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DIVERSITY IN PERCEPTION OF ALTERNATIVES AS
RELATED TO SELECTED APTITUDE AND
BACKGROUND FACTORS

by

Jane Agaya Lott

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Household Economics and Management

Approved:

Major Professor

Head of Department

Dean of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

1968

ACKNOWLEDGMENTS

I would like to express my sincere appreciation to my advisor, Miss Edith Nyman. Her inquiring mind, enthusiasm for knowledge, and her joy in sharing that knowledge with her students served as the motivation for the graduate work which led to this thesis. The wisdom, encouragement, and sense of humor which were shared with this graduate student are gratefully acknowledged.

I would also like to thank Dr. Alison Thorne and Dr. Keith Checketts for their time, interest, and many helpful suggestions. The encouragement from my family and from friends far and near helped greatly and was appreciated.

Jane Agaya Lott

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ABSTRACT

Diversity in Perception of Alternatives as
Related to Selected Aptitude and
Background Factors

by

Jane Agaya Lott, Master of Science
Utah State University, 1968

Major Professor: Miss Edith Nyman
Department: Household Economics and Management

The relationship between breadth of perspective, defined as the range of alternative solutions that one is able to bring to mind when presented with a problem, and selected aptitude and background factors was studied. Scholastic aptitude was the chosen aptitude factor. The background factors chosen were: (1) size of home town; (2) number of towns lived in; (3) number of children in the family of origin; (4) the subject's perception of his travel experience; (5) number of books read during the past year; and (6) number of friends of other nationalities.

The sample consisted of 130 female students from five selected classes in the College of Family Life at Utah State University during the 1967-68 school year.

The instruments used were: (1) a background questionnaire; (2) scholastic aptitude, as measured by the students' ACT scores; and (3) Warshay's three unfamiliar problem situations. The statistical test used was the Independent X^2 test of significance.

No significant relationship was found between the number of alternatives perceived and scholastic aptitude, size of home town, number of towns lived in, number of children in the family of origin, or number of books read during the past year. Perception of alternatives was related to the subject's perception of his travel experience at the .05 level and to number of friends of other nationalities at the .10 level.

(53 pages)

INTRODUCTION

Statement of the Problem

The Home Management classes at Utah State University, both the theory and the residence courses, emphasize decision making as the heart of management and stress that a vital part of decision making is consideration of possible alternatives. Malone and Malone (1958, p. 15) state that, "Decision making is the heart of management," and define decision making as ". . . the process by which one choice is selected from among those that are available."

The Home Management House at Utah State University is used as a laboratory for management and has been identified by some individuals as "The House of Many Decisions." This is considered an appropriate title as during the students' five-week residence period most of the decisions involved in the management of the house are initiated and resolved by the resident group.

A great diversity in the perception of alternatives has been noted in the students at the Home Management House. When the group is seeking possible solutions for a particular problem, some students can see many alternatives, some see a limited number and occasionally a student sees no alternatives. The students at the House are juniors or seniors majoring in home economics education. Because of a common major, the students have taken similar, though not identical, classes before moving into the management laboratory. This fact makes it appear necessary to look to factors other than classroom instruction for

possible causes of the diversity in perception of alternatives.

Why some people can see more alternatives than others seems to have been given little consideration by home management authors. Many Home Management text books list the steps in decision making and list consideration of possible alternatives as one of these steps. The authors did not discuss the source of the possible alternatives considered and why some people are able to visualize more alternatives than others.

An awareness of feasible and available alternatives is one important aspect of decision making. A knowledge of factors that limit and increase perception of alternatives could be an asset to professionals involved in teaching decision making.

Warshay (1962, p. 149) recognized a need for research concerning factors influencing perception of alternatives because he considered it an important aspect of man. He called this ability "breadth of perspective" and defined it as ". . . the range of alternative solutions that one is able to bring to mind when presented with a problem." Warshay's research related breadth of perspective to the background of his subjects. Warshay, who used older women as subjects, recommended that his research be repeated using a different type of population and non-verbal, overt responses. These recommendations were included in this study.

The factors considered in this study were breadth of perspective as related to (1) scholastic aptitude, as measured by the ACT test, and (2) selected background factors. The background factors chosen were: (a) size of home town; (b) number of towns lived in; (c) number of children in the family of origin; (d) the subject's perception of his travel experience; (e) number of books read, outside of textbooks,

during the past year; and (f) number of friends of other nationalities.

The following objectives were formulated:

1. To determine the relationship that exists between scholastic aptitude, as measured by the ACT test, and perception of alternatives.
2. To determine the relationship that exists between some selected background factors and perception of alternatives.

The following null hypotheses were formulated:

Hypothesis 1. Perception of alternatives is not related to scholastic aptitude, as measured by the ACT test.

Hypothesis 2. Perception of alternatives is not related to size of home town.

Hypothesis 3. Perception of alternatives is not related to the number of towns in which an individual has lived.

Hypothesis 4. Perception of alternatives is not related to the number of children in the family of origin.

Hypothesis 5. Perception of alternatives is not related to the subject's perception of his travel experience.

Hypothesis 6. Perception of alternatives is not related to the number of books read, outside of textbooks, during the past year.

Hypothesis 7. Perception of alternatives is not related to the number of friends of other nationalities.

Definition of Terms

As a basis for this study, the following definitions were used:

Decision making--choice of an alternative in a problem solving situation.

Alternative--a possible course of action.

Breadth of perspective--the range of alternative solutions that one is able to bring to mind when presented with a problem.

Scholastic aptitude--a measure of a person's scholastic ability.

