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FOOD PREFERENCE AND AVERSION

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BY

EUGENE E. LANDY

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FOOD PREFERENCE AND AVERSION

A THESIS

APPROVED FOR THE DEPARTMENT OF PSYCHOLOGY

BY

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FOOD PREFERENCE AND AVERSION

CHAPTER I

INTRODUCTION AND PROBLEM

A series of studies have been reported in the over-all category of food and nutrition. The attitudes toward food, both general and specific have been reported from many different aspects by as many different reporters. The subject matter of food attitudes seems to be dominated by 1) food preference; 2) food aversion; 3) nutritional effects of food; 4) socio-economic effects; 5) cultural effects; 6) a combination of the above and other associated factors. This study will deal exclusively with food preference and aversion.

Studies of food preference and aversion have been made with pre-school children (Breckenridge, 1959; Bryan & Lowenberg, 1958; Lamb and Ling, 1946; McCarthy, 1935; Vance, 1932; Vance & Temple, 1933), young adolescents (Breckenridge, 1959; Leverton & Coggs, 1951; Trulson, Hegsted, & Stare, 1949), older adolescents and young adults (Eppright, 1950; Hall & Hall, 1939; Kennedy, 1952; Laird & Breen, 1939; Leverton, 1944; Young & Lafortune, 1957), and adults (Abbot, Townsend, & French, 1952; Tussing, 1939; Vawter & Konishi, 1958).

The methods used in most food preference and aversion studies vary in form from:

I. Having a subject check a list of food without an accompanying interview and the criteria of preference being:

    A. liked, indifferent, disliked (Lamb, Adams, and Godfrey, 1954)

    B. willing to eat, unwilling to eat, and never tasted (Leverton & Coggs, 1951)

    C. refusal to eat because of dislike and never eaten (Hall & Hall, 1939; Wallen, 1943)

II. Having a subject check a list of foods with an accompanying interview, and the criteria of preference being:

    A. acceptable, dislike, not tried (Abbott, Townsend, and French, 1952)

    B. very good, good, moderately well liked, not tried (Eppright, 1950; Kennedy, 1952)

    C. unwilling to eat because of dislike (Young and Lafortune, 1957)

III. During an interview having the children's mother check a list of foods according to:

    A. liked, accepted, refused (Bryan & Lowenberg, 1958)

IV. Observation of children during meal time, using:

    A. the order of tasting and finishing a food as the

criteria for preference (Vance, 1932; Vance and

Temple, 1933)

    B.   an observer's ratings of the children's reactions to

the food, as very pleasant, pleasant, neutral, un-

pleasant, and very unpleasant (Lamb & Ling, 1946)

V. Observations of food consumption under an ad libitum quan-

tity regimin (Vawter & Konishi, 1958)

Family studies indicate that there are families that are not as

well-fed as one might wish them to be (Young & Pilcher, 1950; Young,

Smucski, and Steele, 1951) and that economic circumstances are not

entirely responsible for this situation (Wilhelmy, Young, & Pilcher,

1950; Young, Berresford, and Waldner, 1956). It has also been shown

that with industrial workers, the educational level was more closely

related to their food intake than was income (Young, Streib, and Greer,

1954).

Women have been shown to have more food dislikes than men

(Hall and Hall, 1939; Laird and Breen, 1939; Wallen, 1943). It also

appears that food dislikes are foods seldom or never eaten (Breckenridge,

1959; Pilgrim, 1957; Thorndike, 1949; Yudkin and McKenzie, 1964).

In a number of studies, excessive food dislikes and aversion

have been associated with neurotic tendencies or immaturity, or both

(Altus, 1949; Austin, Cooke, Starer, Blumenthal, Irving, and Shillinger,

1962; Davids and Lawton, 1961; Gough, 1946; Smith, Powell, and Ross,

1955(a); Smith, Powell, and Ross, 1955; Wallen, 1945; Wallen, 1948).

General surveys and bibliographies of the entire area of nutrition and food (Committee on Nutrition Surveys, 1949; Food Habits Research, 1964; Gottlieb and Rossi, 1961; World Food Survey, 1946) have indicated research in almost every possible direction. In fact, many different studies dealing exclusively with food preference and aversion have been attempted (Child, 1950; Eppright, 1950; Hall and Hall, 1939; Lamb and Ling, 1946; Lamb and Godfrey, 1954; Vance, 1932; Vance and Temple, 1933: Vawter and Konishi, 1958). Yet in all of these studies, there appears to this author's knowledge, none that deals exclusively with what the literature refers to as the averted foods. These foods are eggs, buttermilk, and organ foods such as liver and brains. There have been some studies that have reported findings dealing with eggs, buttermilk, and organ foods as a by-product of the study as a whole (Altus, 1949; Breckenridge, 1959; Gough, 1946; Kennedy, 1952; Lamb, Adams, and Godfrey, 1954; Leverton and Coggs, 1951; Long, 1942; McCluney, 1940; Smith, Powell, and Ross, 1955(a); Smith, Powell, and Ross, 1955; Vawter and Konishi, 1958; Wilhelmy, Young, and Pilcher, 1950).

Studies have been reported regarding food attitudes, of like and dislike utilizing the general classification of eggs, buttermilk, and organ foods as one small subsection of a study dealing with: personality correlates (Austin, Cooke, Starer, Blumenthal, Irving, and Shillinger,

1962; Child, 1950; Byrne, Galightly, and Capaldi, 1963; Gough, 1946;

Lewin, 1943; Smith, Powell, and Ross, 1955(a); Smith, Powell, and

Ross, 1955; Wallen, 1943; Wallen, 1945; Wallen, 1948), the difference

between Negro and Caucasian consumption of food (VandeMark, 1960),

smoking and its effect on food preferences (Landy, 1967; Miller, 1947;

Perrin, Krut, and Brante-Stewart, 1961), rural vs. urban U. S. A.

