EDUCATION FOR POSITIVE MENTAL HEALTH:

A Review of existing research and recommendations for future studies

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CHAPTER I

INTRODUCTION

Because this report was written by a social scientist who is not a specialist in the area of mental health,[1] and because it concerns an entity (positive mental health) which is undefinable and possibly non-existent; it is necessary to preface this report with a more lengthy introduction than its bulk would otherwise warrant.

Viewed historically, this project developed as follows:

Pennsylvania Mental Health, Inc., is a "voluntary, non-profit, statewide citizens' organization devoted to public education in the field of mental health." It is affiliated with the National Association for Mental Health and is financed primarily by Community Chests and United Funds in Pennsylvania. Its major purposes are: "1) To conduct programs of public education as to the nature and extent of mental illness and methods of treating it, and to mobilize citizens for action to improve the care and treatment of the mentally ill, and 2) To conduct programs of public education aimed at raising the level of the community's mental health, that is, to teach the application of the principles of preventive psychiatry."[2]

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[1]The author holds a Ph.D. degree in Sociology and is currently Associate Professor of Sociology at the University of Chicago and a Senior Study Director at the National Opinion Research Center. His field of specialization is in survey research techniques, and his professional leaning is toward "hard" (statistical, operational, experimental) research rather than "soft" (clinical, case study, participant observation). His only previous contact with the area of mental health was a number of years ago as a member of a research team in Boston studying the post-hospital adjustment of schizophrenics.

[2]Pennsylvania Mental Health, Inc., Mental Health Education: A Critique, 1960.

Since its founding in 1952, Pennsylvania Mental Health, Inc., has conducted a singularly successful series of campaigns to improve the care of the mentally ill, and its staff feel that this aspect of its program is on a sound footing. In the second area, education for positive mental health, a number of concerns have arisen. In the writer's preliminary discussions with staff members, it appeared that these concerns stem not from the belief that the many educational programs sponsored by the organization are failures, but from the fact that, compared with many practitioners in this field, the Pennsylvania Mental Health personnel are somewhat more critical and research minded and are concerned that these programs do not rest on the basis of fully documented principles, nor are they subject to research evaluation.

As a first attempt to grapple with this problem, in 1958 the organization, along with The American Psychiatric Association and the National Association for Mental Health, sponsored a two and one-half day "National Assembly on Mental Health Education" at which a distinguished group of experts (e.g., Carl Binger, Francis Braceland, Orville Brim, Jr., John Clausen, Elaine Cumming, Eric Erikson, Erich Lindemann, Ralph Ojemann, Lloyd Rowland, William Foote Whyte, among others) met to discuss the problem. Confronted directly with the issues, the experts disagreed on many points and none of them could point to substantial, technically adequate research findings to provide a justification or direction for mental health education activities. The results of the conference were summarized and published in Mental Health Education: A Critique.[3]

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[3] Ibid.

As a second step, the organization secured a generous planning grant to support the development of proposals for studies which would help to answer the questions raised at the Assembly. The National Opinion Research Center was commissioned to attempt this task, and given broad latitude. Thus, nowhere in the proposal for the planning grant is there any statement of the research problems to be treated in the proposed studies.

In grappling with this unusual commission, the writer proceeded as follows:

We began, and wisely I think, by not attempting to define mental health. Offhand, such a decision appears cavalier and illogical, but it can be justified by the meagre results of previous attempts. Even the outstanding work in definition, Marie Jahoda's recent book[4] does not yield an unambiguous definition suitable for translation into research operations.

Instead, we began by searching the published research literature for studies concerning positive mental health, loosely circumscribed as follows:

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[4]Marie Jahoda, Current Concepts of Positive Mental Health (New York: Basic Books, 1958).

A study was included if it .....

1) was judged to be free of gross deficiencies in design and analysis

(and)

2) was based on a population not undergoing treatment by a psychiatrist or clinical psychologist

(and)

3) presented data on .....

I. subjective reports of worries, nervousness, psychosomatic symptoms, happiness, etc., etc.,

(or)

II. ratings of adjustment or mental health by social scientists or psychiatrists

(or)

III. knowledge or acceptance of "principles" of psychodynamics, psychopathology, or development, other than college level courses in behavioral sciences.

While no one of these phenomena can be justified as the measure of "positive mental health," taken together they encompass the great bulk of the research and writing in the field. Only very broad definitions in terms of "self-fulfillment," "maturity," "maximum effectiveness," etc., are excluded.

At this point, an unsuspected development occurred. On the basis of casual knowledge and reading of some hortatory essays in the field, the writer assumed that the existing literature was essentially useless and the proposed studies could start from scratch. This is not the case. It is true that the vast bulk of the studies published are of such low technical quality, in terms of representative samples, controls, measurement, and statistical analysis, as to be literally worse than useless, but there remain a surprisingly large number of excellent studies, both

experimental and cross-sectional surveys. For instance, without even pretending to thorough coverage, it was possible to locate close to 20 reasonably well executed evaluation studies.

This is not to say that the findings are consistent, that huge gaps are absent, or that research knowledge is firm enough to justify the educational projects now operating. It is clear, however, that any proposed research must take into consideration the existing findings and that no available publication provides an adequate review of these materials.

Before turning to the proposed research, therefore, we shall attempt to review the existing knowledge.

Our work must, of necessity, be superficial because of the writer's lack of expertise and the broad scope of the field (a recent bibliography cites 1,158 items).[5] Almost no non-United States literature was covered, the entire search was conducted in about a month's time, and studies excluded by the preceding "definition" were ignored. Most important as a limiting factor was the decision to exclude all studies which are technically deficient. Because so much of the research on mental health is barely suggestive, much less persuasive, this criterion cut a considerable swath through the references, and a number of familiar titles will not be included in the bibliographies appended. Such a decision involved a considerable degree of subjective judgment, and the writer does not claim methodological infallibility. However, most of the exclusions were for

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[5] James G. Kelly, Community Mental Health and Social Psychiatry: A Reference Guide (Harvard University Press: 1962).

simple and obvious defects (experiments with no control groups, samples with N's so small as to preclude statistical analysis, contrasts between populations which obviously differ on many other variables than the one in question, publications which do not present any data at all) and, if anything, we erred on the side of generosity.

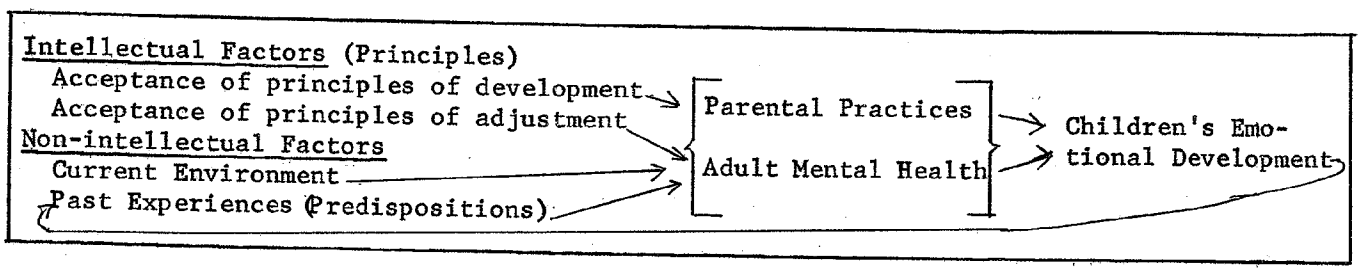
In sum, a review of the existing, technically satisfactory literature, turned up so many studies that it is necessary to consider their findings before proposing new research. Chapters II, III, and IV are devoted to this task, and the final sections turn to conclusions and recommendations. Chapters II and III treat non-experimental research on the major variables and their relationship and Chapter IV reviews a number of experimental attempts to modify mental health phenomena in normal populations.

In organizing the materials we found it useful to think of mental health education as a set of programs based on a number of assumptions about human behavior and development. Specifically:

1) Mental Health
   a) It is assumed that in the general population of adults there is a state, or set of closely related states, which can be called "mental health."
   b) It is assumed that there is quantitative variation in mental health such that some people are well adjusted, some people are poorly adjusted, and at the extreme, some people are mentally ill.
2) Principles of Mental Health
   a) It is assumed that specific principles can be stated regarding cause and effect relationships in mental health, particularly regarding:
      A) Techniques of emotional adjustment for adults
      B) Principles of emotional development in children
   b) It is assumed that the acceptance of these principles leads to improved mental health:
      A) Directly through improved adjustment
      B) Indirectly through improved emotional development in children.

3) Non-intellectual Factors
   a) It is assumed that adult mental health is affected by current environmental situations ("stresses")
   b) At the same time, it is assumed that past experiences, particularly childhood development, have a permanent effect on mental health and predispositions toward mental illness.

These ideas can be expressed in diagram form, as follows:



If correct, these ideas provide a powerful argument for mental health education, particularly since the circularity of the process (indicated by the arrow from Children's Emotional Development back to Past Experiences) means that changes introduced into the system have cumulative effects..., the improvement of mental health among adults by teaching mental health principles or manipulating the environment being assumed to have positive effects not only on the target population but on future generations.

Because these ideas are at a very abstract level and do not specify the variables involved (e.g., What mental health principles? What aspects of the current environment? What parental practices?) the scheme is not really a theory. Rather, it serves to organize the mass of potentially relevant materials. Thus, we can use the scheme to organize chapters II and III around the following questions:

II. THE MAJOR VARIABLES

A. Adult Mental Health

1. Is it reasonable to think of adult mental health as a single dimension?

2. Is it reasonable to assume that mental illness is an extreme on a continuum of mental health states?

B. Principles of Mental Health

1. What principles are endorsed by the general population and the experts?

2. How do population groups vary in acceptance?

C. Principles of Child Development

1. What principles are endorsed by the general population and the experts?

2. How do population groups vary in acceptance?

III. RELATIONS BETWEEN THE VARIABLES

A. Adult Mental Health

1. What is known about relationships between adult mental health and acceptance of principles?

2. What is known about environmental correlates of adult mental health?

3. What is known about past experiences and mental health?

B. Children's Emotional Development

1. What is known about parental practices and children's emotional development?

2. What is known about parental mental health and children's mental health?

CHAPTER II

EXISTING KNOWLEDGE: THE MAJOR VARIABLES

A. Adult Mental Health

The nature of mental health in adult, non-clinical populations is, naturally, the single most important research area to be reviewed. In this chapter we shall review a number of studies which have attempted to measure mental health through behavioral science research techniques. First, we shall examine the question of dimensionality...whether it is justified to consider mental health as an entity, and then discuss the problem of degrees of mental health.

1. The problem of dimensionality

The assessment of mental health in normal populations presents tremendous problems, both technical and substantive. The most important one, perhaps, is the question of whether mental health should be considered a single phenomenon or a tent covering a wide variety of separate and distinct entities. Conceptually or theoretically, the issue is very difficult to approach, much less resolve. However, in consideration of research data, it can be translated into a clear statistical problem--the degree of correlation between alternative measures. Ideally, one would proceed as follows: 1) List all possible definitions of mental health; 2) Devise a measure for each; 3) Administer all the measures to a large and representative sample; 4) Compute the intercorrelations among the measures. Forgetting, for the moment, technical problems of statistics and measurement, we can say that if strong positive intercorrelations are found then mental health may be considered a single entity in the sense that highly correlated measures may be assumed to be tapping the same thing;

while if correlations are zero we would have to think of independent dimensions of mental health. Negative correlations, of course, would suggest something like alternative manifestations of some underlying disease which was endemic.

Our results will, naturally, be far from that clear-cut, but by reviewing a number of studies involving multiple measurement of mental health, some generalizations may be drawn. We shall consider first measures based on subjects' self-descriptions and then, more briefly, agreement between expert ratings of mental health in normal populations.

a. Subjective measures. The relationships among various subjective (self-rating) measures of mental health are particularly important, because a case can be made for their face validity. That is, while a person who thinks he has a heart condition may or may not "really have one," anyone who thinks he is unhappy, or worried, or nervous, "really is" unhappy or worried or nervous. In contrast to physical illness and some psychoses (although it is the author's impression that a high proportion of psychotics believe they are mentally ill), considering mental health in the general population, the symptom is the disease.

Although little attention was paid to the many studies intercorrelating or factor analyzing items in various personality scales for small and unrepresentative populations, five studies were located reporting intercorrelations for a considerable number of items on large and reasonably representative samples. They are:

1) Shirley A. Star's studies on military personnel in World War II. (32)

2) Americans View Their Mental Health, a recent national survey conducted by the University of Michigan Survey Research Center (11)

3) Unpublished NORC data on a national sample of arts and science graduate students (8)

4) Unpublished data from The Housing Environment and Family Life (39)

5) Fred Feidler's survey of college students and soldiers (9)

A landmark series of researches conducted during World War II has been reported in a four-volume series entitled The American Soldier. Numerous findings from these studies will be treated, but at present we are concerned with data from Shirley A. Star's chapter reporting the development of the Neuropsychiatric Screening Adjunct (NSA), a questionnaire designed to locate inductees whose mental health was questionable enough to warrant interviews by psychiatrists.

In order to develop the instrument, the research workers collected a battery of over 100 items by means of self-administered questionnaires from: a) 3,501 white, enlisted men with no overseas experience, and b) 563 psychoneurotic patients in army hospitals. The authors proceeded to construct Guttman scales (a technique for combining items which, according to particular statistical criteria, tap a single dimension) for 15 specific areas. Seven of the scales treat the soldiers' reports of current complaints and problems, the other eight refer to childhood and pre-army situations. The seven current measures and sample items are given below:

1. Psychosomatic symptoms (health problems, trouble getting to sleep or staying asleep, spells of dizziness, nervousness, sick headaches, "cold sweats," etc., etc.)

2. Personal adjustment (What sort of a time do you have in the army? In general, how would you say you feel most of the time, in good spirits or in low spirits? Do you think you can make good in the army?)

3. Acceptance of soldier role (If it were up to you, and you yourself had to decide, would you choose to be a soldier or a civilian? What kind of an outfit would you rather be in--combat overseas, non-combat overseas, or an outfit that will stay in the U.S.?)

4. Over-sensitivity (Do you often say things you wish later you hadn't said? How often do people hurt your feelings? Do you ever feel like smashing things for no good reason?)

5. Worrying (Do you worry very much about things that might happen to you? Do you ever seriously worry about whether or not there will be a real depression after this war?)

6. Sociability (How would you say the people you know feel about you? Almost all of them like me, most of them like me, etc. Before you came into the army did you usually go around with a bunch of others or by yourself?)

7. Identification with the war effort (In your opinion is the United States fighting for things that you feel are worth fighting for? Do you think you have as much of a personal stake in this war as anybody else?)

Except for psychosomatic symptoms, each of the groups formed a satisfactory Guttman scale, which is indicative of high internal correlations (internal correlations, however, are not reported in the book). The following table shows the product-moment correlations among the seven scales in the 3,501 case army cross-section (correlations among the psychoneurotic are almost identical) and the correlation between the scale and the distinction--cross-section v. psychoneurotic. (pp. 32, 496,497)

TABLE 1

PRODUCT-MOMENT CORRELATIONS AMONG MENTAL HEALTH MEASURES IN THE AMERICAL SOLDIER

Scales	Personal adjustment	Symptoms	Soldier role	Worries	Over-sensitivity	War effort	Sociability
Personal adjustment . .		.50	.49	.41	.43	.32	.17
Symptoms			.46	.43	.37	.23	.19
Soldier role				.35	.22	.35	.15
Worries					.34	.23	.15
Over-sensitivity . . .						.25	.22
War effort							.23
Sociability							
Cross-section v. Psychoneurotics	.42	.66	.35	.27	.33	.12	.33

Each of the correlations is positive, although not all are strong. Since a correlation of .081 is significant at the .01 level for samples of 1,002 or more, all the coefficients may be assumed to be reliable even though the sample is undoubtedly heavily clustered. Soldiers who are low on a given index of mental health or adjustment are disproportionately likely to be low on other measures, and low scores on each questionnaire scale distinguish between the army cross-section and the hospitalized psychoneurotics. Some of the correlations are "obvious" (e.g., the .35 correlation between acceptance of the soldier role and identification with the war effort), but it is less obvious that identification with the war effort should be related to psychosomatic symptoms. Similarly, the fact that symptoms and personal adjustment show the highest correlation in the table (.50) may surprise those who believe that somatic symptoms tend to be a substitute for conscious distress.

The data were subjected to factor analysis, from which the authors concluded that: 1) no more than one dimension could be profitably extracted and 2) the psychosomatic symptoms index was the best single measure of the underlying dimension.

While the absolute <u>size</u> of the relationships in many instances warns us that they cannot be considered as interchangeable parts, the <u>structure</u> of the intercorrelations supports the idea of unidimensionality.

The most recent and most representative sample in mental health studies is the 1957 national probability sample of personal interviews conducted by the University of Michigan Survey Research Center and reported

in the volume, Americans View Their Mental Health. (11) In terms of sampling, questionnaire design, interviewing, and coverage (U. S. adults, 21 or older, living in private households) the study meets the highest standards for survey research. Because the research was conducted on a crash time schedule to meet the needs of the Joint Commission on Mental Illness and Health, the analysis reported in the book has a number of gaps. However, the volume provides a rich source of materials, and subsequent analyses of the data are continuing at the Survey Research Center.

We shall draw on data from the book, and also from a recent article (37), in examining the problem of intercorrelations of subjective measures.

In Americans View Their Mental Health intercorrelations are reported only for items in a 20-item symptom checklist (trouble sleeping, nervousness, upset stomach, health trouble, etc., etc.) very similar to the psychosomatic symptoms index in The American Soldier. A matrix of intercorrelations is given separately for 956 men (11, p. 179) and 1,221 women (11, p. 180). The only other intercorrelation reported is a cross-tabulation of "Taking things all together, how would you say things are these days - would you say you're very happy, pretty happy, or not too happy these days?" (happiness) and "Do you worry about things a lot, or not very much?" (worry), (11, p. 29). Our calculations give a fairly low Q value of .166 for these two items, which are roughly comparable to the Personal Adjustment and Worrying scales in The American Soldier.

Veroff, Feld and Gurin factored the symptom matrices, and identified four different, but intercorrelated factors, getting similar results for men and women. The four symptom factors and the item chosen by Veroff, Feld and Gurin as their measures are as follows:

Physical Health

a) Do you feel you are bothered by all sorts of pains and ailments in different parts of your body?

b) For the most part, do you feel healthy enough to carry out the things you would like to do?

Physical Anxiety

a) Have you ever been bothered by shortness of breath when you were not exercising or working hard?

b) Have you ever been bothered by your heart beating hard?

Psychological Anxiety

a) Do you ever have any trouble getting to sleep or staying asleep?

b) Have you ever been bothered by nervousness, feeling fidgety and tense?

Immobilization

a) Do you find it difficult to get up in the morning?

b) Are you troubled by your hands sweating so that you feel damp and clammy?

Intercorrelations between scores on indices based on the above questions are reproduced below, values above the diagonal being for 1,036 men and values below the diagonal for 1,332 women. (11, p. 185)

TABLE 2

INTERCORRELATIONS OF SYMPTOM FACTOR INDICES (VEROFF, FELD AND GURIN)

Symptom Factor Indices	Physical Health	Physical Anxiety	Psychological Anxiety	Immobilization	
Physical Health		.38	.27	.08	
Physical Anxiety . . .	.38		.39	.19	
Psychological Anxiety .	.32	.39		.29	1,036 Men
Immobilization	.12	.22	.24		
					Women 1,332

The correlations are significant and positive, but low, and the matrix has a different structure than that in Table 1. Here, each measure is more closely related to its immediate neighbor than to more distant measures, so that at the extremes immobilization and physical health have a barely significant correlation.

In their recent article, the Survey Research Center team have proceeded to expand the analysis on two sub-samples from their survey, 255 employed married men with children, and 542 married women with children. The above mentioned items (four symptom factors, worries, unhappiness) along with a variety of additional measures (inadequacy as a parent, lack of uniqueness, marital happiness, etc., etc.) were subjected to factor analyses separately for each sex. By and large, the results for men and women were very similar, although particular items load differently in the two sexes. Considering only items with similar loadings for both sexes, the resulting factors and sample items are:

I. Felt psychological disturbance (symptoms)

Items loading on this factor are the four symptom factor scores, except that for men physical health loads on a separate dimension.