ACT test--scholastic aptitude test published by the American College Testing Program, Iowa City, Iowa.

Background factors--the sum of one's experience, training, education, etc.

Home town--town lived in for the longest period of time before beginning college.

REVIEW OF THE LITERATURE

Management and Decision Making

Most authors in the field of home management seemed to agree that decision making is the foundation of management. Gross and Crandall (1963) indicated that each step in the managerial process requires many interrelated decisions and conclude that decision making is the heart or crux of management.

Esther Crew Bratton (quoted in Gross and Crandall, 1963), also a prominent author in the field, considers a decision the smallest unit in management and likens it to the atom in physical science.

Decision making is the heart of management according to Malone and Malone (1958) who write in the combined areas of farm and home management.

Herbert Simon (1960, p. 1) from outside the field of home management, seemed to agree with this idea when he stated, "What part does decision making play in managing? I shall find it convenient to take mild liberties with the English language by using 'decision making' as though it were synonymous with managing."

Decision Making and Alternatives

The steps in decision making, as listed by most authors in home management include:

1. Defining the problem to be decided;
2. Seeking alternative solutions;

3. Thinking through alternatives;
4. Selecting an alternative; and
5. Accepting responsibility for the decision (Gross and Crandall, 1963).

In discussing step number two, Gross and Crandall (1963) indicated that when seeking alternatives, ideally one should become aware of all possibilities, but seldom if ever is that possible because of the limits of time and experience. This suggests that were these two increased so also would be the alternatives of which one is aware.

Other authors have noted this same problem in relation to awareness of alternatives. Simon (1961) gave the listing of all the alternative strategies as a step in the decision process. He explained, however, that the word "all" is used advisedly as it is obviously impossible for the decision maker to know all of his alternatives.

Paolucci and O'Brien (1959) noted that when seeking alternatives the decision maker can turn to a variety of sources for assistance--past experience, current observation and analysis, friends and neighbors, mass media, and formal education; some sources affecting the individual more than others. They concluded that a decision maker actually can consider only a limited number of alternatives, but did not delve into why some decision makers are able to consider more alternatives than others.

Alternatives and Breadth of Perspective

Reasons for a diversity among individuals in their ability to perceive the existing potential field of alternatives have been discussed by some authors. Terry (1964) discussed limitations of the

decision maker's knowledge as a factor in alternatives being ignored. He reasoned that many alternatives are ignored simply because the decision maker's knowledge does not permit him to be aware of them.

Simon (1957), in discussing perception of alternatives, stressed the idea that the state of information could be regarded as a characteristic of the decision maker. In later writing (1961) he commented that at any moment the decision maker is confronted with a large number of alternatives, some of which are present in consciousness and some of which are not.

Simon (1961) also discussed imagination as a factor in perception of alternatives. He pointed out that imagination fails in conceiving all the possible patterns of behavior that the individual might undertake. He explained that the number of possible alternatives is inconceivable and that of all these possibilities only a very few come to the mind of the decision maker.

Breadth of Perspective and Scholastic Aptitude

The intelligence tests currently in use, such as the ACT test, call for one "correct" answer. That such tests are an adequate measure of intelligence has been questioned by some authors.

Getzels and Jackson (1961) stated that within the universe of intellectual functioning, psychologists have behaved as if the intelligence test represented an adequate sampling of all functions. The gifted child, for example, has become synonymous with the child with a high I.Q. They further said that we have so emphasized the measuring of different amounts of intellectual ability that we have neglected the

understanding of different kinds of intellectual ability.

After working in a psychological clinic and testing a great many children, Guilford (1962) concluded that I.Q. is not an adequate item of information regarding a child, that I.Q. tests do not give adequate attention to such qualities as ingenuity, inventiveness, and originality of thinking.

Perry (1938, p. 8) said that a condition of enlightened choice or decision making is imagination. "While learning in the usual intellectual sense provides the mind with alternatives that are held for true, imagination enables the mind to entertain new possibilities of truth."

Guilford (1959) in "The Three Faces of Intellect" suggested that there are different components in human intelligence. I.Q. tests generally ask for the correct answer and do not allow any credit to be given to the imagination of the person conceiving new possibilities.

Breadth of perspective could be considered a component of intelligence that is not measured by the standard I.Q. test. In Guilford's (1959) classifications, breadth of perspective would seem to fit into the classification called divergent thinking which is defined as thinking in different directions, sometimes searching, sometimes seeking variety.

Warshay (1962, p. 171) stated that ". . . breadth of perspective offers perhaps a different dimension, or even conception of intelligence--the 'intelligent' person being the one who can think of broad possibilities rather than selecting the one 'correct' choice out of several."

Breadth of Perspective and Background

The only study found dealing directly with perception of alternatives as related to background factors was done by Warshay. His sample consisted of 103 Minneapolis political precinct chairwomen. His testing instruments were: (1) The Twenty Statements Test (the "Who Am I?"); and (2) the breadth of perspective test, which were followed by direct questioning on background and past experience. Breadth of perspective was measured by presenting each subject with six hypothetical problem situations, encouraging her to volunteer verbally in a "permissive" setting, as many solutions as she could think of to each problem situation. Three of the problems dealt with daily mundane problems taken from precinct politics and three were unfamiliar and as far removed as possible from their daily experience.

The fourteen propositions tested were:

Perspective is likely to be broader

1. the broader one's culture contact;
2. if there has been sudden disruption of habit or change of role;
3. the more contact there has been with opposing ideas;
4. the broader one's self-concept(s);
5. the less ascribed one's self-concept(s);
6. the more situation-free one's modal self-concept;
7. the higher one's income;
8. the higher one's social class;
9. the more years of formal education one has had;
10. the more urban one's background;
11. the more organizations in which one has held high office;

Perspective is likely to be narrower

12. with increasing age;
13. with the tendency to read the popular mass media;
14. with the tendency to read material of one's membership groups.