(Young and Berresford, 1956; Young, Waldner, and Berresford, 1956),

foreign preferences (Guggenheim, Kark, and Abramson, 1964; Guthrie

and Mead, 1943; Lewin, 1943; Miller, 1947; Van Syckle, 1945; World

Food Survey, 1946), food aversions of schizophrenic patients (Austin,

Cooke, Starer, Blumenthal, Irving, and Shillinger, 1962), self-selection

of food (Davis, 1928) and food selections of the armed forces (Altus, 1949;

Dill, 1947; Gough, 1946; Vawter and Konishi, 1958; Wallen, 1945; Wallen,

1948; World Food Survey, 1946). Also, studies have been reported

from the biological point of view (Ann, 1943; Becker, 1939; Child, 1950;

Dove, 1943; Guthrie and Mead, 1943) and the psychological point of view

(Abe, 1942; Abe, 1942; Ann, 1943; Blum and Miller, 1952; Bryan and

Lowenber, 1958; Dove, 1935; Dove, 1943; Hall & Hall, 1939). Duncker

(1938) and Lewin (1943) have reported studies of food consumption and

attitudinal changes employing methods involving the principles of learn-

ing theory.

In all these papers, published and unpublished, there exists one

common factor. Every study that has reported an aversion to eggs,

buttermilk, or organ foods has not taken into consideration the preparation of the food presented for ranking. This applies more specifically to eggs than any other type of food.

Different preparations of the egg are actually perceived as a different food. In the same way that cooked vegetables take on a different texture and taste, as do raw and cooked oysters; the same is true of eggs. The difference in texture, taste, smell, flavor, odor, temperature, color, feeling and appearance constitute some of the difference between preparations and hence, should be considered as different foods, for any purpose of ranking or classification of eggs, as a possible averted food.

Most studies have simply used the word egg or have presented a single preparation of the egg and have been surprised to find and have reported that they obtained a significant egg aversion.

With the exception of Young and LaFortune (1957), throughout the above reported studies, each author that obtained an egg aversion felt that this egg aversion was a singular facet of his study, and peculiar to his study alone.

Young and Lafortune (1957) point out that the possible reason for eggs repeatedly selected as one of the most disliked and averted foods is actually not an egg aversion but rather a preparation preference of the egg.

It is this author's intention to attempt to deal exclusively with

these so called averted food items, eggs and their preparations, some organ foods, buttermilk, milk and related items, to determine if an aversion or preference does exist between male and female subjects, married and single subjects, and smoker and non-smoker subjects.

Towards this end, it has been necessary to categorize these averted food items into four areas. These areas deal with the oral cavity, and its function strictly in relation to food consumption or nutrient intake. These four main areas of oral function are: 1) Eating, 2) Drinking, 3) Sucking, and 4) Chewing. Each food, preparation, drink, or function such as breast feeding has been classified under one of these four main areas of oral functioning in relation to food.

It should be kept in mind that each preparation of an egg presented is being considered a different Eating food in its own right, not to be confused with the general category marked "Eggs," which might be thought of in a generic sense, rather than a specific preparation.

The lack of studies available in the areas of food preparation preference and food preparation aversion lead this author to question the validity of what the literature has defined as averted foods. These averted food items have been so classified by a general "catch-all" name of the food, rather than specific preparations. It is for this reason that the actual aversion of these foods is in question.

It is the purpose of this study to attempt to determine the preferences and aversions of male and female, married and single, smoker

and non-smoker subjects to different preparations of these averted

foods, also to specifically determine the preferences and aversions to

different preparations of these averted foods.

CHAPTER II

METHOD

Subjects. The subjects were 149 students registered in a junior level undergraduate anthropology class at San Fernando Valley State College, in Los Angeles, California. Eighty-seven of these students were males and 62 were females.

The purpose in choosing students from a Los Angeles Commuter College was an attempt to avoid regional and geographic food preferences and aversions. In choosing Los Angeles as the area of investigation, it was assumed that a more heterogeneous mixture of regional preferences and aversions and a greater representation of geographic areas could be collected at one administration of the test forms.

Materials. The test booklet (see Appendix A) consisted of a cover sheet of instructions for the semantic differential, followed by ten pages of semantic differential questions, one page per concept to be ranked. Each semantic differential page consisted of 13 different scales.

Page 12 contained a questionnaire. This questionnaire was entirely integrated but consisted of six main areas. These areas are:

1. General information: Name, age, sex, major, year in

school, grade point average, religious affiliation, marital

status, number of times married, number of children, and

age and sex of children.

2. Smoking habit information: Do you smoke?, Have you ever

smoked?, if so for how long?, What do you smoke?, If

cigarettes, what brand?, The number of brands smoked?,

Why do you smoke present brand?, How many packs do you

smoke per day?, per week?, per month?

3. Egg eating habits: Do you like eggs?, favorite preparation?,

why?, do you like raw eggs?, hard boiled?, soft boiled?,

scrambled?, omlets?, and what other type?, What ways do

you not like eggs prepared?, why?, Have you ever tried

them?, and how often?

4. Other foods accepted or averted: Do you eat liver?, Do you

like it?, Do you drink buttermilk?, Do you like it?, Do you

eat brains?, Do you like them?

5. Miscellaneous oral information: Do you feel babies should

be bottle fed or breast fed?, why?, until what age?, Were

you bottle fed or breast fed?, Do you drink milk now?, Do

you bite your fingernails?, how long?, Do you chew gum?

6. Other information you may want to contribute: Three lines

were left blank for subjects to write anything they wished.

Procedure. The semantic differential was administered to the

same class at the same time that the questionnaire was administered.

The semantic differential, although dealing with the same area of re-

search and administered in conjunction with and just prior to the ques-

tionnaire, is in no way concerned with this thesis. It is research being

conducted by another University of Oklahoma student and will result in

an entirely different though related thesis. It is reported here solely

as a part of the procedure used in obtaining the data.

The test was administered to the anthropology class by the pro-

fessor's teaching assistant. As the test forms were being passed out,

the professor stated the following:

> I appreciate your indulgence in taking this test. It
> is a very important piece of research for a friend of mine
> at the University of Oklahoma. I know that you would want
> to help me, and I want to help him. By your cooperation in
> taking this test, you are helping both of us. It is not neces-
> sary for you to personally identify yourself on this test. My
> assistant will explain that to you in a minute. Also let me
> say that this test will in no way be a factor in the grade you
> earn in this class. Also, if you do not wish to take the test,
> you may feel free to leave, and there will be no reprisals in
> any way. So, for my friend in Oklahoma and myself, I say
> thank you very much for your cooperation, thank you very
> much for your help, and thanks also to my friend in Oklahoma
> for giving me this hour free so I can relax. My assistant
> will give you the instructions.

At this point the professor left the room, and the assistant con-

tinued saying:

> First, I would like you to place some form of identifying
> mark on each page of the test booklet on the line that is indi-
> cated for your name. You need not place your name on the
> booklet, you may use a series of numbers or letters or any
> name, even a first name or nick-name is okay but please be

sure that this identifying mark or series of numbers or letters is the same on every page. Please do that now.