II. Unhappiness

a) Happiness, as defined above
b) Marital happiness, "Taking all things together, how would you describe your marriage--very happy, a little happier than average, just about average, or not too happy?"

III. Social Inadequacy

a) Job Problems (Have you ever had any problems with your work - times when you couldn't work or weren't getting along on the job, or didn't know what kind of work you wanted to do?) (applied to men only in these analyses)

b) Marital Inadequacy, "Many men (women) feel that they're not as good husbands (wives) as they would like to be. Have you ever felt this way?"

c) Parental Inadequacy "Many men (women) feel that they're not as good fathers (mothers) as they would like to be. Have you ever felt this way?"

d) Shortcomings in the self, "If you had a son (daughter) how would you like him (her) to be different from you?" (Wants child to be different)

IV. Lack of Identity

a) Uniqueness, "What are some of the ways in which you're different from most other people?" (Sees no difference)

b) Lack of strong points in the self, "What would you say were your strongest points?" (Sees none)

Another way of viewing the results is to re-arrange the matrices of zero order correlations so that variables are grouped according to their factor loadings. This is done in Table 3 below, values above the diagonal being for the male sample, values below for women. Parentheses around a coefficient indicate that it is not statistically significant at the .01 probability level.

Because there are 169 coefficients in the table, a wide variety of conclusions can be drawn. For the moment, let us merely note the following:

1) Of the total number of relationships, 1 is significantly negative (between worry and ill health for men), 87 are not significant at the .01 level, and 81 (48 per cent of the total) are significant and positive.

2) Worries, Lack of Uniqueness, Lack of Strong Points, and Shortcomings in the self are essentially independent of the other items.

3) The symptom indices, Happiness, Marital Happiness, Marital Inadequacy, and Parental Inadequacy tend to show low positive relationships, but 19 out of 72 (26 per cent) of their associations are not significant.

TABLE 3

TAU BETA INTERCORRELATIONS (VEROFF, FELI

FACTOR	I					II	
	Felt Psychological Disturbance					Unhappiness	
	Ill health	Physical anxiety	Psychological anxiety	Immobilization	Total symptons	Happiness	Marital happiness
	1	2	3	4	5	6	7
1		32	16	11	36	14	12
2	25		32	27	58	12	11
3	24	32		34	57	16	13
4	(07)	25	23		41	12	(04)
5	38	58	58	33		24	15
6	10	15	19	(02)	18		38
7	(06)	18	15	(01)	20	44	
8	(00)	14	15	16	16	(-01)	(01)
9	(00)	13	16	15	16	(03)	(04)
*10	-	-	-	-	-	-	-
11	(-03)	(07)	(08)	14	(08)	(00)	(04)
12	(00)	(-04)	(-06)	(-01)	(-03)	(02)	(02)
13	(07)	(03)	(01)	(-04)	(-01)	(04)	(04)
14	(06)	(08)	19	(06)	14	18	(05)

*Not applicable to women.

(<.11) (<.10) = Not significant at .01 level.
Men Women

AND GURIN) DECIMALS OMITTED

III				IV		
Social inadequacy				Lack of identity		Not loaded on any
Marital inadequacy	Parental inadequacy	Job problems	Shortcomings in self	Lack of uniqueness	Lack of strong points	Worry
8	9	10	11	12	13	14
(-01)	(06)	11	(-02)	(-02)	(03)	-17
(10)	17	15	(05)	(05)	(06)	(-07)
20	15	12	(06)	(-04)	(02)	(01)
24	14	16	(09)	-11	(01)	(09)
20	23	22	(09)	(00)	(03)	(00)
15	(08)	(03)	(10)	(07)	(04)	19
(04)	(00)	(01)	14	(05)	18	13
	30	26	15	(02)	11	(10)
37		25	18	(-08)	11	(07)
-	-		13	(02)	(-06)	(08)
20	16	-		(-07)	(06)	18
(-01)	(04)	-	(-05)		11	(-04)
(01)	(-01)	-	(-03)	13		(-01)
(08)	(04)	-	(05)	(-04)	(-01)	

542 married women with children

The contrast between The American Soldier and the Americans View Their Mental Health results is sharp. Even though both studies apply similar measures to rather large and heterogeneous samples, conduct similar analyses, and demonstrate a high level of technical competence, they lead to opposite conclusions on the important question of unidimensionality.

Because the questions are not identical, one matrix is based on scales and the other on individual items, the measures of association are different, and the sample sizes are very different, part of the discrepancy may be due to technical problems. However, in the symptoms items it is possible to find a set of materials where practically identical single questions were asked. Listed below are the items which are identical or almost identical in the two studies.

American Soldier	Americans View Their Mental Health
1) Do you have any particular physical or health problem?	20) Ditto
2) Do you often have trouble getting to sleep or staying asleep?	1) Ditto
3) Do your hands ever tremble enough to bother you?	14) Ditto
5) Are you ever bothered by nervousness?	2) Have you ever been bothered by nervousness, feeling fidgety or tense?
6) Have you ever been bothered by your heart beating hard?	9) Ditto
8) Have you ever had spells of dizziness?	11) Ditto
10) Have you ever been bothered by shortness of breath when you were not exercising or working hard?	8) Ditto

American Soldier		Americans View Their Mental Health	
11)	Are you ever troubled by your hands sweating so that they feel damp and clammy?	15)	Are you troubled by your hands sweating so that you feel damp and clammy?
12)	Are you ever troubled with sick headaches?	3)	Are you ever troubled by headache or pains in the head?
13)	How often are you bothered by having an upset stomach?	5)	Ditto
14)	Are you ever bothered by having nightmares (dreams that frighten or upset you very much)?	12)	Are you ever bothered by nightmares?

The agreement is close enough that a confrontation of the two studies on these items can avoid the problem of differential question wording and scales versus single items. Since Americans View Their Mental Health reports a matrix of correlations for 956 men (11, p. 179) and The American Soldier reports a matrix of cross-tabulations for 3,501 men (32, pp. 540-3), the sample sizes are roughly comparable and sex is held constant.

Table 4 shows the product-moment correlations from Americans View Their Mental Health, above the diagonal, and product-moment correlations computed for this report from The American Soldier data below the diagonal. (Numbering is from The American Soldier item list.) The mean value in Americans View Their Mental Health being .257, and the mean for The American Soldier data being .247, we can say that when the two studies ask identical questions there is little difference in the level of correlations reported.

More important, however, is the fact that there is a fair agreement between the two studies in the size of particular correlations. Chart 1 plots the intercorrelations from the two studies against each other.

TABLE 4

PRODUCT-MOMENT CORRELATIONS FROM AMERICANS VIEW THEIR MENTAL HEALTH AND THE AMERICAN SOLDIER

American Soldier \ Americans View Their Mental Health	1	2	3	5	6	8	10	11	12	13	14
1) Health problems . . .		24	20	25	26	29	36	11	22	20	12
2) Sleep	24		28	51	24	26	28	16	28	22	23
3) Hands tremble	20	32		39	27	26	27	37	22	19	26
5) Nervousness	31	39	49		34	34	32	36	34	28	26
6) Heart beating	19	20	19	30		36	52	20	17	27	20
8) Dizziness	16	30	19	27	31		36	18	32	22	27
10) Short breath	14	16	19	25	26	25		21	19	17	10
11) Hands clammy	21	25	29	36	26	19	22		20	16	21
12) Headaches	18	27	18	30	16	34	17	20		27	20
13) Upset stomach	20	30	22	32	18	24	20	27	26		19
14) Nightmares	08	30	28	30	25	27	27	26	23	28	

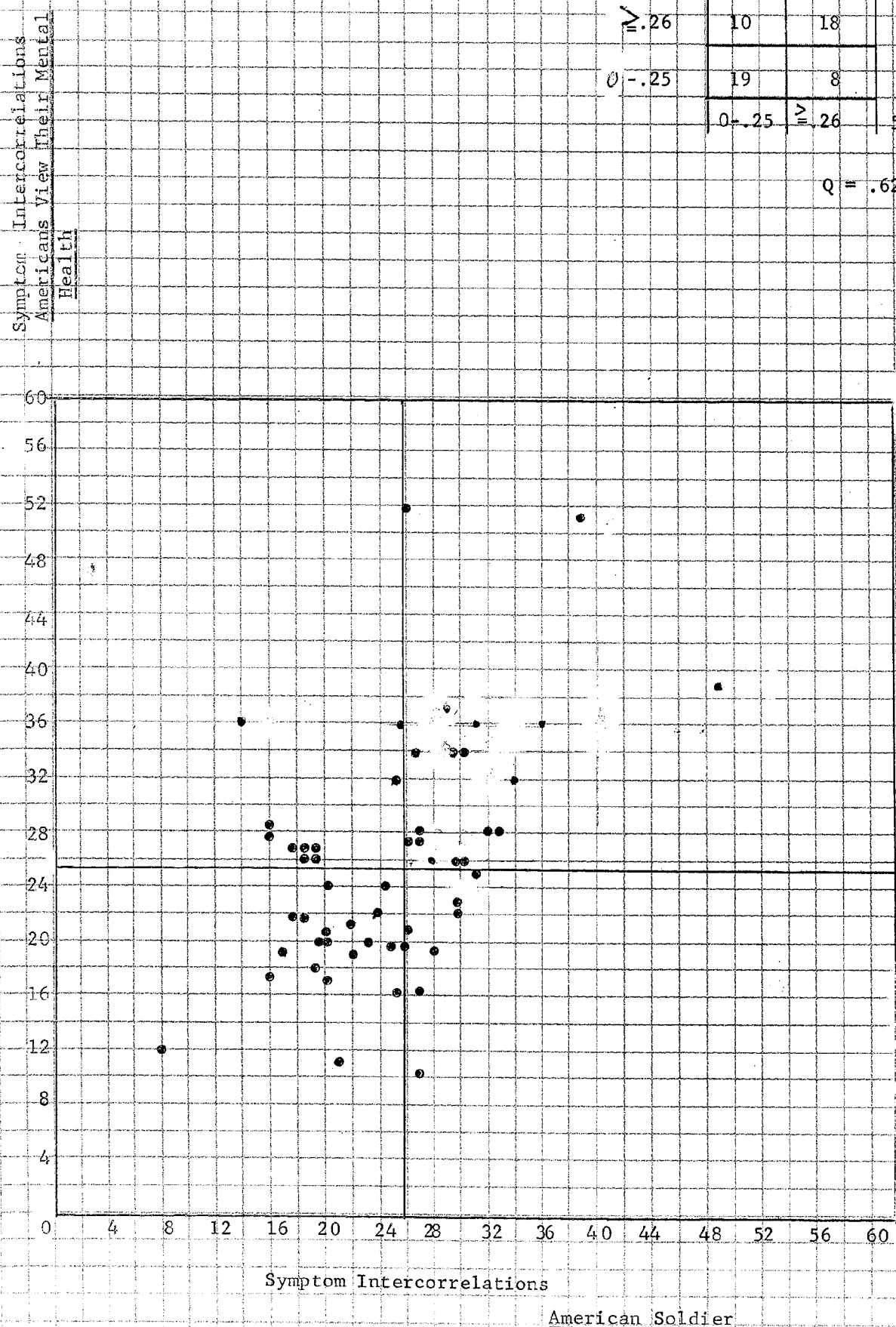
Av Correlation (N = 55) Americans View Their Mental Health = .257

The American Soldier . . . . . = .247

Chart 1

≥.26	10	18
0-.25	19	8
	0-.25	≥.26	55

Q = .621



Generally speaking, the correlations are correlated. That is, symptoms which have a high correlation in one study tend to have a high correlation in the other; symptoms with low relationships in one study tend to have low relationships in the other.

The confrontation gives us some perspective on the apparently contradictory conclusions from these two major studies. Since there is a general tendency for agreement when the two studies ask the same questions and use identical statistical procedures, it would seem that differences in their content (items like "lack of uniqueness," "parental inadequacy," "over-sensitivity," "identification with the war effort," etc., appearing in one or the other, but not both studies) and the use of scales versus single items play a large part in producing the apparent discrepancy.

However, it must be noted that the agreement between the two studies is only relative, and that even where identical procedures are used, identical results are not guaranteed. Table 5 below selects out the intercorrelations for selected items with high loadings on the symptoms factors extracted by Gurin, Veroff and Feld.

TABLE 5

INTERCORRELATIONS FOR ITEMS WITH HIGH SYMPTOM FACTOR LOADINGS
(GURIN, VEROFF AND FELD)

Items		Factors: Physical health	Physical anxiety		Psychological anxiety		Immobilization
		1	10	6	5	2	11
Health problems . .	1		36	26	25	24	11
Short breath	10	14		52	32	28	21
Heart beating . . .	6	19	26		34	24	20
Nervousness	5	31	25	30		51	36
Sleep	2	24	16	20	39		16
Hands clammy	11	21	22	26	36	25	

Americans View
American Sold.

We note some discrepancies:

1) While shortness of breath and heart beating hard have a very strong relationship in Americans View Their Mental Health (.52), the relationship in The American Soldier (.26) is no higher than their correlations with other symptoms.
2) In Americans View Their Mental Health, "Health problems" has a stronger relationship with the "Physical anxiety" items than with "Psychological anxiety" items; the reverse is the case in The American Soldier.

In short, while the relationships are generally similar, they are not so similar that identical clusters or dimensions will be found even when the measures are presumably identical.

To summarize, part of the apparent discrepancy between the two studies tends to come from differences in content and statistical procedures. However, even when the data are comparable, the similarity between the studies is general, not specific. Just as a life table tells us that generally speaking, 70-year-olds are worse risks than 20-year-olds, but it will not predict for specific 70-year-olds or 20-year-olds, these data tell us that generally speaking, subjective measures of mental health are positively correlated, but they do not guarantee relatively high or relatively low agreement for specific pairs of items.

Unpublished data from an NORC survey shed some additional light on this problem. In 1958 NORC collected self-administered questionnaires from a national probability sample of 2,842 arts and science graduate students, representative of master's and Ph.D. students in departments offering the Ph.D. in fields such as English, Chemistry, History, Psychology, etc., etc. ((8). Since the aim of the study was to examine the financial problems of the students, a certain number of mental health questions were included to explore the possibility that financial problems contributed to maladjustment among the students. Although certain data

have been reported in the volume Stipends and Spouses, no inter-correlation of the adjustment measures had been undertaken. One was carried out for this report, however, on the following measures:

1) Financial worries: "How much do you worry about your immediate financial situation?"
2) Spirits: "In general, how would you say you feel most of the time, in good spirits, or in low spirits?"
3) Good time: "In general, what sort of a time do you have in graduate school--very good time, pretty good time, about fifty-fifty, pretty bad time, rotten time?"
4) Health: "In general, how is your health at the present time?"

How often are you bothered by...

5) Headaches
6) Insomnia
7) Period of feeling blue
8) Periods when you can't force yourself to work
9) Worries about school work
10) Loss of appetite
11) Confusion about your goals in life

Because questions 2 and 3 are taken from the "Personal adjustment" scale in The American Soldier and items 5, 6, 8, and 10 are like the items in symptom indices, it is interesting to see their inter-correlation in a young, but highly educated, recent sample (82 per cent male, 49 per cent married, 51 per cent 27 or older, 100 per cent college graduate).

Table 6 gives the Q coefficients for the associations, grouped roughly as psychosomatic symptoms, general affective states (akin to happiness in the SRC study and Personal adjustment in The American Soldier) and content concerns (akin to Soldier Role, etc., in American Soldier, and Social inadequacy in Americans View Their Mental Health).

TABLE 6

Q COEFFICIENTS OF ASSOCIATION, GRADUATE STUDENT SAMPLE

Items	Symptoms					Affective states		Content Concerns			
	Health	Headache	Insomnia	Can't force	Appetite	Spirits	Blue	Good time	School	Goals	Financial worries
Health		.21	.38	.22	.46	.54	.33	.38	.29	.15	.16
Headaches			.43	.15	.32	.17	.28	.19	.27	.01	.12
Insomnia				.32	.47	.40	.48	.28	.42	.19	.12
Can't force					.30	.43	.53	.32	.55	.40	.15
Appetite							.50	.40	.60	.23	.19
Spirits							.77	.66	.43	.46	.32
Feeling blue								.50	.47	.47	.24
Good time									.54	.37	.38
School work										.41	.37
Goals in life											.14
Financial worries											

All but three of the coefficients (headaches x goals, headaches x financial worries, insomnia x financial worries) are significant at the .01 level,[6] a pattern more like The American Soldier data than the Americans View Their Mental Health findings. There are not enough common items to make a more specific comparison with the preceding studies, except that the average Q for the ten symptom intercorrelations in Table 4 (.326) is somewhat lower than Q values computed for the symptom item matrix from The American Soldier, whose average is .481. (Q's tend to run higher than product-moment correlations on the same data.)

Among the graduate students, then, psychosomatic symptoms, self ratings of general affective states (good spirits, blues) and concerns about specific content areas (worries about school, confusion about goals in life, adjustment to graduate school, and financial worries) tend to have low, but consistent positive associations.

A recent longitudinal study of the effects of public housing on physical and mental health provides further perspective on the problem by making available personal interview data on a rather different sample (lower class Negro women in Baltimore). The study itself (39) will be discussed in the chapter on experiments, but for present purposes all we need to know is that families accepted for public housing were matched with families not yet accepted, and interviewed repeatedly from 1955 to 1958. Included in the schedule were a number of Guttman scales

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[6] Because the sample, although a true probability sample, is clustered, standard tables were entered with the value of .67N rather than N.

involving content similar to the scales we have reviewed. Professor Daniel Wilner was kind enough to make available unpublished product-moment correlations among the scales for 296 "experimental" women and 292 controls. The scales, and sample items, are as follows:

1) Control of Temper (Is it often hard for you to control your temper? Are you the sort of person who almost never gets angry?)
2) Nervousness (Are you one of those persons who never gets nervous? Do you often feel that you are about to go to pieces?)
3) Mood (Do little things often make you feel blue? Are there times when you are so blue that you want to cry?)
4) Satisfaction with Personal State of Affairs (I'm really very happy about the way I've been getting along lately. Life is treating me pretty bad right now. Everything seems to go wrong for me nowadays.)
5) Optimism (It's hardly fair to bring a child into the world, the way things look for the future. If things seem to be going well for a while, there's usually some trouble right around the corner.)
6) Efficacy of Self-Help (Things will get better only if you actually get out and do something to make them better. You can work hard and in the end you're back about where you started.)
7) Authoritarianism (What young people need most of all is strict discipline. A good leader doesn't have to be strict.)

None of the scales is an exact duplicate of previously discussed measures, but since "nervousness" is one of the highest intercorrelating symptoms in The American Soldier and Americans View Their Mental Health, "Mood" is somewhat akin to the American Soldier's "personal adjustment," "Happiness" in Americans View Their Mental Health, and "Spirits" in the graduate student study (actually taken from the American Soldier personal adjustment scale); and "Control of Temper" is analagous to "Over-sensitivity" in The American Soldier; the comparison is worth considering.

Table 7 gives the product-moment correlations, from a middle wave of interviewing, coefficients for experimentals (N = 296) above the diagonal, controls (N = 292) below:

TABLE 7

INTERCORRELATIONS FROM BALTIMORE HOUSING STUDY

Scale ↓ / →	Temper	Nervous	Mood	Satisfaction	Optimism	Self-help	Authoritarianism
Temper		.37	.30	(.18)	(.17)	(.03)	(-.11)
Nervousness . .	.46		.52	.26	(.16)	(.18)	(-.00)
Mood	.35	.55		.38	.26	.21	(.02)
Satisfaction . .	.32	.45	.38		.45	.40	(.06)
Optimism	(.16)	.34	.29	.37		.58	.27
Self-help . . .	(.14)	.32	.23	.38	.69		.29
Authoritarianism	(.02)	(.18)	(.05)	(.10)	.36	.37	

NOTE: A personal communication from Professor Wilner indicates that all coefficients of .20 or greater are "significant." Coefficients of .19 or less are indicated by parentheses.