Of the fourteen propositions tested, the second was the only one that failed to receive any support. Propositions one and ten are most closely related to the present study. In relation to proposition one, Warshay found that broader culture contact broadens perspective. This was measured by, and received support from, a number of different measures, including number of culture areas lived in, wide travel, broad reading of books and of the mass media, and membership in informal groups and circles. Proposition ten, that perspective would be broader the more urban one's background was supported in unfamiliar situations where an exclusively urban background was positively related to breadth of perspective (Warshay, 1962).

Brim (1962) stressed the importance of early life experiences as a source of individual differences in decision making. He listed variations in child training, differing methods of formal education, the presence or absence of certain kinds of people in his environment as influencing the way in which each person defines his problems and attempts to make his decisions.

Perry (1938) suggested that freedom is proportional to the range of alternatives of which one is aware; that alternatives are eliminated not by rejection, but because man is ignorant of what there is to choose. He gave learning as the first condition of freedom because it can enlarge the span of man's consciousness of the available alternatives.

Morison emphasized the importance of background experiences in regard to decision making and increasing perception of alternatives when he stated:

Stereotyped behavior is the result not of training but of deprivation. It is hard to see how enriching the environment and increasing the contacts of young children can do other than increase their capacity for intelligent choices later in life and thus free them from both external and internal constraints that normally limit personal freedom. (Morison, 1967, p. 433)

METHODS AND PROCEDURE

Sample

The sample was composed of selected classes from the College of Family Life during winter quarter of the 1967-68 school year. Two Family and Child Development 67 classes and one each of Household Economics and Management 149, 155, and 175 were used for the testing. These classes were chosen because they offered a wide variety of student majors and it was anticipated that they would provide a wide variety of backgrounds. The FCD 67 and the HEM 149 classes fulfill a University requirement in humanities. The five classes contained freshmen through seniors and male and female students, with FCD 67 mainly freshmen and sophomores and HEM 149, 155 and 175 mainly juniors and seniors.

Pretest

A pretest composed of 16 background factors was given to 24 upper division students during spring quarter of the 1966-67 school year (see Appendix). A range which would be considered as high, medium, and low for each factor had previously been determined. Three points were given for each factor scored as high, two for medium, and one for low. The points were totaled, giving each subject a total background score. This scoring method was used to determine the feasibility of giving each subject one total background score based on the chosen 16 factors. With 48 points possible, the scores ranged from 29 to 43, with a mean of 32.6, a median of 32, and a mode of 31. However, six specific

background factors were selected for the study because of the problem of justifying the specific factors to be included in a composite background score. From the pretest, observation of students at the Home Management House, and available literature on the subject, six specific background factors were selected for the final testing.

Factors Included in This Study

Background factors

(a) Size of home town--Warshay's (1962) subjects with an exclusively urban background had a greater breadth of perspective in unfamiliar situations than those with other types of backgrounds. An urban area is usually thought to offer opportunity for more varied experiences than a rural area and the population is generally considered to be more heterogenous.

(b) Number of towns lived in--Warshay (1962) found that the broader one's culture contact, the more contact there had been with opposing ideas, the greater the breadth of perspective. One of the factors used by Warshay to measure breadth of culture contact was the number of culture areas in which the subject had lived. In the present study the number of towns lived in before beginning college was the factor considered.

(c) Number of children in the family of origin--It was supposed that a large number of children in a family would limit the physical resources available to each child and thereby force the child to expand his perception of available alternatives.

(d) Subject's perception of his travel experience--Warshay (1962) found that broad travel increased breadth of perspective. The focus

in this research was shifted from actual number of places visited to that of how the person perceived his travel experience. Being well traveled is a relative thing. Perceiving oneself to be well traveled might arise from a feeling of having had contact with many varied cultures and ideas, with having seen much that was different from his normal, everyday world. Considering oneself not being well traveled could mean the subject had traveled little or had not seen much that was different from his everyday world.

(e) Number of books read--Another factor used by Warshay (1962) to measure breadth of culture contact was the number of books read. In this study, as students were used as subjects, textbooks were not included.

(f) Number of friends of other nationalities--There are many foreign students at Utah State University, representing a variety of the world's cultures. Contact on a friendly basis with a foreign student could be considered another measure of breadth of culture contact.

Scholastic aptitude

Tests are often used to classify people as to level of intelligence, however, Warshay suggested that breadth of perspective offers a different dimension of intelligence than the one measured by the standard intelligence tests currently in use. He reasoned that the "intelligent" person might be the one who can think of many possibilities rather than selecting the one "correct" choice out of the many. It was observed at the Home Management House that students with high grade points or who stood out in a formal classroom situation were seldom those who offered the largest number of alternatives to a problem.

Scholastic aptitude was used in place of intelligence because intelligence test scores for the subjects were not available. ACT scores were available to the researcher and were suggested by a member of the Counseling and Testing Service Department of the University. ACT scores are used by Utah State University as a measure of scholastic aptitude. Since 1960 all entering freshmen, all transfer students with less than 45 hours of credit or who have not completed freshman English, and English speaking foreign students are required by the University to complete the ACT test before admission is granted.

Study Instruments

The instruments used in this study were: (1) a background questionnaire; (2) scholastic aptitude, as measured by the students' ACT scores; and (3) Warshay's three unfamiliar problem situations.