As they started to do this he further stated:

> As Professor Katz has already stated, we are not interested in knowing individually who you are. The reason for the identifying mark is that if the test booklet is in some way unstapled and the pages become loose, we have the same mark on each page and will be able to put the booklet together again. Also this test will in no way affect your grade in this class or in any other course. We simply would like to collect some information, and we feel you will be inclined to answer truthfully if we are unable to identify you, and the results in no way affect you personally. One more thing, please answer these questions based on your own discussions, and do not discuss them with your neighbors. With this assurance of anonymity, please be as honest in your answers as you possibly can. Thank you.

He then instructed the class to read fully and carefully the instructions on the first page (see Appendix A). He waited five minutes and asked if everyone was finished reading the instructions. He asked for questions. Because there were no questions, he proceeded to place the first concept on the board. He instructed the class to write the first concept on the line indicated on the first page and to do the same for each of the following concepts and pages. A new concept was placed on the board every three minutes. As the concept was placed on the board, the assistant would pronounce the word aloud. The concepts were 1. milk, 2. God, 3. body, 4. cigarettes, 5. breast, 6. raw eggs, 7. nipple, 8. food, 9. baby, 10. sex.

After the tenth concept had been placed upon the board, the assistant asked the class to be sure that their identifying mark was on

the page and honestly fill out the entire page. He also informed them
that after completing the questionnaire page, they may hand in the test
forms and were excused for the day.

The test forms were collected and returned to Oklahoma for
computational purposes.

CHAPTER III

RESULTS

Subjects were classified by three dimensions: 1) by sex into "male-female," regardless of marital status, 2) "married-single," regardless of sex, and 3) "smoker-non-smoker," regardless of sex or marital status (see Appendix B).

These three dimensions were compared for differences by preference or aversion to 16 responses (see Table 1). These 16 responses were divided into four areas, each fulfilling a different oral function. These areas are: 1) Eating, 2) Drinking, 3) Sucking, and 4) Chewing. The foods selected were chosen not only to meet the needs of these four areas, but also to re-evaluate some of the initial work done with these foods, as presented in the literature and reviewed in Chapter 1.

Throughout this report, the words aversion or preference are used to describe the criteria: subjects who did not eat or like a particular food or food preparation were classified as averted to that particular food or food preparation. Subjects who ate or liked a particular food or food preparation were classified as preferring that food or food

Table 1

Area of Oral Function in Relation to Food Intake

Area	Food
I. Eating: . . . . A) <u>EGGS</u>	
	Eggs
	Raw eggs
	Soft boiled
	*Poached
	*Sunny side up
	*Over
	*Fried
	Omlets
	Scrambled
	Hardboiled
B) <u>ORGAN FOODS</u>	
	Brains
	Liver
II. Drinking:	Milk
	Buttermilk
III. Sucking:	Breast feeding
	Breast fed
	Bottle feeding
	Bottle fed
IV. Chewing:	Gum chewing
	Fingernail biting

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* Not tested statiscally because of small <u>n</u>.

preparation. The same holds true for gum chewing or fingernail biting.

Subjects who responded positively, that they chew gum or bite finger-

nails, were considered to prefer that form of behavior, as opposed to

those that responded negatively, that they did not chew gum or bite

fingernails, who were considered averted to that form of behavior. The frequencies were tallied and chi squares were calculated for each measure of the data. The Yates correction factor was employed when necessary (Walker and Lev, 1953).

1. EATING: Eggs were selected as one of the two main food variables. The different preparations of eggs are considered here to be different foods, for as is indicated, each preparation is perceived by the subject as a different food, and each subject responds with a preference or aversion to that preparation, not to eggs generally as the results indicate.

a) Eggs. The data indicates no significant differences between males and females, married and single, smokers and non-smokers in their aversion to the general classification of eggs. This lack of aversion to the general classification of eggs is in complete contradiction to the literature. A preference for eggs is indicated (χ^2 = 82.681; $P < .001$).

When we examine specific preparations of eggs, we notice certain preference and aversion trends (see Table 2). Yet regardless of the preparation, there appears to be no significant differences in preference or aversion to any egg preparation examined between the married and single group. From this evidence it may be assumed that being married or single is in no way related to a preference or aversion of eggs or different preparations of eggs.

Raw eggs seem to be generally averted by both sexes but specifically

more averted by females (94%) than males (76%). Also, smokers (93%)

appear to be more averted to raw eggs than non-smokers (77%).

The preparation of soft boiled eggs is significantly preferred by

non-smokers (67%). Scrambled eggs were also preferred by males

(97%) more than females (85%). No significant difference was found

between smoker and non-smoker for the scrambled egg preparation.

Table 2

Chi Square Summary of Egg Preparation Preferences and Aversions[*]

	"EGGS"		Raw Eggs		Soft Boiled		Hard Boiled		Omlets		Scrambled	
	χ^2	P	χ^2	P	χ^2	P	χ^2	P	χ^2	P	χ^2	P
Male vs. Female	0.248	NS	6.274	$< .02$	2.266	NS	1.680	NS	2.659	NS	4.744	$< .05$
Married vs. Single	1.119	NS	0.320	NS	0.055	NS	0.005	NS	0.004	NS	0.120	NS
Smoker vs. Non-Smoker	0.044	NS	5.498	$< .025$	3.768	$> .05$	0.702	NS	0.360	NS	0.004	NS

[*]d. f. =1

Source: Appendix B

No significant differences were found in any of the three groups

for the preparations of hard boiled eggs or omlets. These five

preparations of raw eggs, soft boiled, hard boiled, scrambled and omlets were forced choices on the questionnaire. Whereas the preparations of poached, sunny side up, over and fried eggs were volunteered by the subject as their most preferred or most averted preparations. The N of these last four preparations was extremely small, so small that it was impossible to calculate the statistic.

From the data sex differences may be concluded, with females being more averted than males to raw eggs. The data also indicates differences in cooked egg preparations, with males more than females generally preferring not only eggs but different preparations of eggs.

No other significant differences were obtained within the three groups for the general classification of eggs or specific preparations.

b) <u>Organ Foods.</u> Liver as a commonly eaten organ food showed no significant differences between the male and female, married and single, or smoker and non-smoker groups (see Table 3). Also, a general aversion to liver was not evident. In fact a general preference for liver was indicated ($\chi^2 = 13.080$; $P < .001$).