Like Table 2, these correlations can be arranged in a spectrum (or what Guttman calls a simplex structure) in which correlations between adjacent items are relatively high, but the values decline as one moves away toward either end of the list. (Formally, the criterion is one in which coefficients decline steadily as one moves away from the diagonals across rows or up and down columns.) Within the group of four measures which appear to be most similar to those previously discussed, all the correlations save one (which is borderline) are significant. Optimism about the future, belief in the efficacy of self-help, and authoritarianism (not the "F" scale measure of

"authoritarian personality") do not show consistent relationships with the more direct measures. Thus, this study confirms a trend which appears consistent in the research review so far: measures of symptoms and direct assessments of affective states tend to show low but consistent relationships, while more indirect and cognitive aspects (shortcomings, commitment to the war effort, self-help, etc.) have very low or non-significant relationships. Even in the Survey Research Center data, symptoms and the direct assessment of happiness show mostly positive (although low) relationships.

The fifth study is the last involving self-ratings among a sample of adults, and is based on four small samples of men, two (N = 87, 71) from university residences, and two (N = 52, 200) from military units. In the report by Fiedler and his colleagues (9) intercorrelations are reported for four subjective measures and a number of behavioral and observer rating items (health center visits, grade point averages for the students, disciplinary reports for soldiers, etc.) As the non-subjective measures show no consistent intercorrelations, Fiedler draws the negative conclusion that: "Our data yield no evidence justifying the assumption that adjustment, in its present state of definition, should be considered a unitary trait in clinically unselected populations." While we are not yet ready to draw a final opinion on Fiedler's conclusions, we can say that if only the subjective ratings are considered, our familiar pattern of low positive intercorrelations appears. The subjective measures are:

1) Taylor Manifest Anxiety Scale (36) (True or False answers to questions such as, "I am about as nervous as other people," "My sleep is often restless and disturbed," "life is often a strain for me," "When embarrassed I often break out in a cold sweat which is very annoying,")

2) Self-Esteem (average favorableness of self-ratings on 20 item semantic differential scales ...e.g., "Friendly - Unfriendly," "Stable - Unstable.")

3) Self-Satisfaction (low discrepancies between semantic differential rating of self and ideal self)

4) General Army Adjustment Scale (not described in the report, but apparently somewhat like The American Soldier, Personal Adjustment scale, data available only on one of the two army samples)

Table 8 gives the product-moment correlations for the four samples:

TABLE 8

INTERCORRELATIONS OF SELF-RATINGS IN FIEDLER DATA

Subjective Measures	College Men				Army				
	Sample N 87		Sample N 71		Sample N 52		Sample N 200		
	S-E	Taylor	S-E	Taylor	S-E	Taylor	S-E	Taylor	Army adjustment
Self-Satisfaction	.60**	-	.55**	.34*	.36**	.37**	.44**	.30**	.15*
Self-Esteem . . .		-		.25		.43**		.34**	.16*
Taylor									.27*

*= Significant at .05 level; - = data not collected.

**= Significant at .01 level.

Again, the now familiar result--low positive intercorrelations. The significant associations between self-esteem and the Taylor Scale, however, are surprisingly high in terms of the fact that Americans View Their Mental Health found no significant correlation between "Shortcomings in the self" and symptoms or happiness, the former appearing to be much like Self-Esteem and the latter much like the content of the Taylor items.

Thus, while Fiedler may be justified in his pessimism regarding the correlation between self-ratings and performance indices such as grade point averages, health center visits, visits to counseling centers among the students, within the self-rating data, his results are consistent with the other studies reviewed.

Having reviewed: a) The American Soldier, b) Americans View Their Mental Health, c) The NORC study of arts and science graduate students, d) data from Housing Environment and Family Life, and e) Fiedler's studies of soldiers and students, what conclusions can be drawn? It is not hard to state a general summary of the findings, but it is rather difficult to assess their import. The "facts" appear to be these:

1) Measures of mental health based on subjective assessments of "psychosomatic" symptoms,[7] generalized affective states (happiness, spirits, blues, etc.), and feelings of hostility, tend to show positive intercorrelations.

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[7] It is important to stress that calling an item "psychosomatic" does not make it psychosomatic. It may well be that headaches, insomnia, loss of appetite, have purely physical causes and that people experiencing physical distress can hardly be expected to feel psychologically chipper.

2) At the same time:

I. The correlations are low, product-moment correlations from .25 to .35 being typical, such relationships indicating that about 10 per cent of the variance in one measure can be accounted for by variance in the other.

II. The structures and patterns of correlations are inconsistent from study to study.

III. As one moves from directly perceived internal distress states to more intellectualized aspects (e.g., shortcomings) or content issues (e.g., commitment to the war effort, sociability) the sizes of the correlations drop sharply.

Rather than supporting either a "unidimensional" or "multi-dimensional" interpretation, these results appear to provide arguments against both. The basic argument against a unidimensional interpretation (that mental health is a single entity and that all these items are tapping the same phenomenon to differing degrees) is that the correlations are so low that for practical purposes the use of different items will lead to different results (examples of this will be seen in Chapter III). However, the lack of unidimensionality does not mean that the multiple dimensions of mental health can be located either, since no stable dimensions appear across studies, and some of the positive intercorrelations are surprising. For example, both The American Soldier and the Baltimore studies show a positive correlation between hostility and depressive states, which casts considerable doubt on the "obvious" distinction between internalization and externalization of hostility, and the "obviously" different dimensions of aggression and depression.

While the results are essentially ambiguous, and technical considerations intrude heavily (would improved measurement raise the correlations considerably, or conversely, are the correlations which exist an artifact of "response set," a verbal habit of giving extreme answers to questions?); our inclination would be to suggest that until more definitive results are obtained:

Conclusion 1

It may be assumed that in the general population, individuals vary along a dimension of generalized subjective distress, those people who are "high" on the dimension tending to multiple complaints in the areas of: a) over-all assessments of happiness, morale, spirits, blues, etc.; b) feelings of hostility; c) experiences of psychological tension--"nervousness," "tension," "high strung"; d) mild, multiple, and non-specific physical complaints--headaches, loss of appetite, insomnia, upset stomach, chronic tiredness, damp and clammy hands, mild irregularities of heart or respiration, trembling hands, "all sorts of pains and ailments in different parts of your body," etc., etc.

Recommendation 1

Because of the multiple indicators of this dimension and because of the low efficiency of measurement in these areas, research on Generalized Subjective Distress should use multiple item scales, rather than a single indicator, but analysis should be conducted on individual items as well as total scores.

b. Interrelations among experts' ratings. Having considered similar responses from the same person, we can now shift to the question of whether independent experts, evaluating detailed information on a given person, give similar ratings on mental health levels. Put this way, the question amounts to the statistical problem of the "reliability" of expert ratings.

Blum has recently reviewed this literature (3), citing nearly twenty studies (many of which are on clinical rather than normal populations), most of which draw rather pessimistic conclusions. For example:

> "Pasamanick and his colleagues report significant differences between diagnostic classification proportions between (similar) wards within a hospital..."
>
> "Ash reports that three psychiatrists working in a clinic could agree on the major diagnostic category on only 45 per cent of the patients who were seen by each..."
>
> "Lilienfeld, reporting on field interviewers, found only a 55 per cent agreement between two interviewers."

Our impression is that such conclusions are unduly pessimistic, because they use as a yardstick, the criterion of perfection. This point is important technically and substantively.

From a technical point of view, most of these studies use as their measure either significant differences in ratings or percentage matches. Significant differences in ratings, while hardly desirable, mean merely that the raters do not agree perfectly. It does not mean that they disagree or even have a low level of agreement. Similarly low percentages of matches are consistent with high levels of relative agreement. As a hypothetical example, if two psychiatrists rated cases on a 100-point scale and were always one point apart in their ratings, they would show zero per cent agreement along with a fantastically high correlation.

From a substantive point of view, one should compare psychiatrists against the standard of available alternatives. We have just seen that different questionnaire items and scales set only a modest competitive norm for reliability, and it can also be shown that other types of behavioral science ratings show only moderate reliability. Roger Heyns and Ronald Lippitt, reviewing small group observational techniques[8] show inter-observer correlations for different observational systems with the following ranges: Bales Interaction Process Analysis, .75 to .95; Heyns Conference Research Problem-Solving Category System, .64 to .97; Fouriezos, Hutt, and Guetzkow, Self-oriented Need Observational System, .67 and .73; Carter's Observational Procedures, average of .68. Since

[8] Roger W. Heyns and Ronald Lippitt, "Systematic Observational Techniques" in Gardner Lindzey, ed., Handbook of Social Psychology, Vol. I, pp. 370-404, (Addison Wesley, 1954).

these are all carefully defined systems for rating observable behavior, much less abstract concepts such as mental health, psychiatric reliability would not have to be perfect to be well within standards of craftsmanship for the trade.

An example from outside the laboratory underlines the point.

Sears, Maccoby, and Levin in 1951-2 collected semi-structured interviews from a sample of mothers of 379 kindergarten children in eight public schools in two suburbs of Boston (median age, 33.6; 22 per cent college graduates; 14 per cent less than high school; religious composition, "Protestant, Catholic, and Jewish faiths all strongly represented" /sic/). The children (the authors never report the number of mothers) comprise 79 per cent of the eligible children in the kindergartens, the eligibles (foreign-born parents, broken homes, twins, handicapped children, etc., were excluded) themselves comprising 75 per cent of the children in the kindergartens. (28)

Ten carefully trained advanced graduate students independently rated the mothers on 188 scale dimensions (e.g., "Duration of breast feeding," "Amount of pressure for modesty," "Amount of attention child wants," "Mother's evaluation of father") on the basis of the interview transcripts. Rater reliabilities for 143 of the scales are reported in an appendix to the book. The average product-moment correlation (uncorrected for sample size) between raters was .703. Some of the reliabilities are very high (.948 for age at completion of weaning; .884 for mother's reported reaction to the pregnancy, .991 for the number of children in the family) but for the dimensions most akin

to mental health ratings, reliabilities were considerably less. For example:

Mother's self esteem	.493
Mother's child rearing anxiety	.485
Mother's attitude toward mother role	.517
Mother's evaluation of father	.636
Mother's dissatisfaction with current situation . .	.652

Thus, inter-rater correlations of .50 to .60 seem reasonable for careful ratings of psychological dimensions from interview protocols.

The only data[9] using correlation coefficients for ratings of mental health in normal populations comes from a recent volume by Srole, Langner, Michael, Opler, and Rennie, Mental Health in the Metropolis. (31) The study will be considered in some detail later, but for now, all that need be reported is that three psychiatrists on the staff of a research project rated the over-all mental health of 228 respondents sampled from New York City, basing their ratings on lengthy personal interview questionnaires. The intercorrelations, in terms of product-moment coefficients are as follows: (38, p. 400)

TABLE 9

INTERCORRELATIONS OF PSYCHIATRISTS RATINGS (N = 228)

Psychiatrist	Psychiatrist		
	Rennie	Michael	Kirkpatrick
Rennie		.77	.61
Michael			.68
Kirkpatrick . .			

[9]This statement and all subsequent similar statements should be interpreted as meaning "there is only one such study of adequate technical quality located by the author during his limited search of the literature in English."

The results are hardly definitive: The three psychiatrists were long-term collaborators on a research project which probably enhances their agreement. The three are not representative of psychiatrists or clinical psychologists; we are not told how the 228 cases were selected; we are not told what steps were taken to insure that the ratings were independent, etc., etc. At the same time, these correlations compare favorably with the correlations among subjective measures and are about the same as those reviewed above for small group observational schemes.

Obviously, the degree of agreement can be improved, and we need further studies beyond this one, but our impression is that the "unreliability of psychiatric ratings" has been over-sold and has become an unrealistic obstacle to research in mental health (partly because it serves as a rationalization for the continuing battles between behavioral scientists and psychiatrists, whose collaborations have often been stormy indeed).

Furthermore, we believe that the problem is not terribly important, from the viewpoint of research. From the viewpoint of practice, the fact that there is low reliability among practitioners raises a large number of important policy problems; but from the viewpoint of research, it is well known that rater reliability can be increased by: a) breaking down the rating task into specific, simple parts; b) improving the clarity of the definitions; c) training the raters; d) providing sufficient and appropriate information for ratings. From this point of view, the low reliability of psychiatric ratings stems not from the "psychiatrist-ness" of psychiatrists but

from the fact that they have been asked to rate abstract, fuzzy dimensions, from fuzzy data. Thus, our prediction is that if studies are conducted (or a better review of the literature discloses a number of studies) more of the difference will come from the dimensions to be rated and the information provided than from variation among psychiatrists. At one extreme, one would expect that there would be high agreement on "the degree to which the person is prevented from carrying on daily activities" as assessed from lengthy structured personal interview schedules, and low agreement on "capacity to give and receive love" on the basis of 30 minute informal interviews.

At the same time, it would improve one's ability to assess research results if there were available a standardized rating system with known reliabilities, and this system were to be used routinely in mental health research, as is coming to be the case with symptom checklists and the Taylor Manifest Anxiety Scale.

Conclusion 2

The slim available evidence on the reliability of psychiatric ratings on the mental health of normal populations is that, while reliability is low, it is no worse than other measurement and rating techniques which are accepted without question.

Recommendation 2

Technical research should be conducted, using available interview protocols on representative populations, in order to develop (using a fairly large number of psychiatrists and clinical psychologists) rating procedures for assessing mental health which are reliable[10] with the goal of product-moment correlations between independent, "blind" raters of .90 or higher, after training of one day's duration or less.

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[10] Reliability, of course, is a different issue than "validity." This does not, however, make it an unimportant issue.

Recommendation 3

Research using expert raters should use the pooled ratings of two or more raters, each of whom is required to give independent assessments on the same materials on a common rating scale or category system.

2. The problem of degrees

Although closely associated with the problem of dimensionality, the problem of "degrees of mental health" is slightly different. Even if one accepts the conclusion that there is a general phenomenon which can be called "mental health," two important questions are left open: How healthy is the American population? Is mental illness the extreme end of the continuum?

This section will be relatively brief because we have been unable to unearth research which provides anything like an answer to either of these problems.

We have considered the measurement of mental health in some detail without considering the obvious question "How healthy is the general population?" In spite of the fact that certain studies have come up with numbers (Mental Health in the Metropolis, for example, suggests the well publicized figure of 23.4 per cent "impaired" and several similar studies are reviewed in that book [31, pp. 138-145]), it is our opinion that existing techniques of measurement cannot yield meaningful estimates of over-all levels of mental health. The reason is technical, but simple. All existing measures provide orderings or rankings of subjects, not assessments of levels. The question has nothing to do with reliability and validity, but with the logic of measurement. The existing measures of mental health are like beauty

contests, in which judges may be able to order the contests quite reliably and their order may show a high correlation with some "true" measure of beauty. At the same time the results cannot tell us how many girls in the contest are beautiful. The judges could be working with a population of raving beauties or of unattractive girls, but the ranking does not betray this.

For purposes of presentation or statistical analysis it is often useful to attach numbers to these scales or divide them into "High," "Medium," and "Low," but without an outside criterion, such operations have meaning only within the sample.

Thus, except in the trivial sense of "half the population is below average in mental health," or "blank per cent of the population falls below a point we have arbitrarily chosen to call mentally healthy," these measures are only useful for internal comparisons (e.g., it is meaningful to conclude that "People in this community are more likely to fall below the arbitrary cutting point than people in that community") and have no intrinsic meaning.

Conclusion 3

Measures of mental health, using existing techniques, are meaningful only for assessing relative differences between population groups, not absolute levels.

A similar negative conclusion must be drawn on the important question of whether extremely bad mental health is to be equated with mental illness. The idea that below a certain point on measures of mental health, one would find mostly people either in mental hospitals or non-hospitalized persons who would be diagnosed as mentally ill is a

keystone in the assumptions of mental health education, but there is no evidence to substantiate it. It is not our intent to review here the entire literature on mental illness, but we feel that the following generalization would be supported by a detailed review:

1) The etiology of the so-called "functional psychoses" is unknown today.

2) Hospitalization or outpatient treatment for mental illness is so heavily influenced by extra-clinical factors (the availability of treatment facilities, attitudes toward psychotherapy, families' tolerance of and facilities for maintaining a malfunctioning member in the home, court and police definitions of deviance, etc.) that it does not provide an appropriate research measure of mental illness.

3) There has been no study of a normal population which showed that persons with unfavorable scores on measures of Generalized Subjective Distress are more likely to develop psychoses or neuroses.

It must be quickly granted that there is no evidence against the idea either, but the mental health educator's assumption that attempts to improve mental health among "normals" are preventative of severe mental illness is a matter of faith, not based on research evidence. This does not mean that amelioration of worries, unhappiness, psychosomatic symptoms, hostilities, etc., is not a justifiable end in itself, but such efforts cannot be justified today in terms of demonstrable efficacy of "prevention."

Conclusion 4

There is no research evidence for or against the assumption that mental illness is the extreme form of the phenomenon we have called Generalized Subjective Distress.

Recommendation 4

High priority should be given to longitudinal studies of the relationship between Generalized Subjective Distress and mental illness. In particular because of the lengthy time intervals, special priority

should be given to studies in which large samples of people whose mental health was assessed previously are followed up to determine, at the least, hospitalization or treatment, but preferably current mental illness and adjustment.

B. Acceptance of Principles of Adjustment

Having reviewed the status of research on mental health states, let us turn to studies dealing with the principles of mental hygiene which are assumed to affect mental health and whose dissemination plays such a large role in mental health education programs. Because of the assumed importance of child rearing, we shall treat principles of adult adjustment first and then consider separately principles of child development.

1. What the general population and experts believe

Three published studies were located presenting data on cross-sections of the general population and their beliefs about principles of adult adjustment and prevention of mental illness.(19, 24, 40) Two of them are fairly brief, but the third is a major study with a wealth of important detailed information.

We will begin with Jum Nunnally's research as reported in his book, Popular Conceptions of Mental Health. (19) Nunally proceeded as follows:

1) A pool of over 3,000 items was collected from mental-hygiene books, professional publications, and mental health pamphlets
2) The pool was reduced to 240 items by removal of apparent duplicates, and items re-worded so that a random half were reversed in meaning (to offset any tendency for some subjects to give consistent "yes" or "no" answers)

3) The 240 item questionnaire was administered to a non-probability sample of 349 persons living in the vicinity of Champaign-Urbana, Illinois (54 per cent male; 72 per cent Protestant; 23 per cent less than high school; 38 per cent college graduate; 70 per cent married; 54 per cent 40 or older, with an age range from 15 to over 90).[11]

Each respondent was asked to check each item on a seven-point scale with the extremes labeled "Disagree" and "Agree." For example:

X-rays of the head will tell whether or not a person is likely to develop insanity.

Disagree						Agree
1	2	3	4	5	6	7

In Appendix I of the book the distributions of the 349 subjects are given for each of the 240 items. Because a large number of the items deal with characteristics of mental patients and mental hospitals (e.g., "The insane have facial expressions like those of normals," "Few of the people in mental hospitals require special diets"), which are not at the core of our concern, we shall consider a selected group of items dealing with adjustment problems of normal adults and with ideas about the causes and prevention of mental illness.

In a later study some of these items were submitted to a national probability sample of mental health experts, and responses are reported for 176 experts, as follows:

86 out of a sample of 150 psychologists, 75 of whom were randomly selected from diplomates in clinical psychology, 75 from diplomates in counseling and guidance, from American Psychological Association files.

90 out of the 150 psychiatrists who were members of the Group for Advancement of Psychiatry.

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[11] No date is reported for the questionnaire administration, but presumably it was in 1955 or 1956.

Experts were asked to rate each item in terms of whether it should be repudiated or supported in public-information programs, as follows:

Repudiate			Omit			Support
1	2	3	4	5	6	7

We took the raw numbers in the general population data and proceeded as follows: The total cases checking 1 or 2 was compared with the total cases checking 6 and 7, and the larger of these was divided by the total. For example:

Showing a great deal of affection to a child can prevent him from developing independence.

Disagree						Agree
103	64	36	30	36	41	39
167					80	

167/349 = 48%.

The figure of 48 per cent means that 48 per cent of the total disagreed with the statement and that disagreement was more common than agreement. The resulting index combines the position of the public with its extent of homogeneity, low figures suggesting low homogeneity. Thus, a figure of 33 per cent agree means that even though agreement was more common than disagreement, only a third of the sample took the modal position. A similar procedure was followed where the experts rated the same item.

