Figure 8 provides the data on the total sample. Figure 9 presents the data on the male and female students. Figure 10 provides the data on the different places where students come from. These three figures are more like the normal distributions than the other figures drawn on other categories of background, so the latter are omitted. Figure 9 and figure 10 present the fact that female students are more favorable to and satisfied with their government than those male students, and that the Indian, Pakistani, and the students from Bangladesh are more favorable to and satisfied with the governments of their homeland.

Thus, from the data provided in this study, it is possible to state that hypothesis one and hypothesis two have been validated and hypothesis three has not been validated. In conclusion, the Operational Model of Brain Drain can be used in general cases except those of ideologists and career-oriented people. Figure 11 presents the changed Model that for the ideologist who feels his life bound up in his country, who is emotionally identified with and feels responsible for his countrymen's behavior will return to his homeland no matter whether his perception of opportunities in the residing country is good or not.

Additional Findings

The purpose of this study has been to investigate highly educated personnel migration as a phenomenon resulting from the decision of the individuals involved in the process of migration. Besides the three

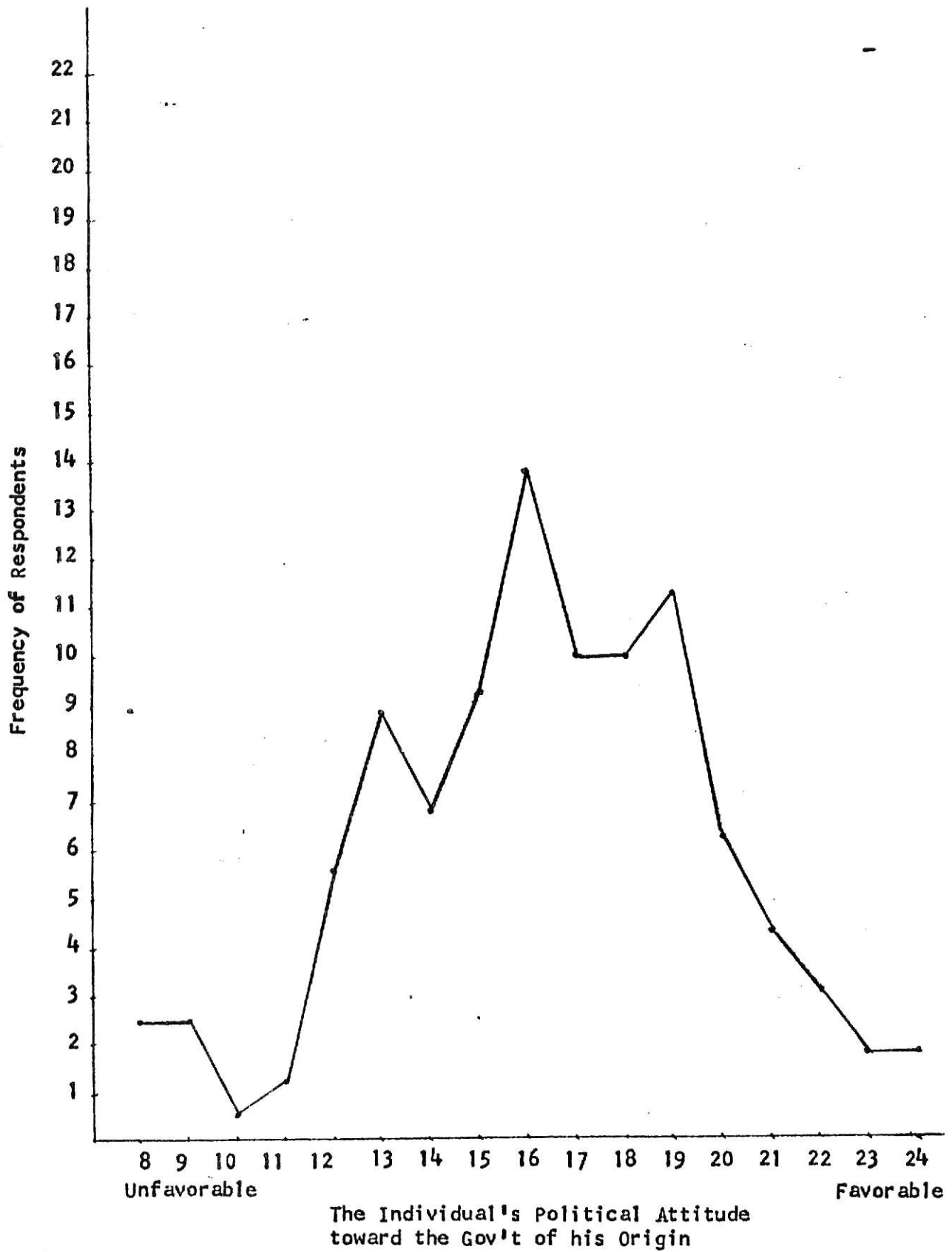


Figure 8. Illustration of the Distribution of the Frequency of the Political Attitude toward the Gov't of Origin: Total Sample