Brains as a seldom eaten organ food were significantly averted ($\chi^2 = 55.314$; $P < .001$). No significant differences in aversion between the married and single or smoker and non-smoker group were indicated. A significant difference in aversion was found between males and females. Females tended to be more averted to brains than males.

2. DRINKING: There is a significant aversion to buttermilk

Table 3

Chi Square Summary of Organ Foods

	Brains		Liver	
	x^2	P	x^2	P
Male vs. Female	4.761	$<.05$	0.721	NS
Married vs. Single	0.849	NS	0.335	NS
Smoker vs. Non-smoker	0.002	NS	0.076	NS

Source: Appendix B

$(x^2 = 14.442; P< .001).$

Males (92%) showed a significantly high preference to milk over females (80%) (see Table 4). Single subjects (91%) also indicated a significant preference to milk over married subjects (76%). The smoker and non-smoker group did not indicate any significant differences in preferences toward milk.

3. SUCKING: The same subjects were questioned regarding their preference towards breast feeding and bottle feeding (see Table 5); also as to whether they were breast fed or bottle fed.

No significant difference was found within the male and female groups towards breast feeding or bottle feeding.

In the married and single group, singles (66%) were significantly more opposed to breast feeding than married (51%). The same is true

Table 4

Chi Square Summary of Drinking*

	Milk		Buttermilk	
	x^2	P	x^2	P
Male vs. Female	5.412	<.025	1.298	NS
Married vs. Single	4.204	<.05	0.001	NS
Smoker vs. Non-smoker	0.282	NS	0.629	NS

*d. f. = 1

Source: Appendix B

Table 5

Chi Square Summary of Breast and Bottle Feeding*

	Breast Feeding		Bottle Feeding	
	x^2	P	x^2	P
Male vs. Female	3.070	NS	0.695	NS
Married vs. Single	3.866	<.05	4.461	<.05
Smoker vs. Non-smoker	3.392	NS	3,795	<.05

*d. f. = 1

Source: Appendix B

of the married and single group with regard to bottle feeding.

Also, significantly more non-smokers (77%) than smokers (59%) were opposed to bottle feeding.

There also proved to be little difference between those subjects that reported they were bottle fed and those that reported they were breast fed in the categories of male and female and married and single. There did turn out to be a significant difference in the smoker and non-smoker group between those that were breast fed and those that were bottle fed (see Table 6).

There appears to be significantly more non-smokers (67%) who reported they were breast fed than smokers (33%) who reported they were breast fed. Also, conversely, there appears to be significantly more smokers (59%) who reported they were bottle fed than non-smokers (41%). This would be in keeping with results obtained by McArthur, Waldron, & Dickinson (1958), who reported a positive relationship between smoking and the number of months of breast feeding.

These results would lead one to question what, if any, sex and marital differences between smoker and non-smoker existed. Upon examination, there did appear to be a significant sex difference between male and female smokers and non-smokers. Males appear to smoke significantly more than females at the $P < .02$ level ($\chi^2 = 6.530$). No marital differences were indicated.

4. CHEWING: It was also interesting to determine if there was

Table 6

Chi Square Summary of Breast and Bottle Fed[*]

	Breast Fed		Bottle Fed	
	x^2	P	x^2	P
Male vs. Female	0.591	NS	1.928	NS
Married vs. Single	0.233	NS	0.658	NS
Smoker vs. Non-smoker	3.675	$>.05$	5.602	$<.02$

[*]d. f. = 1

Source: Appendix B

any relationship between the different groups and fingernail biting and

gum chewing (see Table 7).

Approaching significance is the difference between male and

female fingernail biters. It appears that there are significantly more

subjects that reported not biting their fingernails than reported biting

them (x^2 = 49.821; $P < .001$), and more males that reported biting their

fingernails than females. Also, smokers (29%) bite their fingernails

significantly more than non-smokers (15%).

There appears to be very little difference between male and fe-

male, or smoker and non-smoker with respect to gum chewing, but the

married and single group did indicate significant differences in gum

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Table 7

Chi Square Summary of Chewing[*]

	Bite Fingernails		Chew Gum	
	χ^2	P	χ^2	P
Male vs. Female	3.385	NS	0.100	NS
Married vs. Single	0.153	NS	7.535	<.01
Smoker vs. Non-smoker	4.225	<.05	1.107	NS

[*]d. f. = 1

Source: Appendix B

chewing. Single (74%) subjects prefer to chew gum significantly more than married subjects (48%).

It is interesting to examine the varying n in each area of oral function and with each variable for non-response (lack of an answer to a question). The Eating area was the highest area of non-response, while the Sucking area was the lowest area of non-response (see Table 8).

Table 8

Area of Oral Function in Relation to Response and Non-response
of Subject to Questionnaire

Area	Food	Response	Non-response
I. Eating:	A) Eggs		
	Eggs	149	0
	Raw eggs	108	41
	Soft boiled	119	30
	Omlets	123	26
	Scrambled	130	19
	Hard boiled	124	25
	B) Organ Foods		
	Brains	140	9
	Liver	148	1
II. Drinking:	Milk	145	4
	Buttermilk	146	3
III. Sucking:	Breast feeding	148	1
	Breast fed	149	0
	Bottle feeding	148	1
	Bottle fed	149	0
IV. Chewing:	Gum chewing	140	9
	Fingernail biting	145	4
	Smoking	66	0
	Non-smoking	83	0

CHAPTER IV

DISCUSSION

The results of this study are inconsistent with the literature that

has classified eggs as averted foods.   Under the general classification

of "eggs, " no specific aversion to this general classification was found

in any of the three groups tested.   This is in complete contradiction to

the literature reviewed in Chapter I that classifies eggs as "one of the

most disliked and averted foods. " (Young and Lafortune, 1957).   Each

subject indicated an egg preference of his choice.   Therefore, it would

be necessary for the subject to have a complete aversion to eggs so as

not to be able to choose a preparation of his preference.   Since the re-

sults indicate no significant aversion, but a preference for eggs, it

implies that the literature to date has been dealing with a preparation

preference of eggs rather than an aversion to eggs.   It is also entirely

possible that this preparation preference to eggs could be regionally

defined by geographic limitations.   (Abbott, Townsend, and French,

1952; Eppright, 1950; Guggenheim, Sidney, and Abramson, 1964; Long,

1942; McCluney, 1942; Miller, 1947; Trulson, Hegsted, and Stare,

1949; Vance, 1933; Young and Pitcher, 1950; Young, Smucski, and

Stelle, 1951).