Below are the results on adjustment problems of normal adults, ranked in terms of the percentages, with the modal response indicated in parentheses:

		Champaign Sample	Experts
Short men are less likely to have feelings of inferiority than men of average height	(Disagree)	63	
A person can avoid worry by keeping busy	(Agree)	61	27 (repudiate)
An emotionally upset person will become calmer if he talks about his problems	(Agree)	60	
Ulcers are most frequently found in unaggressive-acting people . .	(Disagree)	60	
It is harmful to a person's mental health to let others dominate him	(Agree)	58	
Jealousy is a sign of feelings of inferiority	(Agree)	58	
We dislike people who show the qualities that we dislike in ourselves	(Agree)	55	
The best way to get over a fear of high places is to gradually get used to them	(Agree)	54	
A job promotion is usually helpful in curing a person's inferiority complex	(Agree)	54	
Shyness is not inherited	(Agree)	50	
Inferiority complexes often occur in people with high abilities . .	(Agree)	50	
Aggressive people are usually more sure of themselves	(Agree)	49	
People of average intelligence are usually more popular than people of high intelligence	(Agree)	48	
People who have been reared in prosperous environments enjoy adult life more than those who have been reared in poor circumstances	(Disagree)	47	
Anger is never simply forgotten--it comes out in one way or another	(Agree)	46	
Criminals have more nervous breakdowns than other people	(Disagree)	46	
It is injurious to a person's mental health to think a great deal about any one problem . .	(Agree)	45	

		Champaign Sample	Experts
Emotionally unstable people act nervous only when others are around	(Disagree)	44	
"In-law" trouble is the largest cause of divorce	(Disagree)	43	
People remember unpleasant events longer than pleasant ones	(Agree)	40	
People who go from doctor to doctor with many complaints know that there is nothing really wrong with them	(Disagree)	38	72 (repudiate)
If you try acting as though you like someone, you will learn to like him eventually	(Agree)	37	
People with college educations have less trouble solving their emotional problems	(Disagree)	36	
Boys are more likely to develop a "nervous disposition" if they have no father rather than no mother	(Disagree)	29	
Men worry more than women	(Disagree)	35	25 (repudiate)
People who are in good physical condition seldom have emotional upsets	(Agree)	35	
Emotionally upset persons are seldom found in important positions in business	(Agree)	34	37 support
A person can rid himself of unpleasant memories if he tries hard enough to forget them	(Agree)	34	59 (repudiate)
It would improve anyone's mental health to spend a certain amount of time each day thinking over his emotional problems	(Disagree)	31	
Emotionally healthy people do not try to hold back their emotions .	(Agree)	30	65 support
If a person concentrates on happy memories, he will not be bothered by unpleasant things in the present	(Agree)	29	47 (repudiate)

Because idiosyncracies of question wording make large differences in the percentages of agreement on attitude items, one should exercise caution in drawing inferences, particularly since

Nunnally did not have a probability sample. However, the results for these 31 items suggest the following ideas, most of which are noted by Nunnally in his general conclusions:

1) The public is far fron unanimous on these questions, no item receiving two-thirds endorsement or rejection, and 19 out of the 30 receiving less than 50% in the modal category.

2) Most of the items receiving high endorsement are bits and pieces of popularized psychology (ulcers and aggressiveness, "inferiority complexes") and platitudes (an emotionally upset person will become calmer if he talks about his problems), not folk beliefs or principles flatly rejected by the experts.

3) Public beliefs are contradictory (e.g., You should not hold back your emotions but if you concentrate on happy memories you will not be bothered by unpleasant things).

4) The closest to a discrepancy between experts and the general public seems to be in the area of "denial," the public believing that keeping busy, trying to forget, and concentrating on happy memories helps solve distress, but the experts opposing these ideas.

Turning now to beliefs about the etiology of mental illness and "nervous breakdowns" among adults, we get the following:

	Champaign Sample	Experts
A person's mental illness may come from having a spell cast on him by a fortune teller	(Disagree) 86	
Insanity is not brought on as a punishment for sins	(Agree) 83	
People who live in the country are more likely to become insane than people who live in large cities . .	(Disagree) 75	
Many nervous breakdowns could be prevented if people changed to jobs that fit them better	(Agree) 74	
Nervous breakdowns seldom occur among people in high income groups	(Disagree) 74	
Worry over health brings on many emotional problems	(Agree) 72	

		Champaign Sample	Experts
People who belong to clubs and social organizations are more likely to develop mental illness than those who do not	(Disagree)	70	
People who do a variety of things in their work are more likely to have a nervous breakdown than those who do routine jobs	(Disagree)	69	
One severe fright does not make a person "nervous" for the rest of his life	(Agree)	65	
Financial worries are seldom the cause of nervous breakdowns	(Disagree)	60	
Women who have no children are less likely to develop emotional disorders	(Disagree)	59	
If a person's mind is going to "crack," nothing can prevent it	(Disagree)	58	
"Nervousness" is not a sign of oncoming insanity	(Agree)	56	
Most people can recognize the type of person who is likely to have a nervous breakdown . . .	(Disagree)	54	77 (repudiate)
A confession of sins will not prevent insanity	(Agree)	53	
If a person has more than the average amount of sexual relations, it can drive him insane	(Disagree)	52	
Some people are born with the kind of nervous system that makes it easy for them to become emotionally disturbed	(Agree)	50	
Mental disorders are more widespread than they were twenty years ago	(Agree)	51	
Insanity comes about gradually.	(Agree)	50	
A nervous breakdown will grow into insanity if help is not given	(Agree)	47	
People who have little sexual desire are less likely to have a "nervous breakdown" than are other people	(Disagree)	45	49 (repudiate)

		Champaign Sample	Experts
If a person says he is "going crazy," there is little chance that he will do so	(Agree)	46	
Most of the people who have had nervous breakdowns have had more real problems than normal people	(Disagree)	45	
Normal men do not become mental cases in the stress of battle	(Disagree)	43	
People who attend church regularly are as likely to end up in a mental hospital as those who do not	(Disagree)	42	
More men than women have nervous breakdowns	(Disagree)	37	29 (repudiate)
Normal people cannot suddenly become insane	(Disagree)	35	
Highly educated people are more likely to "lose their minds" than other people . .	(Disagree)	35	
Nervous breakdowns usually come after a person has had some personal tragedy . . .	(Agree)	35	
A nervous breakdown can often be avoided by moving to a different city	(Disagree)	33	45 (repudiate)
People who are likely to have a nervous breakdown pay little attention to their personal appearance	(Disagree)	31	45 (repudiate)
People who appear nervous and fidgety are the ones most likely to have a nervous breakdown	(Disagree)	25	
Financial trouble is the most frequent cause of nervous breakdowns	(Disagree)	24	
Books on "peace of mind" prevent many people from developing nervous breakdowns	(Agree)	23	21 (repudiate)

Again, considering the tentative inferences which can be drawn from such data, we would suggest:

1) The general public strongly rejects folklore on mental illness (spells, punishments for sin) and although very few of the items were given to the experts, there is general agreement with the experts on the four comparable questions.

2) The general public accepts the "current environment" hypothesis of mental health education, giving fairly high assent to the suggestion that mental illness can stem from job problems, health difficulties, and financial problems.

3) The general public appears confused on the problem of whether some people are "prone" to mental illness, independent of environmental stress, items dealing with predisposition showing lower percentages, and hence, less consensus.

At this point it may be well to briefly review the two other studies which bear on public beliefs about the etiology of mental illness.

Julian Woodward, reporting on an area probability sample of 3,971 Louisville, Kentucky adults, interviewed in 1950, reports that 72 per cent of the sample answered "False" to the question, "Most mental illness is inherited." (40) However, an indirect measure yielded some doubts that the population really associates behavioral stresses with mental illness. Respondents were read the following:

"Mr. G., a 52 year-old machinist...had always been a hard worker who had worried a lot about making both ends meet for his large family. One day his job at the plant was given to someone else and he was told by his employer that he was no longer needed. After this happened, he became very depressed, accused himself of being a complete failure, and worthless to his family. He refused to look for another job or to take an interest in anything and finally tried to commit suicide."

Remembering that clear majorities of the Nunally sample endorsed various versions of the idea that job problems can lead to mental "breakdowns" it is interesting to see what the Louisville sample recommended from a forced choice list of actions:

TABLE 10

LOUISVILLE STUDY

Action Presumably Indicating Situation Was...

	Per cent
Not Defined as Mental Illness	
His family and friends should give him a good pep talk and urge him to look for another job . .	33
He should have a good long rest away from his family responsibilities and worries	15
He should be given plenty of time to recover from shock of losing his job and then he'll be all right again	14
None of them, Don't know	9
Total .	71%
Defined as Mental Illness	
He should be sent to a psychiatrist for consultation and treatment	11
He should be sent to a mental hospital or asylum until he is better	2
Total .	13%
Indeterminate	
He should go to his family doctor to find out if there is a physical illness that is causing him to feel badly	16
Grand Total .	100% (N = 3,971)

Considering that 81 per cent of the Louisville sample agreed that "It's always worthwhile to get a psychiatrist's help when someone begins to act queerly or get strange ideas," and assuming that the two populations are comparable, the distinct suggestion is that the general population fails to translate its abstract acceptance of mental health principles into appropriate responses in concrete situations.

The final study by Ramsey and Seipp (24) is based on a quota sample of 345 respondents in Trenton, New Jersey, interviewed during the late 1940's. Over-all results on relevant items are as follows:

TABLE 11

TRENTON, NEW JERSEY RESULTS

	Per cent
Do you or do you not think that insanity is inherited?	
Yes, Unqualified	22
Qualified	40
No, Unqualified	32
Don't know	6
Total . . .	100% (N = 345)
Some people believe that poor living conditions are a cause of insanity. Others disagree. What is your opinion?	
Agree	27
Qualified Agreement . . .	19
Disagree	52
Don't know	2
Total . . .	100% (N = 280)
Do you believe that insanity is God's punishment for some sin or wrong doing?	
Yes	14
Yes, Qualified	7
No	74
Don't know	5
Total . . .	100% (N = 344)

Since the "living conditions" question is hopelessly ambiguous, all that can be concluded is that this study is in agreement with the other two in a very low acceptance of folklore and a lack of consensus on predisposing factors, in this example, heredity.

The Nunnally data are so rich and reported in such full detail that it is worthwhile to return to that study to consider two additional problems--the degree of structuring of lay opinions and the degree of consensus among the experts.

In order to examine the pattern of interrelations among the items Nunally subjected 180 of the 240 items to factor analysis, excluding

60 items with little variation. Ten factors were extracted, and are described in the book. More important, however, are Nunnally's general conclusions:

> "Public Information is not highly structured... Correlations among the items were generally low. The average correlation, disregarding sign, was about .25. The factors which were derived were not statistically strong. Few of the loadings were above .40 and the first ten centroid factors explained less than 25 per cent of the total item variance....People are unsure of the correctness of their information and will change their opinions readily... people often agree with inconsistent statements or fail to agree with apparently consistent statements." (19, pp. 21-22)

Nunnally's own conclusions will serve to summarize our review of materials on the beliefs of the general public:

Conclusion 5

1) The average man rejects the superstitions and obvious misconceptions about mental health (19, p. 28)
2) The public is uninformed, in the sense that the average man has little information, correct or incorrect, about many of the problems (19, p. 232)
3) What information he has exists largely as an abstract system. (19, p. 28)...which is ignored, rather than rejected in practical life situations.

To which we would add:

4) In the abstract, the general population accepts the idea that environmental stress leads to mental illness, but it has few firm opinions on predisposing factors.

After analyzing similar data on the questions submitted for expert evaluation, Nunnally concluded, "Experts are in reasonable agreement about some aspects of a public information program." (19, p. 36). Even though the conclusion is carefully hedged, our evaluation of the same figures is less optimistic. To begin with, Nunnally bases his conclusion

on the fact that the item variances of the experts are about one-half of those for the general public, and thus experts show less disparity. However, this demonstrates only relative agreement. When absolute levels of agreement are considered, and gross fallacies are excluded (e.g., 88 per cent of the experts agreed that mental health programs should repudiate the idea that "Most people who 'go crazy' try to kill themselves.") agreement on personal adjustment techniques and prevention of mental illness is far from clear. Here, percentaged as above, are the experts' responses:

	Per cent in Modal Category
Adjustment problems	
People who go from doctor to doctor with many complaints know that there is nothing really wrong with them (Repudiate)	72
Mental health is largely a matter of trying hard to control the emotions (Repudiate)	65
A person cannot rid himself of unpleasant memories by trying hard to forget them (Support)	59
If a person concentrates on happy memories, he will not be bothered by unpleasant things in the past (Repudiate)	47
Emotionally upset persons are often found in important positions in business (Support)	37
Women have no more emotional problems than men do (Support)	30
A person can avoid worry by keeping busy (Repudiate).	27
Men worry more than women (Repudiate)	25
Etiology	
Most people can recognize the type of person who is likely to have a nervous breakdown (Repudiate)	77
Almost any disease that attacks the nervous system is likely to bring on insanity (Repudiate)	67
People who have little sexual desire are less likely to have a "nervous breakdown" than are other people (Repudiate)	49
People who are likely to have a nervous breakdown pay little attention to their personal appearance (Repudiate)	45

Etiology--Continued	Per cent in Modal Category
Physical rest will not prevent a mental disorder (Support)	37
Physical exhaustion does not lead to a nervous breakdown (Support)	35
Adult problems are less important in causing emotional disorders than the individual's childhood experiences (Repudiate)	31
More women than men have nervous breakdowns (Repudiate)	29
Books on "peace of mind" prevent many people from developing nervous breakdowns (Repudiate)	21

Of the 17 items, only three drew two-thirds endorsement from the experts and these tend to be the denial that principles exist (Trying hard to control emotions is not helpful, potentially mentally ill people can not be recognized, diseases of the nervous system do not always bring on insanity). At the opposite extreme on the crucial principle of predisposition versus stress there is only a 31 per cent choice of the modal position.

More important, perhaps, is the negative tone to the entire set. The experts, naturally, could react only to the items that Nunally presented, but unless Nunally deliberately withheld positive, practical ideas, it is difficult to find on his list a single positive suggestion for mental health improvement which the experts endorse. The experts are against "Peace of mind books," physical rest, keeping busy, concentrating on happy memories, neurological explanations, and attempting to control the emotions, but it is hard to find anything they are "for."

The experts are not withholding precious secrets from the laity, for the obvious reason that there does not exist any set of practical techniques for mental hygiene, backed by research and endorsed by a

majority of the experts. The point is important (and is the reason why this research was commissioned), but important points are often overlooked. The mental hygienist is in a very different position than the political propagandist, the money raiser, the class-room teacher, or the merchandizer, simply because although he feels it is tremendously important to inform the public, the only information he has is a rejection of extreme beliefs which the public does not hold, anyway.

Conclusion 6

While the experts are in fair agreement on fallacies of mental health, they have no set of practical, positive actions to recommend to the general population regarding personal adjustment and the prevention of mental illness.

2. Correlates of acceptance

We can complete our review of acceptance of principles of adult mental health by considering briefly what is known about population differences in acceptance of these principles. Again, we shall rely heavily on Nunally's book.

On the basis of his factor analysis, Nunnally prepared a new questionnaire, limited to 50 items showing high loading on the factors. (It was this questionnaire which was given to the experts, which explains why so few of the preceding items were rated by both experts and the Champaign sample.) The new schedule was administered to "an area sampling" (sic) of 201 respondents in Knoxville, Tennessee, and to an undefined sample of 150 subjects in Eugene, Oregon "consisting mostly of couples with young children." Added to the original Champaign sample, these give a total of 700 respondents answering the items in the revised questionnaire. In Popular Conceptions of Mental Health, zero order correlations

are reported between Education, Income, Age, and Sex and factor scores for the ten dimensions, for this pooled sample of 700 subjects. The results are submitted below:

TABLE 12

CORRELATIONS SIGNIFICANT AT THE .01 LEVEL

Factor	Education	Income	Age	Sex (Female)
II. Will power[1]	-.35	-.28	.18	*
IV. Avoidance of morbid thoughts[2]	-.24	-.17	.38	.10
VII. External Environment v. Personality Dynamics[3]	*	*	.16	.10
X. Organic causes[4]	-.21	-.16	*	-.11

* = Not significant at the .01 level.

[1] Will power is the basis of personal adjustment. Persons who remain mentally ill do not "try" to get better. Most of the people who seek treatment do not need it.

[2] Preoccupation with pleasant thoughts is the basis of mental health. Mental disturbances can be avoided by keeping busy, reading books on "peace of mind," and not discussing troublesome topics.

[3] Mental troubles are caused by physical exhaustion, financial and social problems. A cure can be effected by a vacation or change of scenery. The opposite view is that the individual's state of well-being is dependent on his personal history, especially his childhood.

[4] Mental disorder is brought on by organic factors like poor diet and diseases of the nervous system.

Limiting our attention to the four factors most closely associated with mental health principles as defined here, we see that the correlations, though small, are as one would expect. The population groups who would be expected to be well-informed (the highly educated, well-to-do, and the young) reject the idea that will power or avoidance of morbid thoughts are effective mental hygiene principles. High education and income are

associated with a rejection of organic causes, while youth (but not education) is associated with the personality dynamics theory of mental illness.

It is always difficult to interpret age differences as they may follow from the experience of aging or the differential experience of different historical generations, but our belief is that these data support the idea that over the years the general public (whether through formal education, mass media, or mental health education programs) is being pulled toward the positions endorsed by mental health experts. The point is so obvious that it hardly needs complete documentation, but it does provide indirect evidence for the important idea that public opinion has and can be modified. Among the other studies pointing in this direction:

1) Meyers compared physicians under 50 and over 50 in a sample of New Jersey doctors not specializing in psychiatry or neurology and concluded "Young physicians indicated a greater interest in psychiatry, an apparently greater awareness of mental health problems, and a greater amount of factual information about psychiatric facilities in the state." (18)

2) Hunter, in reporting on a 1955 study of New Orleans teachers, reviewed a number of additional studies, all of which show an increasing convergence over the years between teachers and mental health experts' ratings of the seriousness of specific children's behavior problems, since Wickman's 1928 study. (13, 38)

3) As part of his series of studies, Nunnally polled a representative sample of members of the American Academy of General Practice and concluded, "It is clear that younger doctors are more sensitive to symptoms of mental illness in their patients, are more likely to treat such patients themselves, see these problems in terms of personality development, rather than as matters of will power, and put less faith in tranquilizing drugs." (19, p. 100)

4) Ramsey and Seipp show that higher education and youth are associated with rejection of the idea that insanity is hereditary, God's punishment, or due to "poor living conditions." (24)

5) Woodward, in his Louisville study, states, "the age breakdowns on nearly all of the questions show a clear cut differential between the old and the young, with the latter uniformly the more 'humanitarian.' The young are also nearly always more 'scientific' in viewpoint in the sense that they more often favor calling in professional help... The same contrasts appear in the breakdowns by education." (40)

Since in the general population the young are much better educated and none of the general population studies holds education constant in their age comparison, their conclusions are not firm. Nevertheless, the age differences in physicians and teachers, in effect, hold constant level of education, and support the idea of historical change, particularly since the Hunter study reviews research over a number of years.

Conclusion 7

The general effect of information flow in the United States is to increase the agreement between the population and mental health experts, and those persons most exposed to information show the greatest agreement.

C. Principles of Child Development

It is not our aim to review here the entire literature on child development and personality, an academic area which is, in itself, a specialized discipline. Furthermore, Brim's 1959 book, Education for Child Rearing, attempts such a review from the viewpoint of programs for parent education. (6) Rather we shall limit our attention to two problems:

1. What the general population and the experts believe

2. Correlates of acceptance

1. What the general public and the experts believe

While what parents do has been widely studied, the question of what parents believe has received little attention, undoubtedly because of the feeling that in child rearing "actions speak louder than words." Again, and for the last time, we shall return to Nunnally's Champaign sample for our only information. Repeating our percentaging procedure for the general population and the experts, the following results are found for items on child development.