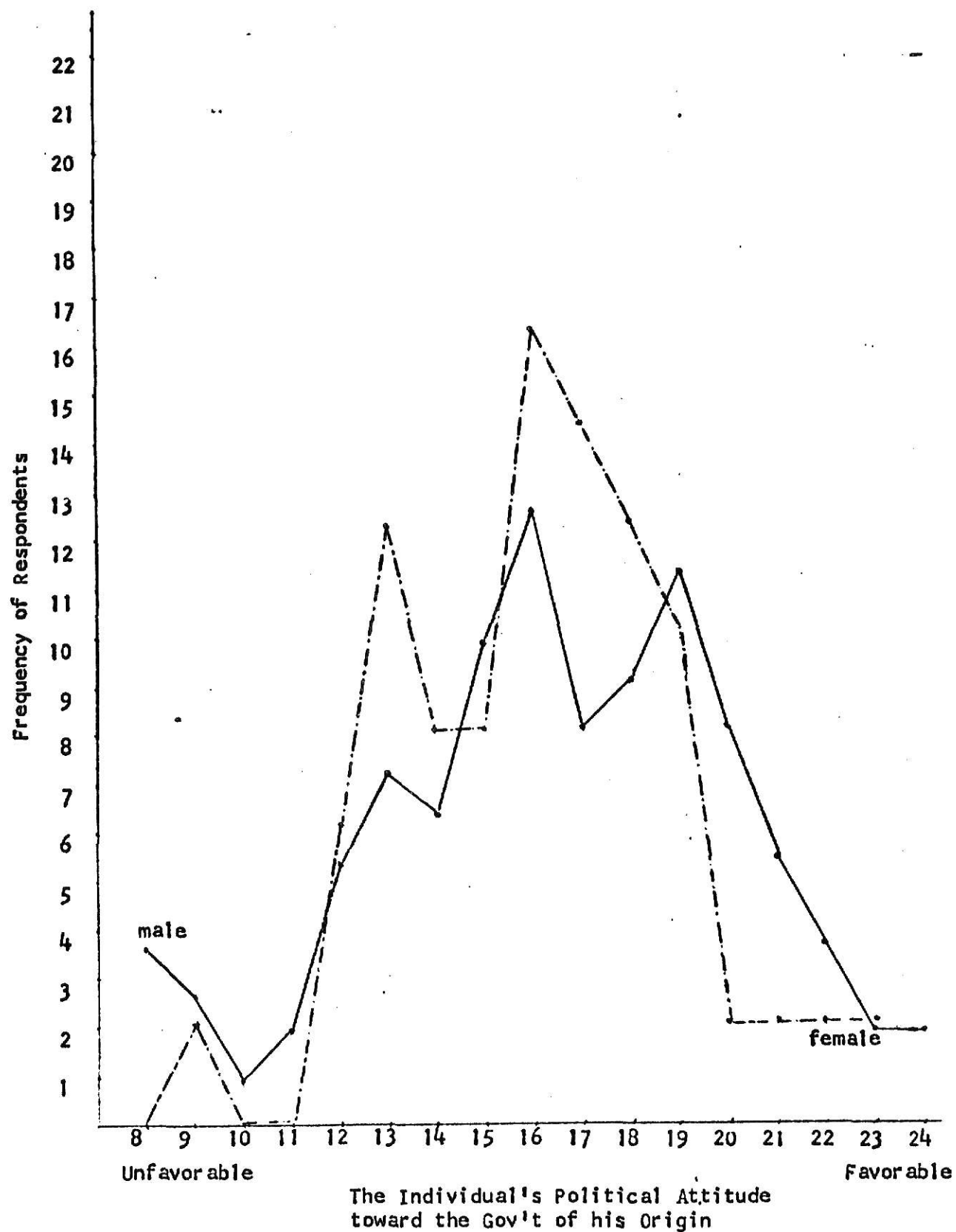


Figure 9. Illustration of the Distribution of Political Attitude toward the Gov't of Origin: the Male and Female Students