Uncooked eggs, or raw eggs, were significantly averted singularly and when compared to cooked eggs by the male-female group and the smoker-non-smoker group. This preference for cooked foods and aversion of uncooked foods is not uncommon and can be generalized to other foods as well (Thorndike, 1949). It is very likely that the subjects that were averted to uncooked eggs had seldom, if ever, tasted or eaten them. This would be in keeping with results obtained by Breckenridge (1959), Pilgrim (1957), Thorndike (1949), and Yudkin and McKenzie (1964).

The results also indicate no significant egg preparation aversion among the three groups. Each subject had the opportunity to pick from a number of preparations of eggs, and it was possible for them to list the preparation of their choice, hence, very few significant differences were visible among the preparation variables.

Another averted food that would appear to be seldom, if ever, tasted or eaten is brains. This explanation would be more logical than simply classifying it as disliked. As an organ associated with the concept of human intelligence, and used continuously in everyday conversation by the layman without medical or professional meaning in such slang communication as "where's your brains," etc., the word has become extremely familiar. It is possible that identification and familiarity of the organ and self identification is too close to cannibalistic

tendencies to allow consumption with ease and without guilt.

The same was not true for liver, which has more generally been considered a food, with the exception by the few people suffering from liver damage. It would be interesting to determine if a liver aversion was prevalent among people suffering from liver damage which includes some alcoholics.

It is interesting to note here that in each case of breast feeding and bottle feeding, single subjects were significantly more opposed or averted to breast feeding and bottle feeding than married subjects. This can be understood on a social-cultural level. Single people are without children and more removed from any care or responsibility of children. They are usually removed environmentally also, whereas married subjects are aware of the feeding problems and habits of infants. Hence, married subjects have given feeding procedures more consideration than the single subjects. This would account for the married subjects awareness of the area, whereas single subjects appear to be, if not uninterested or unaware, at least uninvolved with feeding problems.

The reaction of the smoker and non-smoker group was worthy of notice. Non-smokers were opposed to bottle feeding and smokers preferred bottle feeding. As reported by Landy (1967), the cigarette may be considered a symbolic replacement of the nipple. The amount of time the child is allowed to remain on the bottle will influence the need and desire of oral satisfaction in later life, which is usually

gratified through smoking. Simmel, Cheney, and Landy (1965) have shown marked differences in the oral behavior of rats which in many ways are consistent with that of the neonate lacking oral gratification.

Significant differences of non-smokers who were breast fed and the smokers who were bottle fed is substantiated by McArthur, Waldron, and Dickenson (1958) who have reported the relationship between bottle feeding and smoking and breast feeding and non-smoking.

Further, the significant differences found between smokers who bit their fingernails and non-smokers who did not implies a certain amount of oral activity needed by smokers that is not needed by non-smokers. This oral activity can take the form of smoking, talking, eating, drinking, sucking, chewing, or any other oral endeavor. It appears that the prerequisite for smokers and fingernail biters is to keep the mouth busy, whereas for non-smokers and non-fingernail biters, the need to participate in this activity is not as great. It would seem to follow that gum chewing would also fit into the category of smokers and fingernail biters, but gum chewing has become a method used by smokers to stop smoking. It is also a form of oral activity. Hence, it is possible that regular gum chewers are ex-smokers in disguise.

CHAPTER V

SUMMARY

The purpose of this study was to attempt to determine the preferences and aversions of male and female subjects, married and single subjects and smoker and non-smoker subjects to what has been classified in the literature as averted foods. Towards this purpose areas of oral function in relation to food intake were classified as follows: 1) Eating, 2) Drinking, 3) Sucking, and 4) Chewing. The averted foods chosen for this study and classified by these areas of oral function were: 1) Eating: A) Eggs, and different preparations of eggs, B) Organ foods such as brains and liver; 2) Drinking: Buttermilk and milk; 3) Sucking: Breast feeding and bottle feeding; 4) Chewing: Gum chewing and fingernail biting.

The purpose was also to determine the preferences and aversions to different preparations of eggs.

The subjects were 87 male and 62 female undergraduate students registered in a junior level anthropology class at San Fernando Valley State College. The results indicate a contradiction of the literature that eggs are an averted food. They indicate a significant preference

29

for different preparations of eggs rather than an egg aversion. Butter-
milk, in agreement with the literature, was confirmed as an averted
food. Further, it was found that smokers prefer bottle feeding and non-
smokers breast feeding and that significantly more subjects who reported
having been bottle fed are smokers and significantly more reportedly
breast fed subjects were non-smokers. Also single subjects were more
averted to both breast feeding and bottle feeding than married subjects
in each case.

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APPENDIX A

TEST BOOKLET

The purpose of this study is to measure the MEANINGS of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean TO YOU. On each page you will be given a different concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order. Here is how to use these scales:

If you feel that the concept at the top of the page is VERY CLOSELY RELATED to one end of the scale, you should place your check-mark as follows:

FAIR __X__ : ____ : ____ : ____ : ____ : ____ : ____ :UNFAIR

or

FAIR ____ : ____ : ____ : ____ : ____ : __X__ :UNFAIR

If you feel that the concept is QUITE CLOSELY RELATED to one or the other end of the scale (but not extremely), you should place your check as follows:

FAIR ____ : __X__ : ____ : ____ : ____ : ____ : ____ :UNFAIR

or

FAIR ____ : ____ : ____ : ____ : ____ : __X__ : ____ :UNFAIR

If the concept seems ONLY SLIGHTLY RELATED to one side as opposed to the other side (but is not really neutral), then you should check as follows:

FAIR ____ : ____ : __X__ : ____ : ____ : ____ : ____ :UNFAIR

or

FAIR ____ : ____ : ____ : ____ : __X__ : ____ : ____ :UNFAIR

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you are judging.

If you consider the concept to be NEUTRAL on the scale, both sides of the scale EQUALLY ASSOCIATED with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space:

FAIR ____ : ____ : ____ : __X__ : ____ : ____ : ____ :UNFAIR

IMPORTANT:

(1) Place your check-marks in the middle of the SPACES, not on the boundaries.

	this			not this		
FAIR	: X :	:	:	X	:	:UNFAIR

(2) Be sure to check the scale for every concept, DO NOT OMIT ANY.

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so DO NOT LOOK BACK AND FORTH through the test. MAKE EACH ITEM A SEPARATE AND INDEPENDENT JUDGMENT. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

Thank you.