Testing

Between the dates of February 9 and February 13 the written tests were administered to the five selected classes. The verbal instructions given indicated that (1) the project was part of a research project for a master's thesis, (2) the subjects' names would remain anonymous and (3) feasibility of their solutions was not a factor. The background questionnaire was completed first, followed by Warshay's three unfamiliar problem situations. Each problem situation was placed at the top of a separate sheet of paper to allow room for listing alternative solutions. The time allowed for the test was 40 minutes.

The ACT scores were obtained from the Counseling and Testing Service Department after the scoring was completed to eliminate bias in scoring the alternatives.

Analysis of the Data

1. Breadth of perspective score--this score was based on the number of alternatives the subject was able to list for the three problem situations. Quantity only was considered, not quality or feasibility. If an alternative was listed more than once by rewording it was not counted.
2. Background score--each background factor was scored as high, medium, or low.
3. Scholastic aptitude score--the composite standard score, a number score based on a possible 36 points was used.
4. The factors under investigation were analyzed statistically by the Independent χ^2 test of significance.

RESULTS AND DISCUSSION

The present investigation was concerned with breadth of perspective, defined as the range of alternative solutions one is able to bring to mind when presented with a problem, related to (1) scholastic aptitude and (2) selected background factors. The background factors chosen were: (a) size of home town; (b) number of towns lived in; (c) number of children in the family of origin; (d) the subject's perception of his travel experience; (e) number of books read, outside of textbooks, during the past year; and (f) number of friends of other nationalities.

Sample

The test was administered to 151 subjects, 130 female and 21 male. These were distributed among year in college as shown in Table 1. The scores of the male subjects were not considered in the analysis of the results because of the small sample. The sample used for analysis consisted of 130 female students.

Table 1. Distribution of sample according to year in college

	Male	Female	Combined
Freshmen	1	45	46
Sophomores	9	26	35
Juniors	3	32	35
Seniors	<u>8</u>	<u>27</u>	<u>35</u>
Total	21	130	151

Breadth of Perspective Scores

The breadth of perspective scores of the female subjects ranged from 4 to 44, with a mean of 10.9, a median of 9.5 and a mode of 8. These scores were categorized as high, medium and low for purposes of statistical analysis. One to 6 was consider low, 7 to 16 as medium and 17 to 44 as high. There were 15 students with low scores, 100 with medium scores and 15 with high scores. The results are summarized in Figure 1.

ACT Scores

ACT scores were available for 80 of the 130 female subjects. The ACT scores ranged from 12 to 31 with a mean of 19.6, a median of 19 and modes of 18 and 19. The scores are presented in Figure 2.

The ACT scores were categorized as high, medium and low for purposes of statistical analysis. One to 15 was considered as low, 16 to 25 as medium and 26 to 36 as high. These groupings were taken from a report to Utah State University by ACT Research Service, Standard Plan, summer 1966.

Hypothesis 1: Relationship Between Perception of Alternatives and Scholastic Aptitude as Measured by the ACT Test

The first hypothesis to be tested stated that perception of alternatives is not related to scholastic aptitude as measured by the ACT test. The results are presented in Tables 2 and 3.

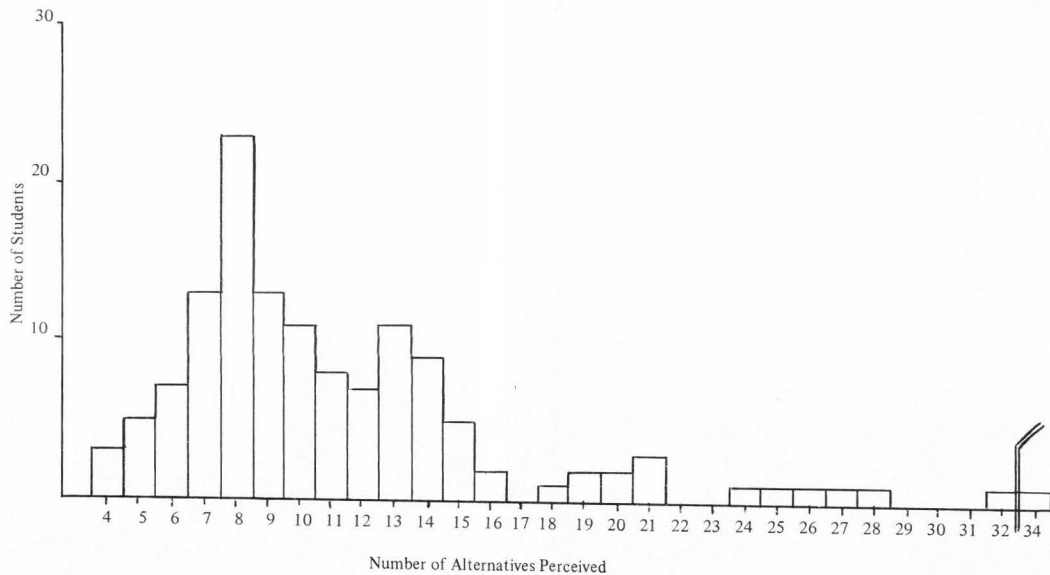


Figure 1. Distribution of the number of alternatives perceived among the subjects.