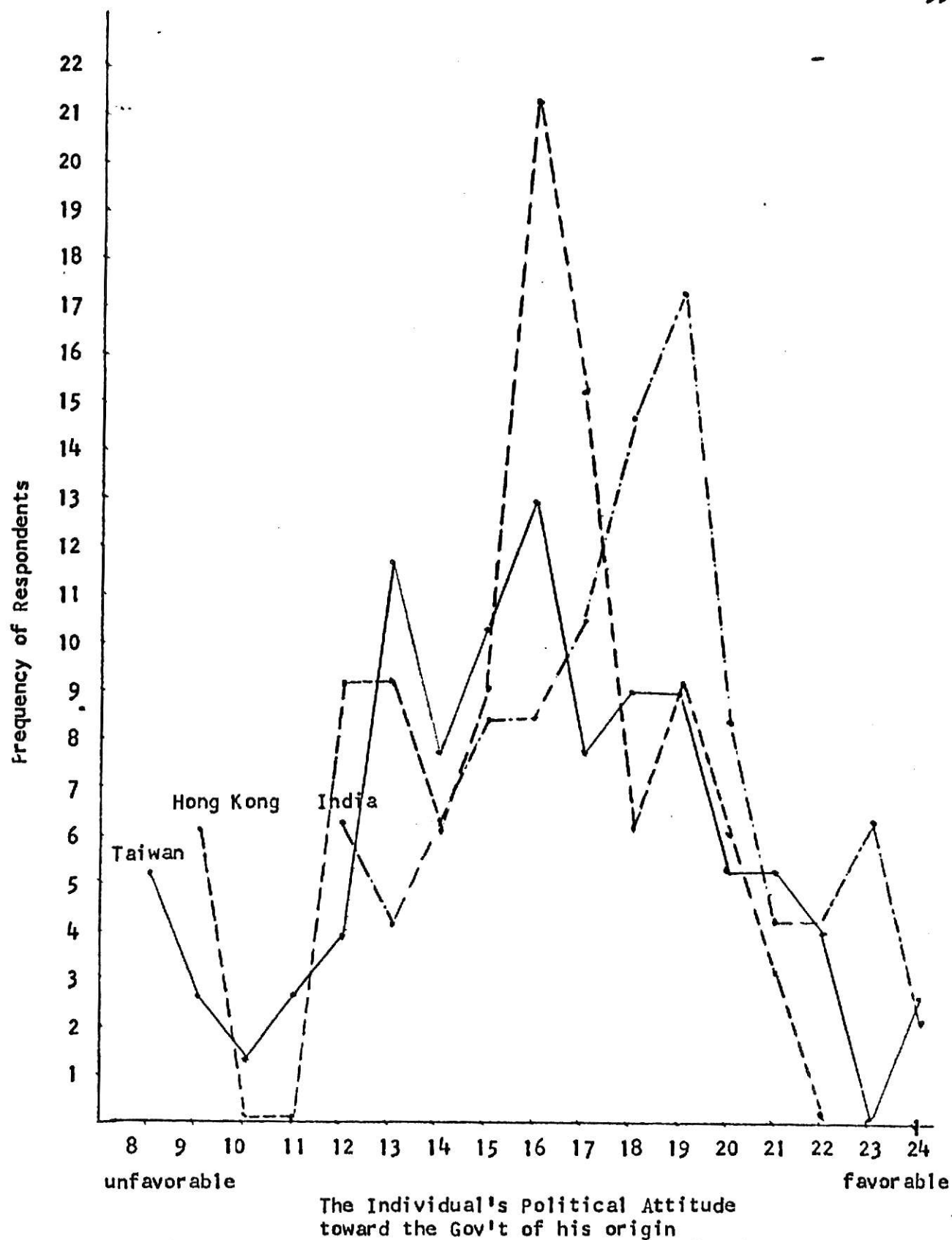


Figure 10. Illustration of the Distribution of Different Score of Political Attitude toward the Government of Origin: the Students who come from Different Places