NAME_____

_____
(write concept here)

TASTY   :___:___:___:___:___:___:___: DISTASTEFUL

SAD   :___:___:___:___:___:___:___: HAPPY

GOOD   :___:___:___:___:___:___:___: BAD

COLD   :___:___:___:___:___:___:___: HOT

MOTHER   :___:___:___:___:___:___:___: FATHER

DIRTY   :___:___:___:___:___:___:___: CLEAN

SUCK   :___:___:___:___:___:___:___: SPIT

LIFE   :___:___:___:___:___:___:___: DEATH

UNPLEASANT___:___:___:___:___:___:___: PLEASANT

KIND   :___:___:___:___:___:___:___: CRUEL

EMPTY   :___:___:___:___:___:___:___: FULL

BEAUTIFUL:___:___:___:___:___:___:___: UGLY

BLACK   :___:___:___:___:___:___:___: WHITE

Name:_____Age:_____Sex:_____

Major:_____Year:_____Grade Point Average:_____

Religious Affiliation:_____

Marital Status (circle one): 1) Married, 2) Divorced, 3) Separated

                4) Widowed, 5) Engaged, 6) Going Steady 7) Single

                Number of times married:_____

Number of Children:_____ Age & Sex of Children:_____

                                          _____

Do you smoke?_____ Have you ever smoked?_____

If so, for how long?_____What do you smoke?_____

If you smoke cigarettes, name brand:_____

Number of brands you have smoked in your lifetime:_____

What is your reason for smoking your present brand:_____

How long did you smoke each different brand?_____

How many packs do you smoke: per day:____per week:____per month:____

Do you like eggs?_____If so, what is your favorite preparation of eggs,

and why?_____

Do you like: raw eggs_____hard boiled eggs_____soft boiled eggs_____

                scrambled_____omlets_____, others_____

What ways do you not like eggs prepared:_____

Why?_____Have you ever tried them?_____

How often?_____Do you eat: Liver_____ Do you like it?_____

Buttermilk_____Like it?_____Brains_____Like it?_____

Why?_____

Do you feel babies should be bottle or breast fed?_____

Why?_____Until what age?_____

Were you bottle or breast fed?_____Do you drink milk now?_____

Do you bite your fingernails?_____How long?_____Chew gum?_____

Other information you may want to contribute:_____

_____

CONCEPTS

1. MILK

2. GOD

3. BODY

4. CIGARETTES

5. BREAST

6. RAW EGGS

7. NIPPLE

8. FOOD

9. BABY

10. SEX

APPENDIX B

SUMMARY OF OBTAINED FREQUENCIES

SUMMARY OF OBTAINED FREQUENCIES

FOR MALE-FEMALE, MARRIED-SINGLE, SMOKER-NON-SMOKER GROUPS

	Male	Female	Married	Single	Smoker	Non-smoker
Subject n	87	62	33	116	66	83
EGGS						
Preference	76	54	27	103	58	72
Aversion	11	8	6	13	8	11
RAW EGGS						
Preference	14	3	5	12	3	14
Aversion	45	46	18	73	44	47
SOFT BOILED						
Preference	44	26	13	57	26	44
Aversion	24	25	10	39	27	22
POACHED						
Preference	4	2	2	4	2	4
Aversion	2	2	1	3	0	0
SUNNY SIDE UP						
Preference	3	2	0	5	3	2
Aversion	1	1	0	2	0	0
OVER						
Preference	12	3	1	14	7	8
Aversion	1	0	1	0	0	0
FRIED						
Preference	12	10	5	17	9	13
Aversion	1	2	0	3	0	0
OMLETS						
Preference	57	50	23	84	45	62
Aversion	12	4	3	13	8	8
SCRAMBLED						
Preference	73	47	24	96	52	68
Aversion	2	8	3	7	5	5
HARD BOILED						
Preference	62	45	21	86	45	62
Aversion	7	10	4	13	9	8
BRAINS						
Preference	20	6	4	22	12	14
Aversion	61	53	27	87	52	62
LIVER						
Preference	54	42	20	76	42	54
Aversion	33	19	13	39	24	28

APPENDIX B (Continued)

	Male	Female	Married	Single	Smoker	Non-smoker
MILK						
Preference	79	48	25	102	55	72
Aversion	6	12	8	10	9	9
BUTTERMILK						
Preference	32	18	11	39	20	30
Aversion	52	44	21	75	45	51
BREAST FEEDING						
Preference	28	29	17	36	20	37
Aversion	58	33	16	71	46	45
BREAST FED						
Preference	28	18	11	35	15	31
Aversion	59	44	21	82	51	52
BOTTLE FEEDING						
Preference	11	11	2	20	14	8
Aversion	75	51	31	87	52	74
BOTTLE FED						
Preference	23	23	8	38	27	19
Aversion	64	39	24	79	39	64
GUM CHEWING						
Preference	54	42	15	81	44	52
Aversion	26	18	16	28	16	28
FINGERNAIL BITING						
Preference	22	8	6	24	18	12
Aversion	63	52	27	88	45	70
SMOKER	46	20	14	52	66	0
NON-SMOKER	41	42	19	64	0	83

APPENDIX C

ORIGINAL OBSERVATIONS

ORIGINAL OBSERVATIONS

Columns 01, 02,
03:    Subject identification number

Columns 05, 06:   I. B. M. data card deck identification number: deck 3.

Columns 07, 08:   Age of subjects (Whole numbers)

Column 10:   Sex of subjects: (01) male; (02) female

Columns 12, 13:   Major fields of study: (01) undecided; (02) undetermined; (10) business administration; (11) accounting; (12) finance; (13) marketing; (14) office administration; (15) personnel; (16) production; (17) quantitative methods; (18) economics; (19) business education; (20) special education; (21) elementary education; (26) guidance; (27) foundations; (28) secretarial education; (29) administration and supervision; (31) engineering; (41) art; (42) music; (43) home economics; (44) drama; (45) broadcasting; (46) journalism; (51) English; (52) French; (53) German; (54) Russian; (55) Spanish; (58) speech; (61) health science; (62) physical education; (63) recreation; (71) biology-pre-medical-pre-dental; (72) botany; (73) chemistry; (74) geology; (75) life science; (76) math; (77) physical science; (78) physics; (79) zoology; (80) humanities-liberal arts; (81) anthropology; (82) geography; (83) history; (84) philosophy; (85) political science-pre-law; (86) psychology; (88) sociology.