		Champaign Sample	Experts
Children become tense when their parents are upset	(Agree)	89	
Telling a child that you don't love him is usually more disturbing to him than giving him a spanking	(Agree)	85	
Affection is less important to the child's development than financial security	(Disagree)	85	
Noisy children are more likely to become emotionally disordered adults than quiet ones	(Disagree)	67	
Children can have nervous breakdowns	(Agree)	65	
Offering rewards is a poor way to cure a child of thumb sucking	(Agree)	61	
A child cannot inherit fears directly from his mother	(Agree)	60	—
A boy inherits his emotional disposition from his mother	(Disagree)	57	
Fathers have more influence than mothers on the emotional development of their children	(Disagree)	56	
Disappointments do not affect children as much as they do adults	(Disagree)	55	53 (Repudiate)

1. A child's emotional development is relatively unaffected by:
   a) Heredity (A child cannot inherit fears directly.)
   b) Material environment (People who have been reared in prosperous environments do not enjoy adult life more than those who have been reared in poor circumstances.)
   c) Manipulation of rewards (Offering rewards is a poor way to cure a child of thumb sucking.)
2. The key to a child's emotional development is his feeling of being loved, and his feeling of emotional security...i.e., emotional warmth.
3. Therefore, a parent:
   a) Should not "tell a child you don't love him."
   b) Show children a great deal of affection.
   c) Use praise as a technique of control.
   d) Cultivate one's own emotional security, because parental problems make children insecure.

The idea, which can be parodied as the thermodynamics theory of emotional development, appears obvious, partly because we are steeped in a culture which endorses it. To a geneticist, sociologist, or experimental psychologist, however, it is not so obvious, and to a previous generation of parents trained to believe that specific techniques of feeding, discipline, and toilet training were crucial, the idea might appear odd.

How do the experts feel about these ideas? Nunnally's experts did not rate the constituent items, except they slightly favor the idea that affection deprivation in childhood leads to high adult need for deprivation. However, THE expert endorses it. Dr. Benjamin Spock begins his book as follows: (Emphasis added.)

> One mother tells you you must use the black kind of nipples, another says the yellow. You hear that a baby must be handled as little as possible, that a baby must be cuddled plenty...that fairy tales make children nervous, and that fairy tales are a wholesome outlet.
>
> Don't take too seriously all that the neighbors say. Don't be overawed by what the experts say...We know for a fact[12] that the natural loving care that kindly parents give to their children is a hundred times more valuable than their knowing how to pin a diaper on just right, or making a formula expertly. Every time you pick your baby up, even if you do it a little awkwardly at first, every time you change him, feed him, bathe him, smile at him, he's getting a feeling that he belongs to you and that you belong to him. (30, p. 3)

Undoubtedly, similar quotations could be chosen from equally eminent authorities, but a case can be made that Dr. Spock is a uniquely salient figure in American life. Thus, Boek, Lawson, Yankauer, and Sussman, interviewing mothers in a reasonably heterogeneous, but non-probability sample of 1,433 new mothers in upstate New York in 1955 found 40 per cent citing Spock's Baby and Child Care as "especially helpful," with a range from 56 per cent in the highest socio-economic status stratum to 21 per cent in the lowest. (4) Any book which has reached 21 per cent of the Class V mothers in this country is a phenomenon to consider seriously.

Whether Spock has changed Americans' ideas or whether Americans read Spock because he fits their ideas, the acceptance of this book provides circumstantial evidence that this doctrine is accepted beyond Nunnally's Champaign sample.

Conclusion 8

It appears that the belief that warmth and affection are more important in child rearing than specific techniques is the single most widely accepted mental health principle in contemporary America.

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[12] If Dr. Spock had taken the time to footnote the source for this fact, he could have saved the author of this report six months' work.

2. Correlates of acceptance

Because parental beliefs have been so little studied in comparison with parental practices, it is very difficult to cite research evidences on differential acceptance of mental health principles of child rearing. Three studies, however, do shed some oblique light on the problem.

In a superb piece of scholarly detective work, Uric Bronfenbrenner has provided a synthesis of a large number of research studies on social class and child rearing practices, in his article "Socialization and Social Class Through Time and Space." (7) After reviewing 15 quantitative studies reported over 25 years, he draws the following conclusions:

> "A. Trends in infant care
>
> 1. Over the past quarter of a century, American mothers at all social class levels have become more flexible with respect to infant feeding and weaning.
>
> 2. (Regarding) feeding, weaning, and toilet training...From about 1930 till the end of World War II, the working class mothers were uniformly more permissive than those of the middle class... After World War II, however, there has been a definite reversal in direction; now it is the middle class mother who is the more permissive in each of the above areas.
>
> 3. Shifts in the pattern of infant care - especially on the part of middle-class mothers - show a striking correspondence to the changes in practices advocated in successive editions of U.S. Children's Bureau bulletins and similar sources of expert opinion.
>
> B. Trends in Child Training
>
> 6. Middle-class mothers, especially in the post-war period, (are) consistently more permissive toward the child's expressed needs and wishes.

7. The middle-class parent, throughout the period covered by this survey, has higher expectations for the child.

9. Parent-child relationships in the middle class are consistently reported as more acceptant and equalitarian...Within this context the middle class has shown a shift away from the emotional control toward freer expression of affection and greater tolerance of the child's impulses and desires." (7, p. 424-5)

In sum, Bronfenbrenner is saying that: 1) Child training practices are heavily influenced by the better publicized experts, 2) Middle-class parents are more exposed to the experts and their practices shift before those of the lower-class parents, 3) The current trend is toward "permissiveness" and the thermodynamic theory. We can draw on Bronfenbrenner and the previously reviewed materials on beliefs about adjustment to suggest the following:

Conclusion 9

Indirect evidence from studies of beliefs about child rearing suggests that group differences in these beliefs are more a function of differential exposure to "conventional authority" than sub-cultural differences in values or beliefs.

This line of argument, although indirect, has great importance for mental health education, for it suggests that the task of mental health education is not to wear down existing prejudices and sub-cultural beliefs, but rather to reach people who, by and large, are willing and eager to learn. It must be stressed that (and Chapter IV will treat this problem in some detail) beliefs are not the same as practices, but the general trend of the evidence, across groups and over time, is that the general population is consistently pulled toward the positions advocated by authorities.

At the same time, the thermodynamic theory presents some special problems for the mental health educator. Ignoring, temporarily, whether this theory is correct and justified by scientific evidence, if it is true, any attempts to facilitate its acceptance may present special challenges. The point is simply that the expression of affection may not be subject to the same voluntary control as beliefs about weaning, demand feeding, reading techniques, toilet training.

The closest we came to statistical evidence on the correlates of warmth comes from two survey studies of child rearing techniques (1, 28).

Sears, Maccoby, and Levin, whose rating scales were discussed earlier, included as one of their scales, "Affectionate relationship (warmth) mother child," reporting an inter-rater correlation of .533, which we saw to be typical for their ratings for psychological dimensions. No complete data matrices are reported, but two lines of evidence on correlates of warmth can be pieced together.

In the first place, in contrast to a number (but not all) of child rearing practices, warmth shows a low correlation with Mother's Education (.11) (28, p. 532). Of 36 practices whose correlation is reported, only seven show lower correlations with education, while Sex Permissiveness, Permissiveness for aggression toward parents, Lack of punishment for aggression toward parents, and Lack of use of physical punishment, show correlations of .25 or more with education, in line with Bronfenbrenner's analysis (no coindicence, for Bronfenbrenner relies heavily on this study).

In the second place, "warmth" shows correlations with dimensions suggestive of psychological adjustment: Mother's self Esteem (.39), Mother's Evaluation of Father (.31), Dissatisfaction with current situation (-.27).

This is not to say that warmth is independent of specific child rearing techniques. Scattered throughout the book are a number of correlations between the warmth scale and specific practices: Severity of toilet training -.30, Tolerance of dependence .37, Sex permissiveness "between .21 and .39 for various items," Physical punishment -.26, Severity of punishment for aggression -.22.

While not independent of other aspects of parental practices, the scattered data reported do suggest that relatively speaking, warmth is less easily learned from a book than, say, demand feeding.

This suggestion is reinforced by findings from the Fels research. (1) Baldwin, Kalhorn, and Breese, in this study, report the intercorrelations of 30 ratings scales quite similar to Sears, Maccoby's and Levin's, although no relationships with outside variables are considered. The data come from a longitudinal study of 150 children recruited from the area surrounding Yellow Springs, Ohio, and are based on the ratings of field workers who made twice yearly visits to the homes. One of the scales is "Affectionateness: The Parents' expression of affection to the child" which, at least, sounds like warmth. The following are selected intercorrelations:

TABLE 13

INTERCORRELATIONS OF FELS SCALES

Scales	Affectionateness	Adjustment	Restrictiveness
*Discord in the home: A general atmosphere of conflict, discord, recrimination	.58	.64	-.50
Affectionateness:		.44	-.49
Adjustment: The general internal adjustment of the family, its stability, satisfaction, and happiness			-.36
Restrictiveness of regulations: Restrictiveness and severity of the standards to which the child is expected to conform.			

*Signs of correlations with Discord are reversed.

In these data too, the expression of affection appears to be correlated with general family adjustment, although not independent of dimensions of practice.

Conclusion 10

Although the evidence is discouragingly fragmentary, the suggestion is that warmth, as a dimension of parental practice, is less subject to deliberate control, and more related to parental adjustment, when compared with other techniques and practices.

Recommendation 5

To the extent that mental health educators are willing to consider advocating "warmth" as an important aspect of parental practice, research should be instituted to determine: a) reliable and valid measures of this variable, b) its distribution in the general population, and c) the degree to which it is amenable to modification.

Summary and Conclusions

Having reviewed in some detail subjective and objective measures of mental health, beliefs about adult adjustment, and beliefs about child rearing--the key variables in the chain of assumptions which underly mental health education--it is not necessary to review this review. For the reader's convenience, however, we shall repeat in capsule form the conclusions and recommendations set forth in this chapter.

Conclusions

Adult Mental Health

1. It may be assumed that in the general population, individuals vary along a dimension of generalized subjective distress.
2. The reliability of experts' ratings of mental health, while low, is no worse than other behavioral science ratings.
3. Measures of mental health, using existing techniques, are meaningful only for assessing relative differences between sub-groups, not absolute levels.
4. There is no research evidence for or against the assumption that mental illness is the extreme form of the phenomenon we have called Generalized Subjective Distress.

Acceptance of Principles

Adult Adjustment

5. The average man rejects the superstitions and obvious misconceptions about mental health, but he is uninformed, and tends to ignore the principles he accepts in concrete practice. He accepts the idea that environmental stress leads to mental illness, but he has few firm opinions on predisposing factors.
6. While the experts are in fair agreement on fallacies of mental health, they have no set of practical, positive actions to recommend to the general population regarding personal adjustment and prevention of mental illness.

7. The general effect of information flow in the United States is to increase the agreement between the population and mental health experts, and those persons most exposed to information show the greatest agreement.

Child Development

8. It appears that the belief that warmth and affection is more important in child rearing than specific techniques is the single most widely accepted mental health principle in contemporary America.

9. Although the evidence is discouragingly fragmentary, the suggestion is that warmth, as a dimension of parental practice, is less subject to deliberate control, and more related to parental adjustment, when compared with other techniques and practices.

Recommendations

1. Research on Generalized Subjective Distress should use multiple item scales, rather than a single indicator, but analysis should be conducted on individual items as well as total scores.

2. Technical research should be conducted, using available interview protocols on representative populations, in order to develop rating procedures for assessing mental health.

3. Research using expert raters should use the pooled ratings of two or more raters.

4. High priority should be given to longitudinal studies of the relationship between Generalized Subjective Distress and mental illness.

5. To the extent that mental health educators are willing to advocate "warmth" as an important aspect of parental practice, research should be instituted to determine: a) reliable and valid measures of this variable, b) its distribution in the general population, c) the degree to which it is amenable to modification.

CHAPTER III

EXISTING KNOWLEDGE: RELATIONSHIPS BETWEEN VARIABLES

Having reviewed a number of studies dealing with the assessment of adult mental health and the general population's beliefs about mental hygiene, we now turn to research regarding the assumed relationships between these variables, in effect, asking what research has shown regarding the arrows drawn in the diagram of mental health assumptions. We shall follow our pattern of first considering adult mental health and then problems of child development.

A. Adult Mental Health

1. Acceptance of principles and adult mental health

Our search of published literature did not discover a single study bearing directly on the assumed relationship between acceptance of principles of mental health and a person's own adjustment, although one or two experimental studies reviewed in the next chapter cast some light on the question.

There is little necessity to labor a point so obvious, but it is necessary to stress that, although the assumption that acceptance of correct principles leads to improved adult mental health is probably the single most important assumption in the set, it has the least firm research foundation. Perhaps the point seems so "obvious" that attention has been concentrated on other tasks, or perhaps the research fraternity have so little faith in the efficacy of ideas that they do not consider the question worth studying, but regardless of the reason, we have no direct evidence for or against the proposition. Ideally, experimental studies in which information was disseminated and changes in information and mental health were then measured, would be the best technique, but it would be extremely useful to know if there is even a cross-sectional correlation.

Recommendation 6

An attempt should be made to determine whether there is a correlation between individuals' mental health and their acceptance of principles of mental hygiene. Because age and education are presumably correlated with both of these variables, it is important that such a study be conducted on a large and heterogeneous population so that their effects can be controlled.

2. Environmental correlates of adult mental health

As we have seen, both the general population and the experts accept the idea that mental health is not hereditary like color blindness, but is influenced by both present and past experiences. On the relative contribution of current and past events there is less consensus, but "everybody" believes that under sufficient provocation "the best adjusted" person will develop symptoms of generalized distress.

From the viewpoint of mental health education, studies showing relationships between environments and mental health have a double importance. On the one hand, they provide documentation for the principle of environmental pressures, and on the other, they provide clues as to the target populations most in need of aid. There is a vast literature on this topic, and we shall not be able to cover it in much detail. However, by collating the outstanding researches it is possible to derive a number of generalizations which have considerable research support.

When one comes to think about environmental factors in mental health, it is clear that the word is used to describe two rather different phenomena. On the one hand, one would include under "environment" isolated external events such as bereavement, physical illness, job changes, etc., which are assumed to have an impact on a person's mental health. On the other hand, the same term can be used to refer, not to specific events, but to long-term

continuing situations which facilitate or interfere with mental health. Thus, we shall see that mental health experts tend to believe that there is a sex difference in mental health, not in the sense that women are exposed to higher risks of particular crises, but in the sense that they are assumed to be continuously subjected to strains which are conducive to mental health problems. While the distinction is an interesting one, it should not be pushed too hard, for the line is blurry--a long-term stress situation being perhaps merely a large series of small "crises." More important, the located research bears almost entirely on the situational rather than the event approach.

Only one study was located showing a relationship between a particular external event and mental health, and although the relationship is a strong one, it has little applicability to the problems of Pennsylvania Mental Health, Inc. The finding is that in The American Soldier researches it was quite clearly shown that exposure to combat in World War II was associated with a lowering of scores on the Neuropsychiatric Screening Adjunct. Shirley Star writes:

> If it is difficult to draw conclusions about the effects of overseas service in general, the same is not true about the effects of actual combat. There can be no doubt about the high level of anxiety symptoms among combat troops, both on the ground and in the air. (33, p. 445)

In a very detailed analysis, Miss Star showed that the combat effect could not be explained by differences in background characteristics, and that--

> In general, the closer men approached to combat, the more likely they were to experience fear reactions...men who had undergone air raids or buzz bomb attacks in Europe

> were more often subject to psychosomatic symptoms than men who had no personal experience with enemy fire. Men who had been subjected to close range enemy fire - rifle fire, mortars, artillery - indicated a somewhat higher level of disturbance, while men who had been in actual combat were, of course, most likely to have these emotional reactions. (33, pp. 447-448)

At the risk of laboring the obvious, it is important to note that these findings provide a fundamental documentation for the environmental assumption. It is clear that regardless of a man's general capacity for adjustment, gross traumatic stress will produce a lowering of his mental health status. What may be perhaps less obvious, however, is that when we return to these data later in this chapter, it will be shown that the effects of combat are less than those of some of the routine demographic factors to be reviewed.

Having examined this striking, but somewhat unusual set of data, we shall turn our attention away from specific events to findings on long-term situations associated with mental health, considering first the so-called demographic correlates and then more specific social relationships.

a. Demographic factors: sex, socio-economic status, and age. Sex, socio-economic status, and age can be considered "environmental" factors only at a high level of abstraction where they are interpreted as indicative of differences in patterns of life, and hence of stress situations. Since, however, they are the most thoroughly studied variables located, and because some definite relationships turn up, they repay attention, at the price of difficulties in interpretation of the findings.

Sex

Even though women notoriously outlive men, there is some belief that their mental health states are somewhat less benign. In Numally's data, the general public appeared to have little belief in a sex difference, but the experts showed slight support for the propositions on sex difference (19, p. 74). In print, the experts often wax quite eloquent on this subject, as for example, the following statement by Bruno Bettelheim, who occupies among the intelligentsia a position much like Dr. Spock's for the general population. Bettelheim, writing in the October, 1962, issue of Harper's Magazine, states:

> The ways in which we bring up many girls in America, and the goals we set for them are so strangely - and often painfully - contradictory that it is only too predictable that their expectations of love and work and marriage should frequently be confused, and that deep satisfactions should elude them.

Now, Professor Bettelheim doesn't actually come out and say that women are less well adjusted then men (note the innocuous little "many" in the first line, which makes the statement irrefutable), but considering the section headings of his article, "Education for Failure," "Wed to Ceremonial Futility," "Competition in Bed," etc., one can guess his prediction. Of course, his analysis is limited to upper middle-class women, but we shall return to this particular group before concluding the chapter.

In terms of subjective measures, Americans View Their Mental Health provides a definitive answer, being based on a large representative sample, with controls for other variables. The following table gives Q coefficients between sex and various measures in that study, a positive value indicating that women are more likely to show the symptom or be low on the index of health. The items are described in the previous chapter.

TABLE 14

Q COEFFICIENTS BY SEX,
AMERICANS VIEW THEIR MENTAL HEALTH

	Q
Psychological Anxiety (Insomnia, Nervousness)	.340
Worry	.251
Physical Anxiety (shortness of breath, heart beating hard)	.217
Problems raising children	.206
Physical Health (aches and pains, healthy enough)	.199
Feelings of Inadequacy as a parent	.199
Immobilization (difficulty getting up, hands sweating)	.195
Experience of problems in marriage	.185
Marital Happiness	.060
Feelings of Marital Inadequacy	.040
Happiness	-.066

Eight out of the eleven items do show a disadvantage for women, the first of many examples of our previous generalization that, in spite of their positive intercorrelation, different mental health measures give different results. In particular, we note that it is the symptom-like items which give the highest relationships, while happiness and marital happiness are independent of sex.

Most experts interpret this phenomenon as stemming from contradictions in sex roles, the assumption that in modern America, women find it hard to reconcile their wifely duties with their previous training for achievement and careers. Data from Americans View Their Mental Health, however, cast some doubt on this idea. In the following table we have computed the Q coefficient for the association between sex and psychological anxiety (the mental health item with the strongest sex difference) for different age and education groups.

Education and Socio-Economic Status

The role of socio-economic status (SES) in mental health has been much studied, and has been given particular emphasis with the publication of Hollingshead's data on treated prevalence in New Haven. (12) For once in our review, we are on firm ground, for study after study shows that mental health is positively related to socio-economic status, over a variety of measures of mental health and SES.

1) Blood, analyzing a probability sample of 731 wives from Detroit and 178 farm wives from three rural counties close to Detroit found that marital satisfaction, averaged over a number of content areas such as standard of living, companionship, understanding, love and affection, increased strongly with husband's education and slightly with husband's occupation and income. (2)

2) Roth and Peck, by re-scoring cases in Burgess and Wallin's classic study of marital adjustment according to the Warner status measure, found among 428 husbands and 417 wives (not, however, a representative sample) "an evident trend in the case of both husbands and wives for the marital adjustment score to increase as we move up the social class scale." (27, p. 479)

3) The American Soldier studies showed that in terms of the Neuropsychiatric Screening Adjunct, "the proportion receiving critical scores declined steadily with education." (33, p. 420). A similar result was found for scales measuring personal commitment, but a reverse relationship was found for "satisfaction with status and job."

TABLE 19

INCOME, EDUCATION, AND HAPPINESS

(a) Per cent Very Happy

Education	Under $5,000	$5,000 and over
College	35 (142)	47 (305)
High School . .	32 (584)	46 (578)
Grade School .	22 (609)	30 (158)

(b) Q Coefficients with Happiness in Table 19 (a)

Coefficient	Among--	Value
Income	Total Sample	.338
	College	.244
	High School	.288
	Grade School	.206
Education (College v. Non-College)	Total Sample	.232
	High Income	.081
	Low Income	.186
Education (High School or More v. Grade School)	Total Sample	.357
	High Income	.330
	Low Income	.271

The pattern of coefficients in Table 19 (b) suggests that while both Education and Income contribute to Happiness, the effect of Education is somewhat uneven. While very low education (grade school) is associated with a sharp drop in happiness, the increment due to college training compared with high school, is quite small. In this sense, low Education appears to reduce Happiness more than high Education raises it.