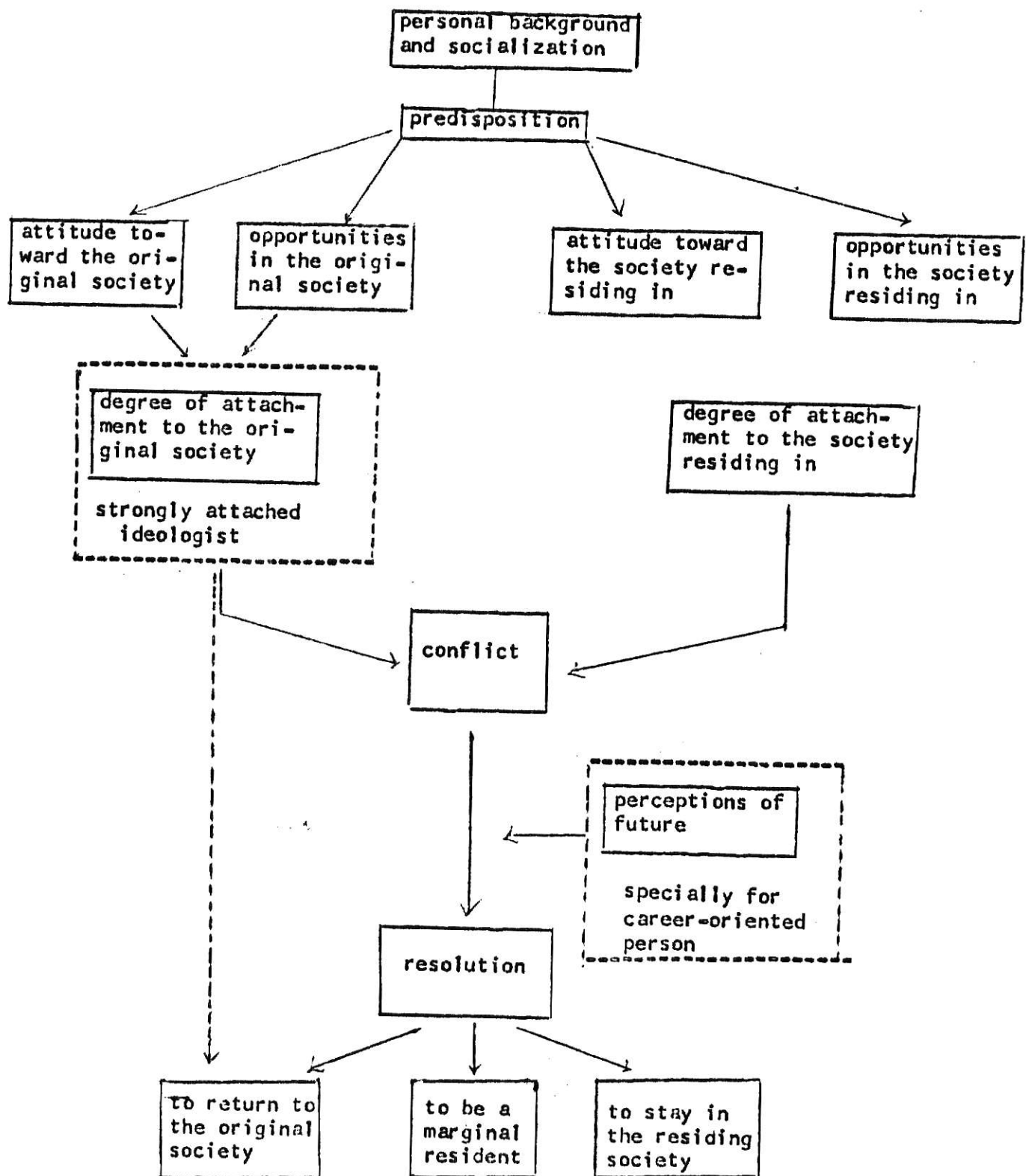


Figure 11. Illustration of the Modified Model of Brain Drain

hypotheses that have been tested in the preceding chapter, there are additional questions concerning the phenomenon called brain drain. First, table 37 shows the relation between the field of study and the decision of individuals.

TABLE 37

The Field of Study and the Decision of Individual
Given by Asian Students Interviewed

| | Field of Study | | | | | | | |
|------------------|------------------|-----------|--------------------|-------------------|--|---------------------------------|------------------------|----------|
| | Agricul- ture | Engineer | Medical Science | Nature Science | Humani- ties & Social Science | Business Adminis- tration | Home Econo- mics | Others |
| stay | .14 3 | .27 11 | .33 2 | .19 8 | .10 2 | .38 8 | .50 3 | .00 0 |
| undecid- ed | .43 9 | .19 8 | .33 2 | .48 20 | .33 7 | .29 6 | .17 1 | .67 2 |
| will re- turn | .43 9 | .54 22 | .33 2 | .33 14 | .57 12 | .33 7 | .33 2 | .33 1 |

Table 37 shows the evidence that the students majoring in Humanities and Social Science more often intend to go home than do other groups. The reasons are: (1) it is very difficult for them to find a job related to their studies in the United States; (2) according to their studies, they

are more attached to their homeland and want to do something for their people. Table 38 presents the relation between the number of relatives and the decision of the individual.