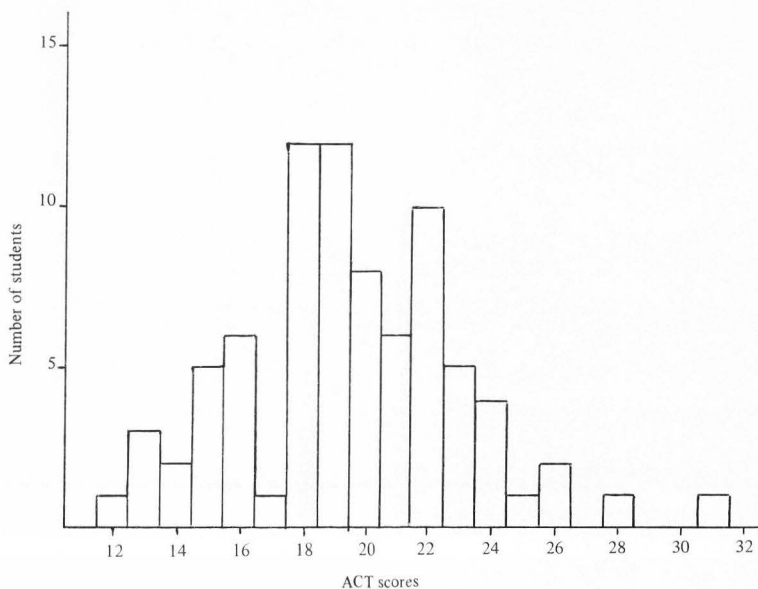


Figure 2. Distribution of students' ACT scores.

Table 2. Distribution of ACT scores into high, medium and low groups

	High (26-36)	Medium (16-25)	Low (1-15)
Number	4	65	11
Percentage	5	81	14

The Independent χ^2 test was to be used to analyze the data. However, because the expected values were less than one in two of the squares (1) high alternatives, high ACT scores and (2) high alternatives, low ACT scores, it was not possible to test this hypothesis.

Table 3. Relationship between perception of alternatives and ACT scores

Perception of alternatives	ACT scores			Total
	High	Medium	Low	
High	0	6	2	8
Medium	4	51	7	62
Low	<u>0</u>	<u>8</u>	<u>2</u>	<u>10</u>
Total	4	65	11	80

Degrees of freedom = 4

Although no test was performed, it can be seen by examination that ACT scores are not related to perception of alternatives as the greatest number of scores fell under medium on all levels of ACT scores. The hypothesis that breadth of perspective and scholastic aptitude are not related would probably have been accepted had statistical analysis been carried out.

If the ACT test can be considered as a type of intelligence test, the results would seem to support Warshay's suggestion that breadth of perspective offers a different dimension of intelligence than the one measured by the standard intelligence tests currently in use.

Hypothesis 2: Relationship Between Perception
of Alternatives and Size of Home Town

The second hypothesis to be tested stated that perception of alternatives is not related to size of home town. Home town was defined as the town lived in for the longest period of time before beginning college. The results are presented in Tables 4 and 5.

Table 4. Distribution of sample according to size of home town

	High (1-10,000)	Medium (10,000-50,000)	Low (above 50,000)
Number	26	33	71
Percentage	20	25.4	54.6

Table 5. Relationship between perception of alternatives and size of home town

Perception of alternatives	Size of home town			Total
	High	Medium	Low	
High	6	1	8	15
Medium	17	28	55	100
Low	<u>3</u>	<u>4</u>	<u>8</u>	<u>15</u>
Total	26	33	71	130
Degrees of freedom = 4		Chi square = 5.803		

There was no significant relationship between perception of alternatives and size of home town. A X^2 value of 5.803 was not significant at the .05 level.

Warshay found increased perception of alternatives in unfamiliar situations when his subjects had an exclusively urban background. This was not supported in the present research where size of home town was the factor considered. The size of home town considered as high in this investigation was 50,000 and above. Utah, where the majority of USU students are from, has two cities which would fall into this category. These cities, Ogden and Salt Lake City are, however, small when compared to other United States cities.

Hypothesis 3: Relationship Between Perception
of Alternatives and Number of Towns in
Which an Individual Has Lived

The third hypothesis to be tested stated that perception of alternatives is not related to the number of towns in which an individual has lived. The results are presented in Tables 6 and 7.

Table 6. Distribution of sample according to number of towns in which an individual has lived

	High (5 and above)	Medium (2-4)	Low (1)
Number	18	48	64
Percentage	13.9	36.9	49.2

Table 7. Relationship between perception of alternatives and the number of towns in which an individual has lived

Perception of alternatives	Number of towns in which an individual has lived			
	High	Medium	Low	Total
High	2	5	8	15
Medium	14	38	48	100
Low	<u>2</u>	<u>5</u>	<u>8</u>	<u>15</u>
Total	18	48	64	130
Degrees of freedom = 4		Chi square = .4345		

The relationship between perception of alternatives and number of towns in which an individual had lived was not significant at the .05 level. A X^2 value of .4345 was obtained from the Independent X^2 test.

Warshay found that the broader one's culture contact the greater the breadth of perspective. One factor used by Warshay to measure breadth of culture contact was the number of culture areas in which the subject had lived. In the present study the factor considered was the number of places lived. No consideration was given to the type of culture that existed in the different towns in which the subject had lived. This might, perhaps, account for the difference in results.

Hypothesis 4: Relationship Between Perception
of Alternatives and Number of Children
in the Family of Origin

The fourth hypothesis to be tested stated that perception of alternatives is not related to the number of children in the family of origin. The results are presented in Tables 8 and 9.