For a number of mental health measures, a different picture emerges. Some items show a reverse relationship, particularly with Education.

1. Feelings of inadequacy as a spouse increase with Education and have no consistent relationship with Income.
2. Reporting of marital problems increases with Education and shows no consistent relationship with Income.
3. Feelings of parental inadequacy increase with Education (no tabulations are reported for Income).
4. Reporting of work problems increases with Education and with Income.
5. The Immobilization Symptom Score (Difficulty getting up in the morning, hands damp and clammy) increases strikingly with Education, but is independent of Income.

Finally, two of the symptom indices, Psychological Anxiety (Insomnia, Nervousness) (which showed a striking sex difference) and Physical Anxiety (shortness of breath and heart beating) seem to show no consistent relationships with Education and Income in the tables where both are presented simultaneously, possibly because the relationship between income and psychological anxiety appears to be curvilinear when Income is treated alone.

Gurin, Veroff, and Feld interpret these and similar findings by positing that while higher SES is associated with more intrinsic gratifications and thus with health and happiness, a greater sensitivity and a more "psychological" orientation of the better educated increases their level of self-criticism.

7) A rather similar set of findings emerges from Samuel A. Stouffer's analysis of background differences in adjustment of soldiers in The American Soldier, (34) which stresses content concerns rather than the psychoneurotic symptoms analyzed by Shirley Star and noted above. In summarizing a large number of comparisons, Stouffer concludes that the better educated soldiers tended to be higher in personal ésprit and personal commitment, but lower in satisfaction with status or job and approval of the army, (34, p. 228) again showing better "adjustment" along with greater criticisms.

Even though the proposition requires qualification when studies reporting multiple and complex tabulations are reviewed, we see no reason to withdraw the general proposition that adult mental health and adjustment is much less favorable in the lower SES groups, a target population seldom reached by mental health educators.

It is, however, extremely difficult to draw any firm conclusions on the factors which explain why the finding obtains. The same data can be used to support quite contradictory interpretations.

To begin with, one may advance the obvious possibility that the lower socio-economic status group lives in an environment which places it under greater pressures and regardless of his capacity for adjustment, the lower SES adult simply has many more environmental threats. In support of this idea is the repeated finding that when asked directly, Americans say that their major worries are in the areas of health and finances, both, of course, strongly correlated with SES.

Samuel A. Stouffer, in a 1954 national sample of Americans 21 and older (N = 4,933) and a sample of community leaders (N = 1,500) obtained the following results in answer to the question, "What kinds of things worry you most?" (35)

TABLE 20

WORRIES OF COMMUNITY LEADERS AND CROSS-SECTION

Worries	Community Leaders	Cross-Section
Personal or Family Economic Problems	28	43
Personal and Family Health Problems	16 → 44	24 → 67
Other Personal and Family Problems	38	30
World Problems Including War	22	8
Communists or Civil Liberties	5 → 52	0 → 14
Other National or Local Problems	25	6
Never Worry	11	9
Total*	145%	120%
N =	1,500	4,933

*Adds to more than 100% because of multiple answers.

The table illustrates the idea rather neatly. The community leaders, who may be assumed to be a high SES group, report more worries (their answers total to 145 per cent in contrast with 120 per cent for the cross-section), but the cross-section is essentially worried about money and health, while it is the high SES group which may indulge in the luxury of concerns about the state of the world.

Putting it another way, there is a distinct suggestion that reality concerns may well overshadow other factors as determinant of generalized subjective distress.

At the same time, some of the same findings may be used to support the idea that education, at least, represents a permanent capacity to attain superior mental health status, regardless of the situation. The most striking example is the clear cut advantage of the higher educated soldier over the lower educated one, even in combat situations where the environment is, in a sense, held constant. Consider, for example, the simultaneous effects of education and combat experience on soldiers under 25, as reported in Star's analyses (33, p. 447).

TABLE 21

PER CENT RECEIVING CRITICAL SCORES ON ANXIETY INDEX

Education	Combat Experience		
	None	Under Fire	Actual Combat
Grade School	40 (81)	47 (111)	57 (213)
Part High School . .	34 (152)	42 (178)	47 (351)
High School Graduate	20 (246)	29 (355)	36 (500)

The high school graduates exposed to actual combat have lower anxiety scores than grade school level soldiers with no combat experience, which suggests that education taps something more than current life situations.

If it is the case that SES taps a relatively permanent, rather than a situational factor in mental health, the possibility arises that SES is the effect of mental health rather than its cause. If,

for example, SES differences in current situations had nothing to do with mental health, but children who were "maladjusted" - 1) Continued into adult life with low levels of mental health and 2) were less successful in their education and employment, we would still find a correlation between adult SES and mental health. The possibility is not only logically seductive, but one study presents data to support the idea. In a study to be reviewed in more detail later, Robins, Gyman and O'Neal compare the occupational mobility of 524 children referred to a municipal psychiatric clinic between 1924 and 1929 with a control group of 100 children selected from public school records, the controls being chosen to have a similar distribution on residence, sex, race, and year of birth. (25) Their striking findings can be summarized by considering the per cent who "Rose" and "Fell" in occupational status compared with their fathers after excluding the children of professional and executive fathers (where there are only seven control cases).

TABLE 22

OCCUPATIONAL MOBILITY AT TIME OF FOLLOW-UP

Father	Unemployed, Unskilled		Skilled		Clerical, Small Business	
			Per cent who Rose			
Controls .	83	(18)	63	(30)	50	(28)
Patients .	49	(186)	27	(59)	20	(93)
			Per cent who Fell			
Controls .	-		20	(30)	21	(28)
Patients .	-		54	(59)	50	(93)

When compared with control cases, children referred to a behavior clinic were much less likely to move up the SES ladder and much more likely to move down it. Even though the case bases are small, the relationship is statistically significant and suggests that adult SES may be a function of mental health as well as vice versa. However, Robins, Gyman, and O'Neal proceeded to examine separately the data for patients referred because of anti-social behavior (defined as a record of juvenile court appearance) and other patients. They show clearly that the mobility difference is produced by the anti-social group, and for the remaining patients mobility patterns of experimental and control subjects are no different.

It is difficult to interpret these findings, even though the statistical differences are clear cut. If it is assumed that anti-social behavior belongs with the complex of phenomena we have called mental health, then it follows that there is a strong case for concluding that SES is a function of mental health. But, if we assume that only the non-juvenile delinquent patients had mental health disturbances, then the study must be counted against the belief that SES is the dependent variable. We lean toward the latter position but can hardly take a firm stance, given the limited evidence.

The Midtown survey attempts to come to grips with this problem by treating both current and parental SES but since they report their tabulations in a highly elliptical fashion (reporting mental health ratings by current SES, by parental SES, but never by both) it is

difficult to draw any conclusion beyond their statement, that the SES difference.... "also characterized those in the sample's youngest age group, who only recently have crossed the threshold from adolescence. It was thus possible to reject the hypothesis that SES origin differentials in mental health had almost entirely been generated during adult life." (31, p. 235) However, the finding does not make it possible to reject the hypothesis that the differential is due to contemporary environmental differences, the life of young lower class people being not much more gratifying than the life of older lower class people.

Conclusion 12

Numerous studies and findings suggest that adult mental health is more favorable in higher Socio-Economic Status groups. However:

a) Higher education apparently produces an increased sensitivity and self-critical capacity, which slightly offsets this trend.

b) The available evidence does not enable us to determine how much of this reflects differential environmental pressures, how much reflects a superior adjustment capacity of higher educated groups, or the extent to which SES is determined by mental health.

Age

Any well documented findings on the relationship between age and mental health would provide important theoretical information as well as crucial suggestions for program action. If mental health were shown to increase with

age, one might consider this as evidence for learning of adjustment techniques and think of programs for speeding up this process. If, on the contrary, it were to be shown that mental health decreases with age, one would think in terms of the continuous erosion of mental health capacity and concentrate on programs to prevent this loss. These extremes do not exhaust the possibilities, though, for it is possible that the relationship is neither one of increase nor decrease but results from particular ages which constitute crisis or stress points.

By and large, the literature reviewed leans toward the proposition that mental health declines with age, but enough exceptions occur to require considerable qualification for this statement. Let us consider the studies.

a) Blood's survey of Detroit wives (2) leads him to the conclusion that marital adjustment is subject to "the corrosion of time," and his data do show a decline in his adjustment index with years of marriage and progress in the life cycle. Unfortunately, Education, an important correlate of his satisfaction index, is not controlled in these tabulations, and older people tend to have much lower levels of schooling. Therefore, his results cannot be considered unequivocal.

b) The psychiatric ratings in Mental Health in the Metropolis (31) decline steadily with age in tables controlling for sex and marital status and those controlling for parental SES.

Thus, for example, among married women the per cent rated as "impaired" is 13 among those 20 to 29; 22 among those 30-39; 18 among those 40 to 49; and 31 among the wives ages 50 to 59. (31, p. 178) No data, however, are reported controlling for the respondent's own Education or SES because of the author's morbid fear that these are a result, not cause of low adjustment.

c) Shirley Star's (33) and Stouffer's (34) analyses of army adjustment showed --under numerous controls--lower scores for older soldiers on the Neuropsychiatric Screening Adjunct, and personal commitment, but not on satisfaction with status and job or approval of the army. Older soldiers, naturally, were still rather young men.

d) Lansing and Morgan in a national survey not included in our bibliography because of its limited relevance for other topics in this report[14] find that "Satisfaction with standard of living" has a non-linear relationship with life cycle progress, rising during the early years of marriage, dipping during the years characterized by pre-school children, and then rising steadily during the later years. Their analysis suggests that what happens is this: During the early years of marriage expenses rise, but income tends to rise at a faster rate; during the early years of child bearing, income and expenses continue

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[14] John B. Lansing and James N. Morgan, "Consumer Finances Over the Life Cycle," in Lincoln H. Clark, ed., Consumer Behavior, Vol. II (New York University Press, 1955), pp. 36-51.

to rise but expenses rise "faster," creating a peak in personal debt; while in the later years of marriage after the children are grown, both income and expenses decline but expenses decline "faster," creating a more favorable net position even though incomes in later years are low.

e) Americans View Their Mental Health (11) because of its larger number of measures provides the most complex results. In this national survey some indices increase with age, some decrease with age, and some are independent of age.

Measures showing declines in unfavorable responses are:[15]

TABLE 23

PER CENT UNFAVORABLE

Measures	Age					
	21-24	25-34	35-44	45-54	55-64	65+
Marital inadequacy .	66	61	53	46	45	35
Marital problems . .	45	50	42	38	31	19
Parental inadequacy.	50		52	44	41	
Immobilization (Men)	80	77	66	54	44	33
Immobilization (Women)	77	73	77	65	59	42

[15] Because the percentages are taken from various tables, the N's vary somewhat due to differences in non-response. The smallest age category consists of somewhat more than 250 cases in the group 21-24.

Measures showing an increase in unfavorable responses are:

TABLE 24

PER CENT UNFAVORABLE

Measures	Age					
	21-24	25-34	35-44	45-54	55-64	65+
Happiness	40		38	34	27	
Physical health (Men)	8	8	19	18	32	41
Physical health (Women)	12	18	19	26	37	49
Physical anxiety (Men)	33	30	44	47	51	59
Physical anxiety (Women)	42	49	53	55	65	65

In addition, worries and marital happiness show no clear-cut age trend, while Physical anxiety increases with age among women, but not men. The findings seem to support two separate lines of interpretation, one psychological and one environmental.

Apparently age is associated with strong differences in psychological perspective. As the authors put it, "The most consistent difference we obtained between young and old people was the minimization of both self-doubt and the perception of problems among the older respondents." (11, p. 212) Since this trend is similar to the findings on Education and since there are considerable age differences in educational attainment, it is important to note that these differences remain when Education is controlled. For instance:

TABLE 25

PER CENT REPORTING FEELINGS OF INADEQUACY IN MARRIAGE AND SEX, AMONG MARRIED RESPONDENTS (11, p. 108)

Sex	Education	Age		
		21-34	35-54	55 and Over
Male	College	65	58	50
	High	65	45	42
	Grade	44	55	43
Female	College	78	60	-
	High	62	55	38
	Grade	57	37	32

A number of explanations may be advanced. Gurin, Veroff, and Feld consider the possibility of an historical increase in psychological sensitivity such that the new generation is more aware of its problems, and also the possibility that with age there is a lowering of aspirations and expectations, so that the older person sees fewer discrepancies between his situation and standards of what is desirable. The latter idea is consistent with Lansing and Morgan's findings and is much like the notion of "disengagement" advanced by Cumming and Henry. On the basis of a study of older people in Kansas City, Cumming and Henry advance the proposition that:[16]

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[16] Elaine Cumming and William E. Henry, Growing Old: The Process of Disengagement, Basic Books, 1961, p. 211.

> "Disengagement is an inevitable process in which many of the relationships between a person and other members of society are severed, and those remaining are altered in quality."

At the same time that aging seems to be associated with a difference in "frame of reference" which reduces certain feelings of distress, it is also associated with generally less favorable environmental settings. The older person is much more often subject to environmental pressures of a nature shown to lead to subjective distress. Physical illness, break up of the family unit, and low incomes can hardly facilitate good spirits, even though cognitive mechanisms may soften the impact. Thus, it is important to note the progressive decrease in happiness in Table 24. Part of the difference is undoubtedly due to physical disability, as suggested by the relationships with the somatic indices in Table 24. However, that is not all there is to the story. Gerald Gurin[17] of the Survey Research Center kindly made available to us the original IBM cards from his study, and thus made possible the following tabulation:

TABLE 26

PER CENT "VERY HAPPY"

Education*	Income**	Age		
		21-34	35-54	55+
Total		40 (749)	36 (974)	27 (632)
High	High	49 (332)	44 (447)	46 (97)
High	Low	36 (332)	35 (323)	24 (221)
Low	High			
Low	Low	20 (85)	21 (204)	23 (314)

*High Education = High school or beyond

**High Income = $5,000 or more

[17] We should like to thank Dr. Gurin for this, and other kindnesses during the course of this study.

The introduction of a SES index based on income and occupation removes the age difference in happiness. However, it must be stressed that this does not mean the relationship is "spurious." It serves rather to explain why the relationship occurs. The lower happiness of the older American is apparently due to his lower socio-economic status.

Conclusion 13

Age differences in mental health are complex, although studies tend to show less favorable results for older people. Two contradictory trends are noted:

a) Older people more often are subject to environmental stresses which increase generalized subjective distress (low SES, physical illness, social isolation).

b) Older people apparently are more likely to have a "frame of reference" which softens the negative impact of environmental stresses.

b. Social Relationships

Turning from the generalized demographic variables of sex, SES, and age to more specific social relationships as factors in mental health, we avoid some of the problems of interpreting the meaning of the findings, but unfortunately run into an area where there are many fewer studies. We shall review four topics: community differences, marital relationships, peer relationships, and religion.

Community differences

Although "community studies" play a large part in the research in mental health, they are typically studies within a given community, rather than comparisons between communities. Thus, although one might expect that community differences in mental health would be a major research topic, the only source of information on this topic we located is Americans View Their Mental Health. Remembering that Nunnally's general population showed some signs of believing that large cities have a baleful effect on mental health, and noting it is fashionable among the intelligentsia these days to decry the emotional stresses of living in the suburbs, let us examine their data on city size.

Gurin, Veroff, and Feld minimize the community size differences, saying:

> Only four sets of findings suggested enough of a difference for inclusion in tables, and these are far from striking....the general picture that emerges is one of minimal relationship between place of residence and the kinds of feelings of adjustment that we

have measured. Furthermore, regional differences (South, Northeast, Midwest, Far West) also did not emerge from the data. (11, pp. 229-230)

For the data which are reported, a rough pattern does emerge. Rather than presenting the percentage figures, let us rank the city types with 1 for the highest symptom level and 5 for the lowest. At the end of each row we have indicated the Q measure of association between the rank 1 and rank 5 types, which is the largest possible association among the 10 possible contrasts.

TABLE 27

SUMMARY OF RELATIONSHIPS WITH CITY SIZE
(Source: Tabular Supplement, pages B-40,2)

Measure	City Type					Q, Ranks 1-5
	Metropolitan	Suburbs	Small City	Small Town	Rural	
Physical Health (Men)	2.5	5	2.5	4	1	.373
Worries	1	5	3.5	3.5	2	.297
Psychological Anxiety (Women) .	1	5	4	3	2	.269
Physical Health (Women)	1	5	4	2	3	.256
Immobilization (Men)	5	4	1	3	2	.221
Unhappiness	1	5	2	3.5	3.5	.200
Psychological Anxiety (Men) . .	2.5	4	2.3	5	1	.179
Immobilization (Women)	3.5	1.5	5	3.5	1.5	.092
Average Rank . .	2.2	4.3	3.0	3.4	2.0	

To begin with, even for the few items showing a difference, the Q's even between the extremes are quite small. However, a slight pattern emerges which manages to refute the general population and the literati at one time. Rural areas and Metropolitan centers

tend to show lower levels of mental health where there are differences, and suburbs come off the best. Although no tabulations are presented in the book to justify the inference, our assumption would be that SES explains even this weak pattern, rural areas and the centers of large cities having high concentrations of lower SES groups, while suburbs tend to be relatively high SES areas.

Conclusion 14

Community differences, in generalized subjective distress in terms of size and urbanization, are relatively unimportant.

Marital relationships

For behavioral science research to document the fact that marital status is related to mental health would be merely another attempt to belabor a truism, save for the fact that the relationship is difficult to document. By and large, the evidence is that among adults the married are superior in mental health, but enough exceptions occur that someone "from Missouri" may well wish to leave the question open. Four studies present appropriate data, as follows:

1) In Mental Health in the Metropolis in tables controlling for age and sex, mental health ratings differ by marital status as follows: (1) Among men, the married received the most favorable ratings, the single the next most favorable, and the divorced the least favorable (there were insufficient widowed men to justify tabulations); (2) Among women, divorcees received lower ratings, but differences between single, married, and widowed are not consistent in the age groups. (31, Chapter 10)

2) The NORC survey of graduate students showed that for four of the mental health items (loss of appetite, insomnia, blues, and confusion about goals in life) married students had more favorable self-ratings, Q's for each of these being greater than .15. There was no item on which married graduate students had a negative relationship of .15 or greater. However, we have seen that except for goal confusion these items are relatively "masculine" and many more of the married students are men (women drop out of graduate school when they get married); thus, tabulations holding sex constant would reduce or eliminate these small relationships.

3) Stouffer, in analyzing adjustment of soldiers in World War II, concluded after quite elaborate tabulations holding constant a number of other variables, that married soldiers were lower in Personal Esprit and Personal Commitment, but marital status had no consistent effect on Satisfaction With Status or Job or with Approval or Criticism of the Army. (34, p. 228) These negative findings are not really comparable with the other studies, since they involve not the effect of marital status, but the effect of being removed temporarily from a marital status, and in this sense suggest that the presence of a spouse adds to adjustment.

4) Gurin, Veroff, and Feld report only one really important difference by marital status (11, pp. 230-8). Married adults are considerably more likely to report themselves as very happy (36 per cent of the men and 43 per cent of the women, in contrast with 26 per cent or less in each of the single, widowed, or divorced groups in each sex). None of their other measures showed a

consistent relationship with marital status within each sex, save that the widowed of either sex were high on worries and low on immobilization.

The IBM cards lent by the Survey Research Center allowed us to proceed a step beyond the analysis reported in the book and to examine the relationship between marriage and happiness, holding constant age and SES.

TABLE 28

PER CENT "VERY HAPPY"

Married	Income*	Education*	Age			
			21-34	35-54	55+	Total
Yes	High	High	52 (299)	47 (400)	54 (72)	49 (771)
	High / Low	Low / High	40 (268)	38 (257)	29 (121)	37 (646)
	Low	Low	23 (66)	24 (153)	27 (176)	25 (395)
No	High	High	24 (33)	19 (47)	24 (25)	22 (105)
	High / Low	Low / High	19 (64)	23 (66)	17 (101)	19 (230)
	Low	Low	11 (19)	12 (51)	19 (138)	16 (208)

*SES Index is defined as in Table 26.