TABLE 38

The number of Relatives and the Decision of
Individuals Given by Asian Students Inter-
viewed

| | <u>The Number of Relatives</u> | | | |
|-------------|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| | All of them stay in the US | Some of them stay in the US | Few of them stay in the US | None of them stay in the US |
| stay in US | .17 1 | .28 16 | .21 14 | .21 6 |
| undecided | .50 3 | .33 19 | .33 23 | .31 9 |
| will return | .33 2 | .39 22 | .46 31 | .48 14 |

The table 38 provides the evidence that the linkage of relatives is a significant variable to influence the decision of individuals. The fewer the relatives staying in the United States, the more the students intend to go home. Next, what are the major reasons for those students to study abroad? The question "Some people say that their parents and friends encouraged them to study in the United States. How about you? What is the reason for you to study in the United States?" was posed to the respondents. The distribution of the answers on the question are as on table 39.

TABLE 39

Reasons for Study in the US as Given
by Asian Students Interviewed

| Reasons | Number of Respondents | Percentage |
|--------------------------------------|--------------------------|------------|
| encouragement of parents and friends | 67 | 41.875 |
| further study | 87 | 54.375 |
| personnal reasons, such as marriage | 4 | 2.50 |
| others | 2 | 1.25 |

The data above show that the reason students study abroad can be attributed to the inadequacy of the developing nation's higher educational systems. Education and particularly foreign education has come to be one of the hallmarks of high social rank in the developing countries. It continues to be a criterion of status and position in the social hierarchy.⁸

The question "What is the main reason for you to return to your country?" was posed to the respondents. The distribution of the answers on this question is shown on table 40.

TABLE 40

The Reasons Given by Asian Students for Returning Home

| Reasons | Numbers of Respondents | Percentage |
|--|------------------------|------------|
| I never thought of staying in the US | 17 | 10.625 |
| I have wife and children at home | 1 | 0.625 |
| I will be offered an ideal job in my country | 10 | 6.25 |
| My parents want me to go home | 4 | 2.50 |

TABLE 40--Continued

| | | |
|--|----|--------|
| I can not find a job in the US | 8 | 5.00 |
| I will feel happier if I go home | 57 | 35.625 |
| I am officially and legally obligated to do so | 6 | 3.75 |
| I can do something for my country | 7 | 4.375 |
| unanswered (mostly will stay in the US) | 50 | 31.25 |

The data from table 40 suggest that the individuals themselves attach high value to living within the cultural, ideological, and historical milieu of their original society; they feel happier to live in their birthplace with their families and friends. These are strong determinants for their decision of going home.

Next, the question "What do you think of the international students remaining in the United States?" was posed to the respondents. The distribution of the answer on the question are on table 41.

TABLE 41

Individual's Judgment of Students
Remaining Permanently in the Host Country

| Reasons | Number of respondents | Percentage |
|--|-----------------------|------------|
| They are free individuals. | 101 | 63.125 |
| They would not have good opportunities in their own country. | 26 | 16.25 |
| They cause their own country to lose manpower. | 30 | 18.75 |
| unanswered | 3 | 1.875 |

The question "Some people say that, if we are treated unfairly by government officials at home there is really very little we can do about it. What do you think?" was posed to the respondents. The distribution of the answers to the question are on table 42.

TABLE 42

Responses of the Asian Students to Question--"what can you do about unfair treatment by government officials in the homeland."

| Response | Total Sample | | Taiwan | | Hong Kong | | India & Other Nations | |
|---|--------------|--------|--------|-------|-----------|-------|-----------------------|-------|
| | No. | % | No. | % | No. | % | No. | % |
| Very little | 35 | 21.875 | 11 | 14.10 | 12 | 36.36 | 12 | 24.49 |
| Other than by voting there is no way we can influence the gov't | 28 | 17.50 | 11 | 14.10 | 7 | 21.21 | 10 | 20.41 |
| We can criticize the gov't when we stay in the US | 26 | 16.25 | 9 | 11.54 | 5 | 15.15 | 1 | 2.04 |
| We can get together and srike to threaten the gov't | 20 | 12.50 | 12 | 15.38 | 4 | 12.12 | 4 | 8.16 |
| The best way is revolution | 28 | 17.50 | 22 | 28.21 | 3 | 9.09 | 3 | 6.12 |
| Unanswered | 18 | 11.25 | 10 | 12.82 | 1 | 3.03 | 7 | 14.28 |

The question "What is the best way of preventing outflow of manpower?" was posed to the respondents. The distribution of answers are on table 43.