Column 15:   Academic year: (1) freshman; (2) sophomore; (3) junior; (4) senior; (5) graduate.

Columns 17, 18,
19:    Grade point average (first digit whole number; second and third digit decimal)

Columns 21, 22:   Religious affiliation: (01) Jewish; (02) Catholic; (03) Protestant; (04) Baptist; (05) agnostic; (06) atheist; (07) Unitarian; (08) Buddist; (09) Islam (10) other; (11) Greek Orthodox; (12) none; (13) L. D. S. -Mormons; (14) Lutheran; (15) Hindu.

Columns 24, 25:   Marital status: (01) married; (02) divorced; (03) separated; (04) widowed; (05) engaged; (06) going steady; (07) single.

APPENDIX C (Continued)

Column 26:   Number of times married

Column 28:   Number of children

Column 30:   Number of male children

Columns 32-42:   Ages of male children (in years)

Column 44:   Number of female children

Columns 46-56:   Ages of female children (in years)

Column 58:   Classification of smokers and non-smokers: (01) smoker;
                    (02) non-smoker; (99) smoked occasionally.

Column 60:   History of non-smokers

Columns 62, 63:   Length of time smoked (in years)

Column 64:   Ascertains what subject smokes: (01) cigarette; (02)
                    cigar; (03) pipe; (04) all above

Column 66, 67:   Ascertains what brand of cigarettes subject smokes:
                    (01) Marlboro; (02) Winston; (03) Tareyton; (04) Kent;
                    (05) Newport; (06) Pall Mall (07) Salem; (08) Parliament;
                    (09) L&M; (10) Viceroy; (11) Camel; (12) Lucky Strike;
                    (13) Kool; (14) Raleigh; (15) Phillip Morris; (16) Alpine;
                    (17) Old Gold Filters; (18) Lark; (19) Montclair; (20) Bel
                    Air; (21) Benson & Hedges; (22) Paxton; (23) Waterford;
                    (24) No Particular Brand; (25) Omar.

Column 69:   Ascertains number of cigarette brands subject has smoked

Columns 71, 72:   Ascertains reason for smoking present brand of cigarettes:
                    (01) tastes good; (02) enjoyment; (03) milder; (04) strong;
                    (05) menthol; (06) longest; (07) more convenient; (08) none;
                    (09) better than sucking fingers; (10) I like the package;
                    (12) influenced by associates (borrowing) (13) habit; (14)
                    more comfortable; (15) oral satisfaction.

Columns 74, 75:   Number of packs of cigarettes smoked per day (first digit
                    whole number, second digit decimal)

Column 79:   I. B. M. data indexing number

R A W   D A T A

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123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
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001 3 23 1 12 4 290 01 1 1 0                                    1 0 071 01 3 02 10    1
002 3 21 1 31 3 230 02 7 C 0                                    2 1 000 00 0 00 00    1
003 3 20 1 86 3 270 01 7 0 0                                    1 0 023 00 0 00 00    1
004 3 22 2 86 4 230 03 7 0 0                                    2 2 000 00 0 00 00    1
005 3 23 1 44 4 240 14 7 0 0                                    1 0 124 25 - 02 02    1
006 3 22 1 12 3 200 12 6 C 0                                    2 2 000 00 0 00 00    1
007 3 22 1 83 3 250 01 7 C 0                                    1 0 013 00 0 01 00    1
008 3 20 1 85 4 320 01 7 C 0                                    2 0 000 00 0 00 00    1
009 3 22 1 46 4 230 01 1 1 0                                    1 0 051 01 4 01 05    1
010 3 23 1 88 3 000 01 7 C 0                                    2 0 000 00 0 00 00    1
011 3 25 2 41 3 200 10 1 1 2                    2 04 04         2 1 021 00 9 00 00    1
012 3 22 1 86 4 250 12 7 0 0                                    1 0 051 00 0 00 00    1
013 3 21 2 86 4 280 01 7 C 0                                    1 0 051 01 3 02 05    1
014 3 22 2 88 4 290 02 7 0 0                                    2 2 000 00 0 00 00    1
015 3 21 2 88 4 240 10 5 0 0                                    1 0 051 01 2 02 10    1
016 3 00 1 00 0 000 00 1 1 0                                    2 2 000 00 0 00 00    1
017 3 22 1 81 3 230 00 6 0 0                                    2 2 000 00 0 00 00    1
018 3 23 1 41 3 200 12 7 0 0                                    1 0 061 18 4 02 04    1
019 3 22 1 28 5 280 00 5 0 0                                    2 2 000 00 0 00 00    1
020 3 21 2 31 4 280 00 7 C 0                                    2 2 000 00 0 00 00    1
021 3 23 1 85 4 290 00 7 0 0                                    1 0 051 02 3 13 13    1
022 3 21 1 88 4 250 03 7 0 0                                    1 0 024 04 9 08 10    1
023 3 22 1 85 4 300 01 5 0 0                                    2 2 000 00 0 00 00    1
024 3 23 2 51 4 250 12 7 0 0                                    2 1 010 00 4 00 00    1
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031 3 21 2 88 4 300 01 7 0 0                                    2 0 000 00 0 00 00    2
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R A W   D A T A

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R A W   D A T A

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067 3 22 1 10 4 280 12 7 C 0                          1 0 023 00 0 00 00   2
068 3 32 1 71 0 190 04 7 0 0                          2 1 011 00 0 00 00   2
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070 3 22 2 88 4 260 01 7 C 0                          2 2 000 00 0 00 00   3
071 3 21 1 41 4 300 12 7 C 0                          2 1 993 00 8 00 00   3
072 3 22 1 85 4 270 03 1 1 0                          1 0 051 21 4 02 15   3
073 3 23 1 81 4 250 12 7 0 0                          1 0 061 24 - 08 15   3
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R A W   D A T A

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107 3 18 2 88 1 200 01 7 0 0                              1 0 041 03 3 01 10    3
108 3 20 2 86 3 200 01 7 0 0                              1 0 051 03 2 02 10    3
109 3 22 1 86 4 250 02 5 0 0                              1 0 031 02 2 01 10    3
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124 3 21 2 51 4 260 12 7 0 0                              2 1 010 00 0 00 00    4
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R A W   D A T A