Table 8. Distribution of sample according to number of children in the family of origin

	High (6 and above)	Medium (2-5)	Low (1)
Number	36	89	5
Percentage	27.8	68.3	3.9

Table 9. Relationship between perception of alternatives and the number of children in the family of origin

Perception of alternatives	Number of children in the family of origin			
	High	Medium	Low	Total
High	4	10	1	15
Medium	26	71	3	100
Low	<u>6</u>	<u>8</u>	<u>1</u>	<u>15</u>
Total	36	89	5	130
Degrees of freedom = 4		Chi square = 3.2545		

The relationship between perception of alternatives and number of children in the family of origin was not significant at the .05 level. A X^2 value of 3.2545 was obtained from the Independent X^2 test.

Hypothesis 5: Relationship Between Perception
of Alternatives and Subject's Perception
of His Travel Experience

The fifth hypothesis to be tested stated that perception of alternatives is not related to the subject's perception of his travel experience. The results are presented in Tables 10 and 11.

The relationship between perception of alternatives and the subject's perception of his travel experience was significant at the .05 level with a calculated X^2 value of 9.7126 which was greater than the tabular X^2 value of 9.49. The hypothesis was rejected.

Warshay found that broad travel increased breadth of perspective. The results of this study indicate that a person's perception of his travel experience is also related to perception of alternatives.

Table 10. Distribution of sample according to subject's perception of his travel experience

	High (extensively)	Medium (average amount)	Low (very little)
Number	28	69	33
Percentage	21.6	53	25.4

Table 11. Relationship between perception of alternatives and the subject's perception of his travel experience

Perception of alternatives	Subject's perception of his travel experience			
	High	Medium	Low	Total
High	4	10	1	15
Medium	23	53	24	100
Low	<u>1</u>	<u>6</u>	<u>8</u>	<u>15</u>
Total	28	69	33	130
Degrees of freedom = 4	Chi square = 9.7126			

Hypothesis 6: Relationship Between Perception
of Alternatives and Number of Books
Read During the Past Year

The hypothesis tested stated that perception of alternatives is not related to the number of books read, outside of textbooks, during the past year. The results are presented in Tables 12 and 13.

The relationship between perception of alternatives and number of books read during the past year was not significant at the .05 level. A X^2 value of 2.7915 was obtained from the Independent X^2 test.

Table 12. Distribution of sample according to number of books read during the past year

	High (7 and above)	Medium (3-6)	Low (0-2)
Number	53	58	19
Percentage	40.8	44.6	14.6

Table 13. Relationship between perception of alternatives and the number of books read during the past year

Perception of alternatives	Number of books read during the past year			
	High	Medium	Low	Total
High	6	8	1	15
Medium	39	46	15	100
Low	<u>8</u>	<u>4</u>	<u>3</u>	<u>15</u>
Total	53	58	19	130

Degrees of freedom = 4 Chi square = 2.7915

Warshay found that the broader one's culture contact, the more contact there had been with opposing idea, the greater the breadth of perspective. One of the factors used by Warshay to measure breadth of culture contact was the number of books read. The results of this study fail to agree with those of Warshay's study.

Hypothesis 7: The Relationship Between Perception
of Alternatives and the Number of Friends
of Other Nationalities

The seventh hypothesis tested stated that perception of alternatives is not related to the number of friends of other nationalities. The results are presented in Tables 14 and 15.

Table 14. Distribution of sample according to number of friends of other nationalities

	High (4 and above)	Medium (1-3)	Low (0)
Number	51	68	11
Percentage	39.2	52.3	8.5

Table 15. Relationship between perception of alternatives and the number of friends of other nationalities

Perception of alternatives	Number of friends of other nationalities			
	High	Medium	Low	Total
High	9	4	2	15
Medium	37	57	6	100
Low	<u>5</u>	<u>7</u>	<u>3</u>	<u>15</u>
Total	51	68	11	130
Degrees of freedom = 4		Chi square = 8.345		

The relationship between perception of alternatives and the number of friends of other nationalities was not significant at the .05 level with a calculated X^2 value of 8.345 which was smaller than the tabular value of 9.49. The hypothesis was accepted. The results were significant at the .10 level with a tabular value of 7.78.

Warshay did not use number of friends of other nationalities as a measure of breadth of culture contact. However, it was included in this study as a measure of this factor. The results confirmed to a small degree that this could be another measure of breadth of culture contact.

SUMMARY AND CONCLUSIONS

Breadth of perspective and its relationship to scholastic aptitude, as measured by the ACT test, and selected background factors was investigated. Breadth of perspective was defined as the range of alternative solutions one is able to bring to mind when presented with a problem. The chosen background factors were: (a) size of home town; (b) number of towns in which the subject had lived; (c) number of children in the family of origin; (d) subject's perception of his travel experience; (e) number of books read during the past year; and (f) number of friends of other nationalities.

The instruments used in this study were: (1) a background questionnaire; (2) Warshay's three unfamiliar problem situations; and (3) ACT scores, as a measure of the subjects' scholastic aptitude.

The background questionnaire and Warshay's unfamiliar problem situations were administered to five selected classes from the College of Family Life at Utah State University during winter quarter of the 1967-68 school year. The sample was composed of 151 students, 130 female and 21 male. Because of the small male sample, their scores were not considered in the analysis of the data.

Seven null hypotheses were formulated for testing:

1. Perception of alternatives is not related to scholastic aptitude, as measured by the ACT test.
2. Perception of alternatives is not related to size of home town.
3. Perception of alternatives is not related to the number of towns in which an individual has lived.

4. Perception of alternatives is not related to the number of children in the family of origin.

5. Perception of alternatives is not related to the subject's perception of his travel experience.

6. Perception of alternatives is not related to the number of books read, outside of textbooks, during the past year.

7. Perception of alternatives is not related to the number of friends of other nationalities.

A range which would be considered as high, medium and low for each background factor had previously been determined. One point was given for each alternative listed for Warshay's unfamiliar problem situations. In scoring the alternatives quantity only was considered, not quality or feasibility.