Table 43

Policies Used by Governments of Developing Nations to Prevent Brain Drain

| Methods of Preventing the Outflow of Manpower | Total Sample No. | % | Taiwan No. | % | Hong Kong No. | % | India & Other Nations No. | % |
|---|---------------------|--------|---------------|-------|------------------|-------|------------------------------|-------|
| increase wages and salaries(1) | 32 | 20.00 | 13 | 16.67 | 10 | 30.30 | 9 | 18.37 |
| improve research facilities(2) | 41 | 25.625 | 16 | 20.51 | 9 | 27.27 | 16 | 32.65 |
| improve academic freedom(3) | 24 | 15.00 | 15 | 19.23 | 3 | 9.09 | 6 | 12.24 |
| offer better jobs and quicker promotion(4) | 17 | 10.625 | 10 | 12.82 | 3 | 9.09 | 4 | 8.16 |
| improve educational system | 7 | 4.375 | 4 | 5.13 | 2 | 6.06 | 1 | 2.04 |
| increase sense of integrity | 2 | 1.25 | 2 | 2.56 | 0 | 0.00 | 0 | 0.00 |
| improve the government | 17 | 10.625 | 14 | 17.95 | 2 | 6.06 | 1 | 2.04 |
| give youth more opportunity | 4 | 2.50 | 1 | 1.28 | 1 | 3.03 | 2 | 4.08 |
| combine 3 & 4 | 1 | .625 | 0 | .00 | 1 | 3.03 | 0 | .00 |
| combine 1 & 3 | 4 | 2.50 | 1 | 1.28 | 0 | .00 | 3 | 6.12 |
| combine 1 & 2 | 2 | 1.25 | 0 | .00 | 1 | 3.03 | 1 | 2.04 |
| combine 1 & 2 & 3 & 4 | 3 | 1.875 | 0 | .00 | 0 | .00 | 3 | 6.12 |
| unanswered | 6 | 3.75 | 2 | 2.56 | 1 | 3.03 | 3 | 6.12 |

The data from table 42 and table 43 are consistent with hypothesis two that the students from Taiwan have critical opinions on political issues.

In conclusion, the unsettled political and social situations in developing countries generate a feeling of insecurity in their younger generation which leads to loss of attraction for the students returning home.

Footnotes

1 UNESCO, "Students Abroad: A Statistical Analysis," Study Abroad, XVI, 1966-68, p.521.

2 A report of a seminar conducted by the foundation for research on human behavior, at Ann Arbor, Michigan, Sept. 16-17., Training Foreign Nationals in the United States, (Ann Arbor, The University of Michigan Press, 1955), p. 6.

3 G. Braunthal, "An Attitude Survey in India," Public Opinion Quarterly, Spring 1969, p. 73.

4 Yung Wei, Socio-Psychological Variables and International Intellectual Migration: Finding from Interviewing Returnees in the Republic of China, A report prepared for delivery at the Annual Convention of International Studies Association, Panel on "Brain Drain", Pittsburgh, Penn., April 2-4, 1970.

5 The Committee on the International Migration of Talent, The International Migration of High-Level Manpower: Its Impact on the Development Process, p. 13

6 A report of a seminar conducted by the foundation for research on human behavior, at Ann Arbor, Michigan, Sept. 16-17, Ibid., p.9-10.

7 D. Patinkin, "An Nationalist Model" in Adams, The Brain Drain, p. 104.

CHAPTER IV

CONCLUSION

This study dealt specifically with three hypotheses concerning the effect of the student's impressions of living conditions and opportunities, and political attitudes on the individual's decision to stay abroad or go home. Hypothesis one, concerning the effect of the perception of living conditions and opportunities on the individual's decision, was found valid in that those sets of individuals who were found to have a better impression of living conditions and opportunity in the United States were more likely to stay in the United States. Hypothesis two concerned their homeland problems as viewed by students abroad; the Indian students perceived it as primarily economic while the students from Taiwan thought that the political development and the war or conflict within the nation or between nations was the main problem in their homeland. Hypothesis three, concerning the effect of the single political attitude on individual's decision, was found invalid. Therefore the decision of the individual's staying or going home is determined by complex socio-psychological variables, such as the educational systems, economic conditions, and the political climate in both the original and the host country; the individual's attachment to his homeland compared with his attachment to the host country; and the probable future development in these societies and his role in them.

One aspect of the migration of the psychological characteristics of the individual on the decision-making process of the individuals involved in the process. For instance, what is the individual's value system and

belief system which will bear on the decision making? Moreover, it is better to change the answer form of question 25 from three responses to ten responses to determine the degree of the individual's intention to stay or go home. The result of F test by the OMNITAB then might be clearer.