The effects of SES and marital status are independent and similar in each age group, producing a range in the per cent "Very Happy" from 49 among the high status, married, to 16 among the low SES non-married. Again we see that age, in itself, is unrelated to happiness when SES and marital status are controlled,

underlining our previous conclusion that the lower happiness levels of older Americans stem from their less gratifying environments, not from an erosion of their adjustment capacities. Furthermore, the effect of marital status is considerable. In each age category married people in the lowest SES category are as likely to be happy as non-married people in the highest SES category. Considerable residual variation remains even after SES and marital status are controlled, but these are clearly the two most important correlates of happiness of all the background variables.

A Note on Race and Happiness: Although there are too few studies of race differences in mental health to justify separate treatment of the topic, the SRC data made it possible to examine Negro-White differences in happiness. The cultural stereotype of the happy-go-lucky Negro freed from the onerous burdens of first-class citizenship receives little corroboration from the tables we ran.

Over-all, Negroes are considerably less likely to say they are very happy.

Table a.

Race	Per cent Happy
White	36 (2,163)
Negro	22 (188)

Because of the extreme SES differences by race (42 per cent of the Negroes reported incomes under $2,000 in comparison with 15 per cent of the Whites in the SRC sample) it is necessary to control for this difference.

Table b.

Income	Whites	Negroes
Income $2,000	22 (308)	18 (78)
$2,000-$3,999	29 (461)	23 (66)
$4,000 or more	42 (1,333)	30 (40)

In the lowest income group the race difference in happiness is slight, but in the higher income levels the difference is considerable. Certainly some of the lesser happiness of Negro Americans can be explained by their low incomes, but income differences do not provide a total explanation.

When we turn to marital status (41 per cent of the adult Negroes were not married in contrast with 22 per cent of the whites) the case bases become very small, and the results appear somewhat complicated.

Table c.

Per cent Very Happy

Income	Married		Not Married	
	White	Negro	White	Negro
Under $2,000	30 (136)	11 (37)	16 (172)	24 (41)
$2,000-$3,999	32 (324)	24 (42)	21 (137)	21 (24)
$4,000 or more	45 (1,177)	30 (30)	19 (156)	30 (10)
Total	41 (1,637)	21 (109)	18 (465)	24 (75)

Among the married, our original relationships all hold. Whites are more likely to consider themselves happy, regardless of income level, and happiness is more common in higher income groups of either race. Among the non-married, however, the race difference disappears, as does the income difference, which was quite slight but present among the non-married in Table 28. Two quite different interpretations may be advanced. One possibility is that among the non-married, background factors such as SES and race make little or no difference in happiness, while among the married, race and income are important factors. An alternative possibility, however, is that marital status has no correlation with happiness among Negroes. Since common law unions and casual relationships are much more common among Negroes, possibly more of the "non-married" Negroes are actually receiving the emotional support from a continued relationship and belong in the "married" column. Another possibility is that because of the disadvantaged position of Negroes, marriage confers more problems than gratifications upon them and the happiness levels of married Negroes are unduly depressed. The data are too scanty to allow us to

pursue the analysis further, but the general point, the lesser happiness of Negroes, follows from either interpretation, the difference being in whether race is assumed to affect happiness directly or indirectly through affecting the nature of marriage.

Conclusion 15

The evidence on marital status and mental health is inconsistent, although more often than not it suggests superior adjustment for the married person.

If it is unclear whether the existence of a spouse is conducive to favorable mental health status, it is crystal clear that relations between spouses are a key aspect of mental health in the adult population (over 80 per cent of whom are married in the ages 30 to 64). We have already seen that marital happiness is the one consistent correlate of over-all happiness among the indices used in Americans View Their Mental Health, and many definitions of mental health include marital adjustment by fiat.

It is not our intent to review here the voluminous literature on marital adjustment, merely to note its importance. However, to indicate the general trend of the findings, it may be well to sketch Blood's major conclusions since his probability sample of Detroit wives probably is the best and most recent data on the subject.

At the end of his book, Blood summarizes the correlates of his marital adjustment index as follows:

> ....the major sources of strength in marriage...are four: (1) the family's social status, (2) the couple's homogamy, (3) the extent to which they meet each others' needs, and (4) children - in moderation. Against these must be set a counter-agent: the corrosion of time. (2, p. 252)

We have already reviewed his SES and age data, but homogamy and number of children deserve a little further elaboration. By homogamy Blood means simply similarity between the spouses in social characteristics, a factor generally noted in this type of research. Blood shows that his measure of marital adjustment declines when: a) there is a marked difference in age between the spouses, b) a marked difference in education, or c) a religiously mixed marriage. His plea for moderation in children stems from the fact that his index increases from zero to three children, but declines for four and five. Since SES is not controlled in his tabulations, we cannot be sure that number of children is an independent factor, although the idea has an intuitive attraction.

Peer relationships

One of the most commonly accepted principles of Sociology is the idea that being imbedded in a mesh of close interpersonal ties ("social cohesiveness," "primary group relations," "social support," "sociometric status") is conducive to favorable psychological states, much akin to what we have defined as mental health.

Like many powerful ideas, it has seldom been put to the direct research test. Rather, the principle is frequently used to explain observed correlations between other variables. Thus, for example, the relatively high deviance rates (crime, psychosis, alcoholism, suicide, etc.) in urban areas with high rates of spatial mobility[18] have often been interpreted in terms of the lowering of adjustment associated with the loosening of social bonds.

[18] Actually, the question of whether mobility rates correlate with deviance independently or only because of the low SES of these areas is currently strongly debated in Sociology.

Although the number seems surprisingly small, we have been able to locate only three studies which consider a direct correlation between interpersonal relationships and a person's mental health. Of the three, two are cross-sectional studies which are open to the charge that the interpersonal relationship may stem from adjustment rather than vice versa. The third, however, is an intriguing longitudinal study which suggests that interpersonal environments are associated with changes in mental health.

The first is the NORC survey of graduate students. In the book reporting on that study, peer group membership is used as a control variable in a table assessing the effect of financial worries on morale (8, p. 244). We can re-arrange the table to show a slight, but consistent, relationship between subjective distress and peer group membership, controlling for marital status, concern about grades, and financial worries. The variables are these:

a) Peer Group Membership....Students were asked about the existence of informal groups in their department. "Yes" indicates students who say such groups exist and that they are members, "No" means either students who say no groups exist or that they are not members of a group.

b) Financial worry...(item was described in Chapter II)

c) Concern about grades...(Answer to question about degree of satisfaction with grades...High = Very or Fairly Dissatisfied; Low = Very or Fairly Satisfied.

d) Marital Status...Married versus single and ex-married.

e) Morale...Index based on a combination of the "spirits" and "good time in graduate school" items described in Chapter II.

TABLE 29

PER CENT HIGH ON MORALE INDEX

Concern About		Married	Group Member		Yes-No	Q
Grades	Finances		No	Yes		
High	High	No	29 (45)	40 (54)	+11	.240
High	High	Yes	40 (56)	50 (48)	+10	.200
High	Low	No	47 (95)	53 (88)	+ 6	.120
High	Low	Yes	59 (69)	65 (60)	+ 6	.127
Low	High	No	46 (66)	49 (82)	+ 3	.060
Low	High	Yes	55 (103)	55 (88)	0	.000
Low	Low	No	62 (193)	64 (212)	+ 2	.043
Low	Low	Yes	71 (204)	77 (212)	+ 6	.155

Over a range of stress situations (from worry about both grades and finances to worry about neither) and among single and married students, the peer group member tends to have higher morale. Furthermore, the marital status effect noted above is independent, so that the two social relationships have a cumulative effect. For example, among the students with concerns about grades and finances, 50 per cent of those who are married and belong to a peer group are high on the index, 40 per cent of those who are married or peer group members but not both, and 29 per cent of those who have neither source of social support.

The table suggests that social support has a positive effect on mental health, as defined here. It is, of course, entirely

possible that the causal direction is reversed, and the correlation is due to a tendency for students with adjustment problems to be less attractive to their peers. William Erbe of the State University of Iowa has been engaged in an intensive analysis of the NORC data on graduate student peer group membership, and in a memorandum now being prepared for publication, concludes that group membership is pretty much a function of "accessibility" rather than personal characteristics. That is, students who have jobs and housing situations which throw them in with other students tend to be group members, regardless of their personal characteristics, while students whose orbits lead them away from campus are seldom group members, an illustration of George Homans' principle that "interaction leads to liking." Erbe's results constitute circumstantial evidence that the relationship in Table 29 is not a spurious function of membership selection, but the issue cannot be put to a definite test with these data.

While the graduate student study suggests that the quantity of peer social relationships has an effect on mental health, a recent stimulating study by Morris Rosenberg (26) suggests that the quality of the relationship is important. Rosenberg collected self-administered questionnaires from approximately 1,000 New York State high school juniors and seniors, in ten public high schools, the total group constituting a probability sample of public high school upperclassmen in New York State.

The students were asked their own religion and "Think back to the time when you were in grammar school. Generally speaking, what was the religious affiliation of most of the people in the neighborhood in which you lived?" It was thus possible to classify the students not only on their own religion, but also by whether they were in a majority or minority in their neighborhood. Using three separate, familiar measures of mental health (a scale of self-esteem, a psychosomatic symptoms scale based on the Neuropsychiatric Screening Adjunct and a scale of depressive affect)[19] Rosenberg shows a consistent association between "dissonant religious contexts" and low mental health. The following table illustrates his findings:

TABLE 30

PER CENT WITH LOW SCORES ON MENTAL HEALTH INDICES

Measure	Student's Religion	Neighborhood Same or Mixed	Majority of Different Religions	Difference	Q
Low Self Esteem	Protestant	25 (241)	31 (164)	+ 6	.148
	Catholic	29 (458)	41 (37)	+12	.260
	Jewish	18 (80)	29 (41)	+11	.300
Symptoms	Protestant	48 (245)	54 (164)	+ 5	.120
	Catholic	55 (467)	65 (37)	+10	.206
	Jewish	51 (77)	55 (42)	+ 4	.080
Depressive Affect	Protestant	11 (221)	22 (148)	+11	.391
	Catholic	18 (429)	20 (35)	+ 2	.065
	Jewish	16 (70)	28 (39)	+12	.342

[19] Sample items from the self-esteem scale are: At times I think I am no good at all; I take a positive attitude toward myself; I feel I do not have much to be proud of. Sample items from the depressive affect scale are: On the whole, how happy would you say you are; in general, how would you say you feel most of the time - in good spirits or in low spirits; I get a lot of fun out of life.

The average of the nine Q coefficients, .21, indicates a small, but consistent effect, a tendency for high school students who grew up as members of a religious minority in their neighborhood to be lower in mental health. Rosenberg interprets the findings in two ways. First, he shows that reported experiences of prejudice are related both to dissonant religious context and to lowered mental health, suggesting an obvious explanation. However, when reported experience of prejudice is controlled, the original relationship does not appear, which leads Rosenberg to state:

> But it is probably more than simple prejudice, narrowly conceived as hostility to members of a group, which is responsible for these results. Beyond this, actual cultural dissimilarity may produce rejection.....qualities which may be accepted or admired in one's own group may be rejected by members of another group. Hence, there is a real likelihood that one will feel different when in a dissonant social context, and this sense of difference may lead the individual to question himself, doubt himself, wonder whether he is unworthy. (26, p. 9)

The suggestion of this study is that the quality of social contacts is important as well as quantity, and that it is interaction with people who are essentially similar in values which improves mental health. Since "normal" interaction tends to be with people who are essentially similar (note in the preceding table that the bulk of students, regardless of religion, reported growing up in neighborhoods of co-religionists or in "mixed" neighborhoods) it is to be expected that, generally speaking, quantity of social interaction will be associated with mental health; but in those cases where interaction is with hostile persons or persons with

rather different values, the prediction would be that high rates of social interaction would be associated with lower mental health.[20]

This general idea is given further support in the third research report, a longitudinal study by Fiedler, Hutchins, and Dodge. The study has already been described in Chapter II, where data on associations among mental health measures were discussed. The reader will remember that mental health measures were collected on two samples of college men and on two samples of soldiers, and that the instruments were repeated after an interval ranging from six weeks to three months, depending on the sample. (10)

The independent variable, "assumed similarity," has been studied at length by Fiedler and his associates, and comes down to perceptions of similarity and difference among members of a group. However, its operational definition is difficult to put into words and can best be conveyed by an example.

Consider a four-person group in which each member is asked to rate each member, including himself, on a given dimension. Sixteen observations are produced, as follows:

		Ratee			
		1	2	3	4
Rater	1	11	12	13	14
	2	21	22	23	24
	3	31	32	33	34
	4	41	42	43	44

---

[20] The idea that people prefer others who have similar attitudes and values is the heart of the "theory of structural balance," as set forth by Fritz Heider, Dorwin Cartwright and Frank Harary, and others. A number of propositions which follow from this idea are summarized in a forthcoming paper: James A. Davis, "Structural Balance, Mechanical Solidarity, and Interpersonal Relations," American Journal of Sociology, January, 1963.

Thus, rating 31 is subject 3's rating of subject 1, rating 44 is subject 4's self-rating, etc. Two types of discrepancies can be examined regarding a particular person. First, one can compare, in each row, the diagonal (self) rating with the other ratings to compute the perceived similarity between each person and the group. This is called $\overline{AS}_g$ or "average similarity which subject assumes between himself and other members of his group." Second, one can compare in each column the discrepancy between the column entry and the diagonal entry in that row and compute the perceived similarity between the group and the person. This is called $\overline{AS}_s$ or "group members average similarity to the subject...the extent to which subject is accepted by others in his group."

Common sense would tell us that the two scores should be strongly correlated, i.e., if people think they are different from the group, group members should agree. However, in each of his four samples Fiedler found that while internal consistency was high (discrepancies tended to be similar across the dimensions rated for both $\overline{AS}_g$ and $\overline{AS}_s$) the two indexes were essentially independent when the two AS indices were correlated for a given dimension. The implication is that there is a general tendency for people to think of themselves as similar or different in comparison with their associates, and a tendency for the group to see various members as having much or little in common with the group, but these two aspects are not highly related.

Respondents were scored in terms of improvement or decline in mental health scores[21] on: 1) Semantic differential measure of self-esteem, 2) Semantic differential measure of satisfaction with self, 3) Taylor Manifest Anxiety Scale, and these changes were correlated with the AS measures with the following results:

TABLE 31

SIGNIFICANT RELATIONSHIPS WITH CHANGE IN MENTAL HEALTH

Measure	$\overline{AS}_g$	$\overline{AS}_s$
Taylor	*	**
Self-Satisfaction .	-	**
Self-Esteem	-	NS

NS = Not significant.

* = Significant at .05 level.

** = Significant at .01 level.

\- = Not calculated because of technical statistical problems.

Both AS indices show significant associations with changes in the Taylor Manifest Anxiety Scale, $\overline{AS}_s$ shows a significant relationship with self-satisfaction, and the relationship for self-esteem is not significant, although the trend was positive. Since four of the five relationships were significant, it appears that

[21] The actual statistical procedures involved a complicated control for measurement regression which need not concern us in this context.

whether measured subjectively or in terms of group perceptions, those people who have close ties of perceived similarity to their peers are more likely to improve in indices of generalized subjective distress. Although the statistics and measures are rather complicated, both the fact that Fiedler's research is a true longitudinal study, and the pattern of the results (although not the size of the associations which are quite small) give strong support to the hypothesis suggested by Rosenberg's study.

Conclusion 16

There is scanty, but fairly persuasive research evidence that high rates of contact within informal groups of homogeneous people facilitate mental health.

Religion

The idea that acceptance of a religious faith has favorable mental health consequences is part both of popular opinion (42 per cent of Nunally's general population disagreed with the statement, "People who attend church regularly are as likely to end up in a mental hospital as those who do not") and of mass media campaigns ("The Family that Prays Together Stays Together"). Unlike popular beliefs about rural urban and SES differences, there is some evidence to support this proposition, although not enough to suggest why it should be true--whether religious people are involved in social ties in their congregation, whether philosophical belief systems provide security, whether religious belief is an index of general acceptance of conventional standards, etc.

To begin with, there is no evidence that adherents of particular religions vary in their mental health status.

1) The Midtown study found no consistent differences between Protestants, Catholics and Jews, although Jews did have higher rates of outpatient treatment, the latter being explained by their very high acceptance of psychotherapy. (31, p. 321)

2) While Americans View Their Mental Health shows differences between Protestants and Catholics on some items, over the range of measures, neither Protestants nor Catholics has more than their share of favorable or unfavorable scores. That is, the two Christian faiths differ somewhat in kind of mental health problem, but probably not in degree. (11, 238-245)

Two studies, however, show lower levels of mental health on subjective measures for the less religious (defined as infrequent church attenders) regardless of the particular major religious group.

Americans View Their Mental Health, again our best source of such data, reports tabulations by frequency of church attendance for ten measures, separately for Catholics and Protestants. On the symptom indices, marital inadequacy, parental inadequacy, and work problems, there is no consistent difference which holds both among Protestants and Catholics and in both sexes. However, for Happiness, Marital Happiness, and Job Satisfaction, favorable percentages increase steadily with church attendance. (11, Tabular Supplement, pp. B-50-61)

TABLE 32

FREQUENCY OF CHURCH ATTENDANCE

Measure	Religion	More Than Once a Week	Once a Week	A Few Times a Month	A Few Times a Year	Never	Q Once a Week or More v. Less Often
Happiness (Very Happy)	Protestant	44 (193)	39 (507)	32 (446)	34 (454)	22 (139)	+.172
	Catholic	33 (98)	39 (310)	25 (64)	27 (51)	-	+.271
Marital Happiness (Very Happy)	Protestant	50 (144)	51 (372)	47 (346)	37 (363)	35 (86)	+.199
	Catholic	59 (66)	51 (256)	36 (55)	33 (39)	-	+.354
Job Satisfaction (Very Satisfied)*	Protestant	37 (49)	35 (135)	26 (388)		18 (60)	+.235
	Catholic	41 (27)	29 (126)	14 (51)		-	+.468

*Tabulated for men only.

- = Case base too small to justify tabulations.

The rank orders are reasonably consistent, and the Q's suggest that religious involvement contributes to the happiness of contemporary Americans to about the same degree as education, but less than money.

It is perhaps worth noting that the relationships are not monotonic in a strict sense, for the group reporting attendance more than once a week is not consistently higher than those reporting weekly attendance. The suggestion is that religious participation beyond the conventional weekly norm for Christians has no particular mental health benefits, although participation below the conventional norm is associated with lowered scores.

Gurin and his colleagues do not report controls for age, education, or marital status, but the NORC survey of arts and science graduates provides a rough approximation since the entire sample consists of young, extremely well-educated respondents, with only a handful of divorced and widowed. Here too, there is a tendency for religious participation to be associated with positive scores.

TABLE 33

Q COEFFICIENTS WITH FREQUENCY OF CHURCH ATTENDANCE

	Q
Spirits (good)	.259
Can't force self (low)	.202
Insomnia (low)	.155
Blues (low)	.144
Goal confusion (low)	.130
School worries (low)	.108
Good time in schools (Yes)	.095
Health (favorable)	.076
Financial worries (low)	.061
Appetite (low)	-.040
Headaches (low)	-.006

The coefficients are indeed modest in size, but all except two are in a favorable direction, and the two exceptions are very close to zero. Furthermore, it may be argued that, compared with the general population, the graduate students are subjected to fewer pressures toward religious involvement and more support for secular and rationalist ideologies. If so, the finding is perhaps a little more impressive than the sizes of the coefficients would otherwise warrant.

Again, nothing can be said about the direction of the causal trend (although "common sense" would suggest that troubled people increase their rates of church attendance rather than decrease them), or the precise mechanism underlying the association, but it does appear that religious involvement is favorable to mental health. Certainly the evidence lies against the idea that the maladjusted are especially prone to involvement in religious affairs.

Conclusion 17

Persons whose rate of religious participation is below the conventional norm tend to have less favorable scores on indices of mental health, although the evidence gives no hint as to the reasons.

3. Past experiences and mental health

Although mental health education assumes that contemporary environmental pressures have a strong effect on mental health, it also assumes that past experiences have a permanent impact on the individual such that people in the same environment will show different mental health states. The ideas are not contradictory, and their relationships can be expressed in terms of the following scheme, considering for purposes of exposition a world in which there are only two kinds of environments (Favorable and Unfavorable) and two kinds of histories (Favorable and Unfavorable).