The ACT scores were obtained from the Counseling and Testing Department of the University. Scores were available for 80 of the 130 female subjects.

The ACT scores and the breadth of perspective scores were also grouped as high, medium and low for purposes of statistical analysis. The statistical test used was the Independent X^2 test of significance.

Of the seven null hypotheses all except numbers five and seven were accepted. The background factors size of home town, number of towns lived in, number of children in the family of origin, and number of books read during the past year were not significantly related to breadth of perspective. Hypothesis number five, breadth of perspective related to the subject's perception of his travel experience was rejected at the .05 level. Hypothesis number seven, breadth of perspective related to number of friends of other nationalities, was rejected

at the .10 level.

Several conclusions can be drawn from this investigation:

1. A large diversity in the number of alternatives perceived existed among the student sample.

2. Perception of alternatives was not significantly related to scholastic aptitude, as measured by the ACT test.

3. Perception of alternatives was not significantly related at the .05 level to five of the six chosen background factors: (a) size of home town, (b) number of towns in which the subject had lived, (c) number of children in the family of origin, (d) number of books read during the past year, and (e) number of friends of other nationalities.

4. Perception of alternatives was related to the subject's perception of his travel experience at the .05 level.

5. Perception of alternatives was related to number of friends of other nationalities at the .10 level.

6. Purely by chance it could be expected that in using the breadth of perspective scores combined with seven other scores, significance would be obtained on at least one factor.

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APPENDIX

PRETEST

Instructions: Please put an X on the line of the choice which describes you. If you are not certain, please check the one you feel is closest.

Parents:

1. Education of father
 up to and including high school graduation
 college degree, (B.S.)
 one year or more beyond B.S. Degree
2. Education of mother
 up to and including high school graduation
 college degree (B.S.)
 one year or more beyond B.S. Degree
3. Parents' income
 up to \$5,000 annually
 \$5,000 to \$10,000 annually
 above \$10,000 annually

Self:

1. Size of home town (town lived in for the longest period of time before beginning college.)
 up to 10,000
 10,000 to 50,000
 above 50,000
2. Number of towns lived in
 one
 two to four
 five and above
3. Number of children in family (including yourself)
 one
 two to five
 six and above
4. Size of high school attended
 up to 500
 500 to 2,000
 above 2,000
5. Number of offices held in organizations, clubs, classes, etc. during junior and senior high school.
 none to two
 three to five
 six and above

6. Number of states visited
____ none to two
____ three to five
____ six and above
7. Number of books (outside of textbooks) read during the past year.
____ none to two
____ three to six
____ seven and above
8. Health
____ poor
____ fairly good
____ excellent
9. Church participation
____ never attend
____ occasionally attend
____ nearly regularly or regularly
10. Number of friends of other nationalities
____ none
____ one to three
____ four and above
11. Number of offices held in organizations, clubs, classes, etc. during college
____ none to two
____ three to five
____ six and above
12. Number of foreign countries visited
____ none
____ one to three
____ four and above
13. Number of jobs (paying) held
____ none
____ one to three
____ four and above

NAME _____

AGE _____

YEAR IN SCHOOL _____

MAJOR _____

SEX _____

Instructions: Please put an X on the line of the choice which describes you. If you are not certain, please check the one you think is closest.

1. Size of home town (town lived in for the longest period of time before beginning college.)
_____ up to 10,000
_____ 10,000 to 50,000
_____ above 50,000
2. Number of towns lived in before beginning college.
_____ one
_____ two to four
_____ five and above
3. Number of children in family (including yourself).
_____ one
_____ two to five
_____ six and above
4. Do you consider yourself to have
_____ traveled very little
_____ traveled an average amount
_____ traveled quite extensively
5. Number of books (outside of textbooks) read during the past year.
_____ none to two
_____ three to six
_____ seven and above
6. Number of friends of other nationalities
_____ none
_____ one to three
_____ four and above

Instructions: List as many different solutions as you can think of for the following problems.

1. Mrs. Thomas, a widow, traveling one summer in South Africa, finds herself in the midst of a revolution. She hears that the U.S. consul has ordered evacuation of all American citizens within three days, after which transportation out of the country cannot be guaranteed. However, Mrs. Thomas is wounded during a skirmish and, by the time she is able to be moved, the three-day period has passed and all Americans have left the country. She is thus left in the interior of the country to solve her problem.

2. An American exploring in an African jungle one day has fallen and broken his leg. After lying there for an hour or so, unable to help himself, and faced with the prospect of lying there for days, he sees an African native, carrying a spear, walk by, the American is not sure whether the native, who is from a wild African tribe, has seen him or not.

3. A group of explorers from the Earth has landed on Mars and been taken prisoner by the Martians. The Martians think that the Earth people are animals, that the Earth people are not "rational" or "intelligent" beings the way they, the Martians, are: therefore, they put the Earth people in a large cage. The problem of the Earth people then becomes: How to demonstrate to the Martians that they (the Earth people) are not animals but rational beings also.