The problem of the brain drain in many developing countries symbolizes the problems of the manpower situation. This is related to all other aspects of a nation: its culture, traditions, and history; its natural resources and capacity for growth; its governmental and administrative structure; its educational systems; and its current economic condition. These government must force social change if their societies want competitive viability. As a modernizing nation they must put forth effort to reach it, and that effort involves a willingness to change and to shift power to new generations.¹ As Myrdal suggests, the means for achieving modernization is in the light of certain value premises--what he called "modernization ideals." The ideals include: "rationality, from which flows development and planning for development; increase in productivity, a rise in the level of living; social and economic equality; improved institutions and attitudes; national consolidation and independence; decentralization in a self-disciplined nation, but without the abrogation of central responsibility; and political democracy."² These countries must encourage a high degree of identification of their skilled manpower with the development of their country. It may be concluded that the brain drain can be regarded as a symptom rather than an important cause of the slow rate of modernization in the developing nations.

Footnotes

1 W. Adams and J. Diriam, "An Agenda for Action," in Adams, The Brain Drain, p. 254.

2 Gunnar Myrdal, Asian Drama, Vol. III; (New York: Pantheon, 1968), p. 1835.

APPENDIX
QUESTIONNAIRE

1. Date of birth _____ (Year)
2. Place of birth _____ (City) _____ (Country)
3. Citizen of _____ (Country)
4. What date you came to the U.S.A. _____ (Month) _____ (Year)
5. Sex _____ (Male or Female)
6. Major field of Study _____
7. Father's occupation _____
8. Mother's occupation _____
9. Besides you, how many relatives and friends of yours stay in the U.S.A.?
 - 1) All of my family and (or) most of my friends stay in the U.S.
 - 2) Some of them,
 - 3) Few of them,
 - 4) None of them,
10. What is the source of financial support for you to study in the U.S.?
 - 1) My family,
 - 2) Scholarship from the government of my country,
 - 3) Scholarship from the government of the U.S.A.,
 - 4) Scholarship from the U.S. university or college,
 - 5) Other _____
11. Generally speaking, would you say that most people in the U.S. can be trusted?
 - 1) Always can be trusted.
 - 2) Usually can be trusted.
 - 3) Seldom can be trusted.
12. Some people say that considering everything, life in the U.S. is better than the life in your homecountry. How do you feel about it?
 - 1) U.S. is a better place to live.
 - 2) My country is better.
 - 3) Both are the same.
13. Do you think an average person from your country gets more satisfaction out of life in the U.S. or do you think they get more satisfaction in your country?
 - 1) More satisfaction in the U.S.
 - 2) More satisfaction in my country,
 - 3) Both are the same.
14. Do you think you get fair treatment in the U.S.?
 - 1) Yes, always I get fair treatment in the U.S.
 - 2) Yes, usually,
 - 3) Seldom
 - 4) No, I don't get.
15. Generally speaking, would you say that most people in your country can be trusted?
 - 1) Always can be trusted.
 - 2) Usually can be trusted.
 - 3) Seldom can be trusted.

16. Do you think you can have more achievement in the U.S. or can you have more achievement in your country?
 - 1) I can have more achievement in the U.S.
 - 2) I can have more achievement in my country.
 - 3) Both are the same.
17. Would you say it is easier for an average man to make a living in the U.S. than your country?
 - 1) It is easier to make a living in the U.S.
 - 2) It is easier to make a living in my country.
 - 3) Both are the same.
18. Some people say that, the social and the political situations in the U.S. are better than other countries for a person to work. How do you feel about it?
 - 1) U.S. social and political situations are better for a person to work.
 - 2) My country
 - 3) Both are the same.
19. Have you usually felt your life would surely work out the way you want it to be in the U.S.?
 - 1) Certainly, life would work out the way I want it to be in the U.S.
 - 2) I think life would work out the way I want it to be in my country.
 - 3) Both are the same.
20. Do you think you get fair treatment in your country?
 - 1) Always I get fair treatment in my country.
 - 2) Usually
 - 3) Seldom
 - 4) Never
21. Do you think you have good luck in the U.S. or in your country?
 - 1) I have good luck in the U.S.
 - 2) I have good luck in my country.
 - 3) Both are the same.
22. Some people say that their parents and friends encouraged them to study in the U.S. How about you, what is the reason for your studying in the U.S.?
 - 1) Yes, my parents and friends encouraged my studying in the U.S.
 - 2) Other reason
23. If you think you have a language problem, which is the most difficult aspect for you?
 - 1) Reading
 - 2) Listening
 - 3) Speaking
 - 4) Writing
24. Do you think you are treated as an American?
 - 1) Yes, treated as an American
 - 2) No, not treated as an American
 - 3) I don't know
25. After you finish your studying in the U.S., do you plan
 - 1) To find a job in the U.S.
 - 2) To return to my country
 - 3) I don't know.