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129 3 21 2 81 3 260 12 7 0 0										2 1 020 00 3 00 00	4
130 3 22 1 81 4 333 12 7 0 0										2 2 000 00 0 00 00	4
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135 3 23 1 81 4 250 12 7 0 0										2 2 000 00 0 00 00	4
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137 3 21 1 84 4 275 06 7 1 1 1 04							1 0 101 01 - 09 15	4
138 3 23 2 76 5 275 06 7 0 0										1 0 031 01 2 08 03	4
139 3 22 2 41 4 320 10 5 C 0										2 0 000 00 0 00 00	4
140 3 20 1 10 2 280 12 7 0 0										2 1 010 00 2 00 00	4
141 3 31 1 85 4 300 12 1 1 1 1 03							2 1 120 00 3 00 00	4
142 3 23 2 88 4 250 03 1 1 1 2 02						1 0 051 06 5 06 03	4
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144 3 25 1 15 4 290 02 7 0 0										2 2 000 00 0 00 00	4
145 3 22 1 86 4 200 12 7 0 0										1 0 051 01 - 01 15	4
146 3 22 2 88 4 300 02 1 1 1 1 01							2 2 000 00 0 00 00	4
147 3 23 2 51 4 250 12 7 0 0										1 0 061 04 9 11 10	4
148 3 21 2 51 4 250 12 7 0 0										1 0 044 04 3 02 10	4
149 3 26 1 28 4 250 12 7 0 0										1 0 061 01 5 10 05	4

Columns 01, 02,
03:     Subject identification number

Column 05:   I. B. M. data card deck identification number: deck 4

Columns 07, 08:   Number of packs of cigarettes smoked per week (whole numbers)

Columns 10, 11:   Number of packs of cigarettes smoked per month (whole numbers)

Column 13:   Determining the subjects like or dislike of eggs: (01) like; (02) dislike.

Columns 15, 16:   The subject's favorite preparation of eggs: (01) scrambled; (02) over easy; (03) soft boiled; (04) hard boiled; (05) omlets; (06) fried; (07) sunny side up; (08) poached; (09) over hard; (10) eggs benedict; (11) basted; (12) deviled; (13) raw eggs; (14) none; (15) all; (16) souffle.

Columns 18, 19:   The subject's reasons for his favorite preparation of eggs: (01) tastes best; (02) none; (03) not gooey; (04) fat free; (05) homogenized; (06) hold mushrooms to together; (07) well done; (08) like yolk running and white hard; (09) texture; (10) like to cook them; (11) gooey; (12) good breakfast; (13) easier to eat; (14) best for you; (15) habit; (16) easy to prepare.

Column 21:   Determining the subjects specific preference or aversion to raw eggs: (01) preference; (02) aversion.

Column 23:   Determining the subjects specific preference or aversion to hard boiled eggs: (01) preference; (02) aversion.

Column 25:   Determining the subjects specific preference or aversion to soft boiled eggs: (01) preference; (02) aversion.

Column 27:   Determining the subjects specific preference or aversion to scrambled eggs: (01) preference; (02) aversion.

Column 29:   Determining the subjects specific preference or aversion to omlets: (01) preference; (02) aversion.

Columns 31, 32:   Determining the subjects specific preference or aversion to other types of egg preparations (listed under columns 15, 16)

Columns 34, 35:	Determining the first way the subject does not like eggs prepared: (01) raw; (02) soft boiled; (03) sunny side up; (04) omlets; (05) poached; (06) hard boiled; (07) scrambled; (08) fried hard; (09) over easy; (10) soft; (11) rotten; (12) fried; (13) fried soft; (14) eggs benedict; (15) dry; (16) none; (17) all; (18) raw eggs alone.
Columns 37, 38:	Determining the second way the subject does not like eggs prepared (listed under columns 34, 35).
Columns 40, 41:	Reasons for subjects dislike of specific egg preparations: (01) taste; (02) nauseating; (03) no reason; (04) over exposure; (05) moisture; (06) looks slimy; (07) white; (08) mixture; (09) loses flavor; (10) unappetizing; (11) messy; (12) heavy taste; (13) reminds me of mucous; (14) sticky; (15) runny; (16) appearance; (17) cold; (18) unpleasant; (19) smell; (20) raw; (21) texture; (22) bad experience; (23) too done; (24) gooey; (25) mushy.
Column 43:	Determing whether subjects have ever tried the egg preparations they dislike: (01) yes; (02) no.
Column 45:	Determining how many times the subject has tried the disliked egg preparation.
Column 47:	Determining whether the subject eats liver: (01) yes; (02) no.
Column 49:	Determining if the subject likes liver: (01) yes; (02) no.
Column 51:	Determining if the subject drinks buttermilk: (01) yes; (02) no.
Column 53:	Determining if the subject likes buttermilk: (01) yes; (02) no.
Column 55:	Determining if the subject eats brains: (01) yes; (02) no.
Column 57:	Determining whether the subject feels babies should be breast or bottle fed: (0) depends; (01) breast fed; (02) bottle fed; (03) either; (04) both.
Columns 59, 60:	Reasons for preference of breast or bottle. Breast: (01) closer relationship for mother and child; (02) doctors say it's best; (03) no reason; (04) security; (05) health; (06) better for mother and baby; (07) fulfilment for mother

and baby; (08) so wife would have to feed it; (09) natural;
(10) easier to give baby contact; (11) maternal gesture;
(12) better for child; (13) get used to it; (14) psychological health. Bottle: (15) more nourishment in formulas;
(16) more comfortable for mother; (17) more convenient,
(18) no reason: (19) easier for mother; (20) no difference
in children; (21) psychological reasons; (22) breast won't
sag later in life; (23) breaks a habit; (24) healthier; (25)
inconvenience of breast.

Columns 62, 63:   Determining until what age the subject feels the baby should
be breast or bottle fed (first digit year, second digit month).

Column 65:   Determining whether the subject was breast fed or bottle
fed: (01) breast; (02) bottle; (04) both.

Column 67:   Determining whether the subject drinks milk: (01) yes;
(02) no.

Column 69:   Determining whether the subject bites his fingernails:
(01) yes; (02) no.

Columns 71, 72:   Determining the length of time the subject has bitten his
fingernails (in years).

Column 74:   Determining whether the subject chews chewing gum: (01)
yes; (02) no.

Column 76:   Interpretation of the lines left blank for comments as being
(01) negative; (02) neutral; (03) positive attitudes.

Column 78:   I. B. M. data indexing number.

R A W   D A T A

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R A W   D A T A

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R A W   D A T A

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R A W   D A T A

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