Table 16. Scores of the subjects on the factors considered

Number of alterna- tives perceived	ACT score	ACT rank- ing	Size of home town	Towns lived in	Family of origin	Percep- tion of travel	No. of books read	No. of friends other nat.
44			2	2	2	3	3	3
32	16	2 ^b	3	1	2	2	2	3
28	20	2	1	1	2	2	3	3
27			1	1	2	2	3	1
26	19	2	1	1	3	2	2	3
25	19	2	3	2	2	2	1	2
24			1	2	2	2	2	2
21	20	2	3	2	3	2	3	3
21	15	1 ^a	1	1	2	2	2	2
21			3	3	3	3	2	3
20	21	2	1	1	2	1	2	3
20			3	1	1	3	3	3
19	15	1	1	2	2	2	2	1
19			3	3	3	2	2	2
18			1	1	2	3	3	3
16	22	2	2	2	2	2	3	3
16			2	3	2	2	1	2
15	29	3 ^c	2	1	2	1	3	2
15	23	2	1	1	2	2	2	3
15	22	2	2	2	2	3	3	3
15	12	1	1	1	2	2	1	1
15			1	2	3	1	3	1
14	22	2	2	2	2	1	2	2
14	22	2	1	2	2	2	3	2
14	20	2	2	1	2	2	3	2
14	19	2	1	2	2	3	2	2
14	19	2	1	1	2	2	1	2
14	19	2	1	1	2	2	1	2
14			3	1	2	3	2	2
14			1	1	3	2	2	2
14			1	1	2	2	3	3
13	26	3	1	1	3	1	3	3
13	24	2	2	1	2	3	2	1
13	21	2	3	1	2	3	1	2
13	18	2	2	2	3	1	2	2
13	18	2	1	1	3	2	1	2
13			2	1	3	2	3	3
13			1	1	2	2	3	2
13			1	2	3	2	3	2
13			1	1	2	2	2	2

Table 16. Continued

Number of alterna- tives perceived	ACT score	ACT rank- ing	Size of home town	Towns lived in	Family of origin	Percep- tion of travel	No. of books read	No. of friends other nat.
13			2	2	2	2	2	2
13			1	3	3	3	3	3
12	18	2	1	1	3	1	1	2
12			1	1	2	1	2	2
12			1	2	3	2	2	2
12			2	2	2	3	2	3
12			1	1	3	1	2	3
11	25	2	1	2	2	2	2	2
11	22	2	2	2	2	1	2	2
11	19	2	1	2	2	2	3	2
11	16	2	1	2	2	3	3	3
11	16	2	2	3	2	2	2	3
11			2	2	2	3	2	2
11			2	2	2	2	2	2
11			1	2	2	2	3	2
10	24	2	3	2	2	3	3	3
10	24	2	3	2	2	2	3	2
10	23	2	1	1	3	2	2	2
10	22	2	1	1	2	2	2	2
10	21	2	1	1	2	1	3	3
10	21	2	1	2	2	2	1	1
10	18	2	1	1	2	1	3	2
10	13	1	1	2	2	2	2	2
10			3	2	2	2	1	3
10			1	3	2	3	2	2
10			1	2	2	2	2	2
9	22	2	2	1	2	2	2	2
9	20	2	1	2	3	2	3	3
9	20	2	2	2	1	2	2	3
9	20	2	3	1	2	3	3	1
9	18	2	3	1	3	1	3	2
9	18	2	1	1	2	2	2	3
9	17	2	2	1	2	2	2	2
9	15	1	1	2	2	2	3	2
9			3	1	2	3	2	3
9			1	1	3	1	3	2
9			2	2	2	2	2	2
9			1	2	2	2	2	3
9			1	1	3	1	1	2
8	31	3	3	3	1	3	3	3
8	26	3	1	2	2	3	3	3
8	23	2	1	1	3	2	3	3
8	22	2	2	1	2	2	2	2
8	22	2	1	3	2	1	3	3
8	22	2	3	1	2	2	3	2
8	21	2	3	1	3	2	1	3
8	20	2	2	3	3	1	2	3

Table 16. Continued

Number of alterna- tives perceived	ACT score	ACT rank- ing	Size of home town	Towns loved in	Family of origin	Percep- tion of travel	No. of books read	No. of friends other nat.
8	20	2	1	2	3	1	3	3
8	19	2	1	3	2	2	2	2
8	19	2	2	1	2	1	2	2
8	19	2	1	1	1	1	1	2
8	16	2	3	1	2	3	2	2
8	15	1	2	3	2	3	2	3
8			1	1	3	2	1	2
8			2	3	2	3	3	3
8			1	2	3	2	2	2
8			1	2	2	2	2	1
8			3	1	3	3	3	2
8			1	3	2	2	3	3
8			1	1	2	2	2	3
8			2	1	2	3	3	3
8			1	3	2	2	3	3
7	23	2	2	2	3	1	1	2
7	21	2	3	2	2	3	3	2
7	19	2	2	3	2	1	2	3
7	18	2	1	1	2	2	3	2
7	18	2	1	1	2	1	2	3
7	18	2	1	1	2	3	2	3
7	16	2	3	2	3	1	1	2
7	15	1	3	1	2	2	3	3
7	14	1	1	2	2	2	2	2
7	13	1	1	1	2	2	2	2
7			1	1	3	2	2	2
7			2	3	2	3	3	3
7			3	2	2	1	2	2
6	24	2	1	1	2	1	3	2
6	23	2	1	1	2	2	3	3
6	18	2	1	3	3	3	2	2
6	18	2	1	2	2	1	1	2
6	18	2	3	1	2	2	2	2
6	14	1	2	2	2	1	1	1
6			1	1	3	2	2	3
5	19	2	2	1	2	2	2	2
5	16	2	2	2	3	1	3	2
5			1	1	1	1	3	1
5			3	2	2	1	3	3
5			1	1	3	1	3	1
4	19	2	2	3	3	2	3	3
4	13	1	1	1	3	1	1	2
4			3	2	2	2	3	3

^aDesignates low.^bDesignates medium.^cDesignates high.

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