26. If you plan to return to your homecountry, for the reason:
- 1) I never thought of staying in the U.S.
 - 2) I have wife and children at home.
 - 3) I will be offered an ideal job in my country.
 - 4) My parents want me to go home.
 - 5) I can not find a job in the U.S.
 - 6) I will feel happier if I go home.
 - 7) I am officially and legally obligated to do so.
 - 8) I can do something for my country.
27. Which of your country's problems bother you most?
- 1) Economic
 - 2) Social change
 - 3) Land reform
 - 4) The conflict and war between my country and other nations
 - 5) Political development
 - 6) Other
28. What do you think of the international student remaining in the U.S.?
- 1) They are free individuals.
 - 2) They would not have good opportunities in their own country.
 - 3) They cause their own country to lose manpower.
29. Which is the best way of preventing outflow of manpower?
- 1) Increase wages and salaries
 - 2) Improve research facilities
 - 3) Improve academic freedom
 - 4) Offer better jobs and quicker promotion
 - 5) Other
30. If a person wants to make a speech in the city of your homecountry to criticize the government policies. How do you feel about it?
- 1) He would not be allowed and may be put into the prison.
 - 2) It is not necessary for him to criticize the government policies.
 - 3) He has the right to make such speech.
 - 4) Other
31. Some people say that if we are treated unfairly by government officials that there is really very little we can do about it. What do you think of it?
- 1) Yes, there is really very little we can do about it.
 - 2) Other than voting there is no way people like me can influence the actions of government
 - 3) We can criticize the government when we stay in the U.S.
 - 4) We can get together and strike to threaten the government.
 - 5) The best way is revolution.
32. As the government of your country is now organized it is hopelessly incapable of dealing with all the problems facing the country today.
- 1) I agree, a lot
 - 2) I agree, a little
 - 3) I disagree, little
 - 4) I disagree, a lot
33. I usually have confidence that the government will do what is right.
- 1) I agree, a lot
 - 2) I agree, a little
 - 3) I disagree, a little
 - 4) I disagree, a lot

34. I feel that my political leaders hardly care what people like me think or want.
- 1) I agree, a lot
 - 2) I agree, a little
 - 3) I disagree, a little
 - 4) I disagree, a lot
35. Over the years, how much attention do you feel the government pays to what the people think when it decides what to do, a
- 1) Good deal
 - 2) Some
 - 3) Not much
 - 4) Not at all
36. How much do you feel that political parties help to make the government pay attention to what the people think, a
- 1) Good deal
 - 2) Some
 - 3) Not much
 - 4) None
37. How much do you feel that having elections makes the government pay attention to what the people think, a
- 1) Good deal
 - 2) Some
 - 3) Not much
 - 4) None at all

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BRAIN DRAIN FROM DEVELOPING NATIONS TO THE U.S.:
A CASE STUDY AT TWO AMERICAN CAMPUSES

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AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

The migration of highly trained individuals from one nation to another is a complex phenomenon in human behavior. The modern pattern shows that the skilled labor and scientific personnel are moving from the less prosperous countries to the richer nations in the world. Research in recent years had shown that variations in the education, economic, and political systems in various nations have contributed to the "push" and "pull" factors in the direction of migration. The purpose of this study is to investigate highly educated personnel migration as a phenomenon resulting from the result of decisions of the individuals involved in the process of migration.

This study mainly deals, through survey research, with three hypotheses concerning the effect of the impression of living conditions and political attitude on the individual's decision about staying in the United States or going home. The first hypothesis concerning the effect of the impression of the living conditions, was found valid in that those sets of individuals who were found to have a more favorable impression of living conditions in the United States were more likely to stay in the United States. The second hypothesis concerning the importance of national problems in the process of modernization, the Indian students thought that economic problems were salient and the Chinese students thought that political development and war/conflict in the nation or between nations were the main problems facing their homeland. The third hypothesis concerning the effect of the political attitude on individual's decision was found invalid.

The problem of the brain drain in many developing nations symbolizes the problems of education, economic, and political development in those

countries. This study found out that the decisions of individuals whether they will stay in the United States or go home is determined by complex socio-psychological variables such as the education system, economic condition, and the political climate in both the original and residing nations, individual's attachment to his homeland compared with his attachment to the residing country, and the future development in these societies and his role in them.