Mental Health Levels Predicted in Various Situations:

I. Environmental Determination

		Environment	
		Favorable	Unfavorable
History	Favorable	High	Low
	Unfavorable	High	Low

II. Historical Determination

		Environment	
		Favorable	Unfavorable
History	Favorable	High	High
	Unfavorable	Low	Low

III. Additive

		Environment	
		Favorable	Unfavorable
History	Favorable	High	Medium
	Unfavorable	Medium	Low

IV. Predisposition

		Environment	
		Favorable	Unfavorable
History	Favorable	High	High
	Unfavorable	High	Low

The four examples may be interpreted as follows:

In situation I, Environmental Determination, mental health varies with the environment, regardless of the individual's previous history.

In situation II, Historical Determination, people with unfavorable histories have lowered mental health regardless of their environment, while those with favorable histories have high mental health regardless of their circumstances.

In situation III, both past histories and current environments affect mental health, which is high for those with favorable histories in favorable situations and low for those with unfavorable histories in unfavorable situations.

In situation IV, we see a logically different situation, analogous to the idea of predisposition. Here neither environment nor past history contributes independently, but those people with an unfavorable history and an unfavorable environment have lowered mental health, while the other three possible types do not differ.

As one can imagine from previous consideration of the available literature, we have not been able to locate a particular study whose design is such that the reactions of persons with various histories can be compared over various situations, a much more complicated design than has been attempted in any of the studies reviewed (and one which almost necessarily implies longitudinal research running into decades). However, this scheme does provide a framework for evaluating the scraps of evidence which are available.

Of the studies collected, only Shirley Star's data on the effects of combat approximates the necessary design. (33) The reader will remember that it was shown that level of education and degree of exposure to combat both influenced scores on mental health measures. In a sense the findings fit our situation III, if one considers proximity to combat as environmental variation, and level of education as an index of favorable history. As in the hypothetical example, adjustment scores varied from the highly educated soldiers not exposed to combat at one extreme to the least educated soldiers involved in "actual combat" at the other extreme. Furthermore, the progression in scores was regular for each variable in each row and column, which suggests that the "Predisposition" model does not fit these data.

The only additional evidence located comes from four studies involving continuity over time in mental health. If one is willing to

assume that over a period of time, environmental stress will vary considerably, then any studies which show high correlations between mental health states over a period of time support the idea of "history" as a factor, although they are not incompatible with the additive or predisposition models.

As for longitudinal studies of mental health, only the following studies were located:

(1) Rosenberg's study of high school students, (26) described in the previous section, provides circumstantial evidence on continuity in mental health states. That is, since he shows an association between neighborhood situations during grammar school and adjustment in the later years of high school, one must infer a continuity to mental health despite the variability in the student's current situations. The technical purist may, of course, maintain that the maladjusted students would be more likely to misperceive their early environment as hostile, so no true continuity has been demonstrated.

(2) The American Soldier studies provide two isolated sets of data on test-re-test scores for their mental health measures. Shirley Star, in discussing the construction of the Psychosomatic Complaints score reports correlations of .93 and .90 for administrations of the instruments one week apart in a sample of enlisted men on duty and psychoneurotic patients, respectively. (32, p. 503) Because, however, soldiers' environmental stress should not be expected to vary much in a week, the finding is much less impressive, substantively, than as evidence for the technical quality of the measure. Much more impressive,

however, is a correlation over two years reported in Stouffer's analysis. He presents answers on the "Good Spirits" question for 110 men measured in the United States in 1943 and again in Europe, after combat in 1945. (34, pp. 162-163) The point bi-serial correlation of .48 suggests substantial continuity. (For comparison with some of our other data, our calculations give a Q of .78 for the table...Q's always running considerably higher than correlations on the same data.) Since these men had been exposed to two years of army life, movement from the United States to Europe, combat, and (apparently) the intervening event of conclusion of the European War, the degree of continuity is remarkable.

(3) Patricia Kendall, in her book Conflict and Mood, presents data on a similar "Good Spirits" item in a four-week test-re-test among a sample of college students, consisting of 513 students enrolled in Sociology departments at Northwestern University, New Jersey College for Women, Smith College, Columbia University School of General Studies, and the University of Connecticut department of Psychology. (15) Our calculated Q coefficient for her question, .29, is only moderate, but in a sense it is remarkably high, since the question was worded in such a way as to bias against continuity in response. The question was worded as follows:

> "As you know, from your own experience, everyone has 'ups and downs' in mood. We want to know how you feel about yourself and life in general today. We don't want you to answer in terms of how you feel 'usually' or 'most of the time,' but how you feel today.
>
> "First of all, we would like to know whether you are in pretty good spirits or pretty bad spirits today."

Given these instructions, a Q of .29 may be interpreted as supporting considerable continuity, even though the period of one month is too small to allow for much change in environmental stress.

(4) The St. Louis follow-up study (discussed above in terms of the relationships between SES and mental health) provides the longest span of coverage of any study located (20, 21) and in fact, as far as we can tell, is the only existing longitudinal study of mental health in which respondents were followed from youth to maturity.[22]

Because of the strategic significance of this study, it is worthwhile to review its procedures carefully:

1) Out of a population of 2,505 referrals to the St. Louis Municipal Psychiatric Clinic in the years of 1924-1929, 524 cases were selected in the 1950's on the following criteria: a) Age under 18 at time of referral, b) IQ of 80 or higher, c) Caucasion, d) Referred for problem behavior not placement or vocational choice, e) Adequate records existed.
2) The authors state that the patients were "very rarely" treated by the clinic, which existed for diagnostic and referral purposes.
3) 100 controls were selected from the public schools, matched in sex, race, year of birth, place of residence, IQ, and controls were excluded if there was a repetition of a grade, excessive absences, or transfer to a correctional institution.

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[22] Terman's famous long-term study of 1,500 gifted children who have been followed since 1921 (Cf. Lewis M. Terman and Melita H. Oden, The Gifted Group at Mid-Life, Stanford University Press, 1959) at first glance seems to be an exception. However, the analysts, in the five volumes of reports, never correlate prior characteristics with later adjustment, but devote their analysis of adjustment to panegyrics on the high adjustment level of their sample, a point long ago granted. Analyses of these data in terms of prior measures predictive of later adjustment could constitute an extremely significant contribution to knowledge of mental health, particularly since 39 of the subjects were known to have been hospitalized for mental illness.

4) At the time of publication, 85 per cent of the total cases had been located (76 per cent of the controls and 58 per cent of the patients were still in the city), and 150 of the total of 624 cases had been interviewed.

5) Psychiatric diagnoses of current adjustment were made by three independent psychiatrists from the interview protocols, although no information is given on how the final ratings were determined.

Although a number of quibbles may be raised...the first 150 cases may not be representative, the spatial mobility differences in the samples suggest that the early interviewed (presumably local) patients may not be representative, the measure of childhood mental health (referral to a clinic) technically falls out of our classification....etc., the study is a considerable accomplishment.

The general outline of the findings reported is suggestive of considerable continuity of adjustment. To begin with, the contemporary adjustment of ex-patients, 20 or more years later, appears to be less desirable than that of controls.

TABLE 34

PER CENT RATED AS LOW IN ADJUSTMENT

Controls	Patients			
	Total	Neurotic	Delinquent	Anti-Social
37 (35)	76 (115)	64 (33)	80 (35)	81 (47)

Q, Controls v. Total Patients .69
Q, Controls v. Neurotics .50

Furthermore, among the patients, a simple count of the total symptoms in the original record is predictive of the later diagnosis of schizophrenia.

TABLE 35

FOLLOW-UP DIAGNOSIS

Total Symptoms in Original Record	Schizophrenic	No Disease
15+	25	12
10 - 14	39	21
1 - 9	36	67
Total . .	100%	100%
N = . . .	28	57

Even though the case bases are very small, the evidence is all in favor of the hypothesis that mental health states have considerable continuity. Interestingly, though, this study casts considerable doubt upon a favorite hypothesis in the field of mental health. Remembering from Chapter II, the ways in which school teachers since the 1920's have come around to the mental health experts' belief that it is the shy, quiet child who is in need of mental health aid, it is ironic that the only longitudinal study located has as its theme the finding that the aggressive, anti-social youth has a worse prognosis than the neurotic child, both in terms of adjustment ratings and later SES. If the O'Neal and Robins findings should be corroborated in other research, one of the minor tasks of mental health education in the future may be to undo one of its areas of success in the past.

Conclusion 18

No studies were located bearing on the relative contribution of past histories and contemporary environments toward adult mental health, but the scattered evidence that mental health states are surprisingly constant over time, does suggest an historical continuity to adult mental health.

B. Children's Emotional Development

Given the assumptions of mental health education, as formulated in Chapter I, it is impossible to draw a firm line between "child development" and "mental health." Consequently, anyone attempting to review what is known about mental health aspects of child rearing is faced with the formidable task of reviewing all that is known about child development, an impossible assignment. Some selectivity can be gained by sticking narrowly to the scheme set forth in page 7 of this report. Thus we shall limit ourselves to two questions: What is known about parental practices and children's emotional development? and What is known about parental mental health and children's mental health?

1. Parental practices and children's mental health

The very fact that we are raising the question of the relationship between parental practices and children's mental health reflects the tremendous impact on modern America of mental health education. While no culture or historical period has been without advice to parents on how to bring up children, the idea that parents can affect their children's emotional adjustment by choice of practice is a product of Twentieth Century psychological doctrines.

During this century, the content of popularly fashionable psychological doctrines has fluctuated wildly. During the 1920's "behaviorism" was in the saddle, while during the 1930's and 1940's, classical Freudian doctrines, and neo-Freudian doctrines, particularly those associated with the "Culture and Personality" school in Anthropology (Margaret Mead, Geoffrey Gorer, etc.) held sway among the experts. Despite considerable hostility between proponents of these two approaches, both share the assumption of a correlation between specific practice and general adjustment. The behaviorist, thinking in terms of discrete stimuli and responses, reinforcement and conditioning was led to focus on quite specific aspects of child care such as scheduling of feeding. Despite quite different assumptions, the doctrines of psychosexual development, libido, and symbolic significance, led the Freudian to focus on physiological development of the child, and the parental behavior associated with it, toilet training, breast feeding, etc. Thus, although the premises were different, experts' discussions of child rearing up to the end of World War II focused heavily on choice of specific techniques...demand feeding versus scheduled feeding, corporal punishment, appropriate timing of toilet training, rooming in, breast feeding, enuresis. It is no accident that the best publicized mental health education pamphlet, "Pierre the Pelican," deals with specific techniques of infant care.

These ideas were essentially supported by arguments from abstract doctrine and clinical examples, and the general line of "hard" research evidence is that there is practically no correlation between specific parental practice and children's adjustment. We shall note three examples of this negative evaluation.

(1) Harold Orlansky, in an article published in 1949, reported on a review of 149 titles in the area of "infant care and personality," (22) He concluded:

> ...we are led to reject the thesis that specific nursing disciplines have a specific, invariant psychological impact on the child. Instead, it appears that the effect of a particular discipline can be determined only from knowledge of the parental attitudes associated with it, the value which the culture places upon that discipline, the organic constitution of the infant, and the entire sociocultural situation in which the individual is located.

(2) The definitive study in the area, published after Orlansky's review, is that of William H. Sewell. (29) The sample consists of 162 farm children, of "old American stock," ages five and six, from unbroken marriages, and apparently from a single Wisconsin community.

Sewell obtained the following measures of children's adjustment:

1) California test of personality
2) Haggerty-Olson-Wickman Behavior Rating Scale (teacher rating)
3) Wisconsin test of personality (projective)
4) General adjustment index (based on interview with mother regarding nervous symptoms and "emotional adjustment").

From personal interviews with the mother, Sewall obtained scales for seven specific child-rearing techniques: 1) breast v. bottle feeding, 2) self versus demand feeding schedule, 3) gradual versus sudden weaning, 4) late versus early bowel training, 5) late versus early bladder training, 6) punishment for toilet accidents versus no punishment, 7) whether child slept with mother.

For each technique, 46 tests could be made on various scales and sub-scales of adjustment. Thus, there were 322 possible associations (seven techniques times 46 tests). Of the 322 associations, 14 were significant (11 in the predicted direction and three in the reverse direction) and 308 were not significant. Since statistically, one would expect five per cent of all associations to be significant at the .05 level in repeated samplings from a data matrix made up of random numbers, and the 14 associations represent four per cent of the 322 relationships, the conclusion drawn is that there is no association between infant training practices and the later adjustment of these children.

Of course, rural Wisconsin children may be unrepresentative (but it would be difficult to deduce from theories of child rearing why the relationships should not hold in Wisconsin rural areas) and mothers' reports may not be entirely accurate, but, at the very least, the Sewell study shifts the burden of proof onto the shoulders of anyone who claims a correlation between infant care practices and later adjustment. Since, in addition, Brim cites several other similar studies, not reviewed for this document (6, p. 44), the point is not much in doubt.

Conclusion 19

There is no evidence for a correlation between specific infant handling techniques and children's later adjustment.

Faced with consistently negative evidence (as rare in behavioral science research as consistently positive evidence), the experts, except

for a handful of orthodox analysists, have abandoned the assumption that one can influence a child's adjustment through choice of infant handling techniques. Because ideas of this sort move through the society fairly slowly, it will be some time before pediatricians and health educators abandon the idea, and even longer before the less educated general population (who Bronfenbrenner shows are just beginning to adopt the idea) adopt it and then abandon it.

Because experts are required in the nature of their role to have some advice, new doctrines must rush in to fill the void created by the collapse of "Culture and Personality" principles. As in its contemporary politics, America's contemporary child development ideas lack clear-cut ideological lines, and it is hard to sort contemporary positions into clear-cut camps.

In fact, rather than the development of opposing schools of child rearing as in the case of "Behaviorists" and "Freudians," it is our impression that what is happening is the development of a common acceptance of what we have called the "thermodynamic" theory, differences among the experts reflecting the route by which they reach the conclusion, rather than the conclusion itself. Such trends cannot be documented statistically, but we can note the following developments, in addition to the previous discussion of Nunally's data and Spock.

(1) Patterns of Child Rearing by Sears, Maccoby, and Levin (28), although published only five years ago, has had considerable impact on expert thinking. To begin with, it went a long way toward unseating the "Social

Class and Child Rearing" variant of "Culture and Personality" doctrine (the idea that lower class people use permissive child rearing techniques and their children are well-adjusted but unambitious, while middle-class people use strict techniques and their children are maladjusted but ambitious). More important, though, they interpret a number of their findings in a way which is congruent with the warmth theory. Thus:

> Perhaps the most pervasive quality we attempted to measure was the warmth of the mother's feeling for her child...Warmth proved equally pervasive in its effects on the child. Maternal coldness was associated with the development of feeding problems and persistent bed-wetting. It contributed to high aggression. It was an important background condition for emotional upset during severe toilet training, and for the slowing of conscience development. (28, pp. 482-3)

> Punitiveness, in contrast with rewardingness, was a quite ineffectual quality for a mother to inject into her child training. The evidence for this conclusion is overwhelming. The unhappy effects of punishment have run like a dismal thread through our findings. (28, p. 484)

> The pattern most calculated to produce "high conscience" should be that of mothers who are usually warm and loving, and then, as a method of control, threaten this affectionate relationship...this is indeed the case. (28, p. 388)

The logical and empirical interrelations of "warmth," "punitiveness," "reward," "withdrawal of love," etc., are so complicated that they must be analyzed in some detail to be useful. Thus, for instance, it is impossible to deduce from such general ideas as "warmth is the most important aspect of child rearing" whether a mother's withdrawal of love (defined by Sears, Maccoby and Levin as "indicating to the child that her

warmth and affection toward him are conditional on his good behavior") is a very useful technique or a sin against the principles of child rearing.

In order to introduce some order into these problems, Sears, Maccoby and Levin introduce two distinctions...1) Love oriented techniques (her own love and affection) versus Object-Oriented techniques (material or physical things that the child either wants or wants to avoid), and 2) Positive (offering rewards or incentives) versus Negative (threat, punishment, deprivation of privilege) controls. A cross-classification of these yields four basic techniques. (28, p. 478)

	Positive	Negative
Love oriented	Praise A	Isolation Withdrawal of Love B
Object oriented	Tangible Rewards C	Deprivation of privileges Physical punishment D

While the authors do not specifically introduce the idea as part of their classification, it is clear from their analysis, that they consider "warmth" as something still different--a relatively permanent level of affectional demonstration which provides the background for any particular technique. The result is an eight-fold classification of situations, the application of the four techniques within the two background levels.

Unfortunately, since all these variables are intercorrelated (Mothers who use only physical punishment tend to be classified as cold, not warm, etc.) unless data on all three variables are presented

simultaneously, it is impossible to assess the results. Thus, the isolated finding that physical punishment is ineffective can be used to support the idea that: a) over-all warmth is more effective than coldness, b) love-oriented techniques are more effective than object-oriented, and c) positive controls are more effective than negative.

In a few instances, however, Sears, Maccoby and Levin present tables which enable us to make a preliminary guess.

TABLE 36

PERCENTAGE OF CHILDREN WHO SHOWED NO EMOTIONAL UPSET OVER TOILET TRAINING (28, p. 125)

Classification		Technique* Mild (A & C and None)	Severe (B & D)
Mother	Warm	79 (112)	77 (48)
	Cold	89 (101)	52 (98)

*Severity rated on the degree of scolding, disapproval, anger, punishment, etc.

TABLE 37

PERCENTAGE OF CHILDREN WITH HIGH CONSCIENCE (28, p. 388)

Withdrawal of Love Classification		Technique Little or No (A,C,D)	Fairly Often (B)
Mother	Warm	24	42
		(N's not reported)	
	Cold	18	25

TABLE 38

PERCENTAGE OF MOTHERS WHO REPORTED THAT SPANKING DID THEIR CHILDREN GOOD (28, p. 335)

Physical Punishment Classification		Technique: Infrequent (A,B,C)	Technique: Frequent (D)
Mother	Warm	42 (101)	66 (65)
	Cold	41 (98)	43 (111)

There is no magical formula in these tables. Neither the type of technique nor generalized warmth has a positive effect across the board. Thus, warmth is associated with positive results for those giving severe toilet training, for both techniques in the case of conscience, and for frequent spankers; but for infrequent spankers, warmth makes no difference and for mild toilet trainers, warmth makes for a little more frequent upsets. What might be said is that warmth affects the outcome by making the other techniques more effective. In the case of conscience and spanking, it is clear that the technique is more effective among warm mothers, and in the case of toilet training the "bad" technique is less "bad" among warm mothers.

There is, of course, no reason to believe that these three tables are representative of all the data in the study (it is safe to say that an author is more likely to print the full table when a variable has a complicated relationship than when it has a simple relationship, and a table is even less likely when the variable has no relationship) and it is not

clear that these three items necessarily tap mental health variables of the sort we have been discussing. At the same time, this influential study is the only source we located on the effectiveness of warmth.

Conclusion 20

The only study located bearing on maternal warmth tentatively suggests that it operates not as an independent factor, but as a factor making other psychological techniques of child rearing more effective.

Conclusion 21

The only study located on the effectiveness of psychological techniques (as opposed to techniques of infant care) suggests that such techniques are effective, but their effectiveness varies with the specific situation and the mother's warmth.

(2) Mothering.-A second route to the "warmth" theory of child rearing has been through an influential monograph, Maternal Care and Mental Health, by John Bowlby, a British psychiatrist. (5) Bowlby reviews a large number of clinical studies of orphans, institutionalized children, children evacuated during World War II, and so on, with the following conclusion:

> It is submitted that the evidence is now such that it leaves no room for doubt regarding the general proposition - that the prolonged deprivation of the young child from maternal care may (sic) have grave and far reaching effects on his character and on the whole of his future life. (5, p. 46)

Bowlby's work has received considerable attention and has gained very wide acceptance. Mental Health Education: A Critique, for example, states:

> A certain number of fledgling principles of mental health came up for intensive discussion...Probably the most widely accepted was the thesis put forward by John Bowlby... that very young infants exposed to frequent changes of "mother" figures have an exceedingly poor prognosis for subsequent mental health. (23, p. 26)

Just as the research of Sears and his collaborators reflects psychological learning theory as an approach to the problem and statistical analyses as a technique of research, Bowlby's work stems from a psychiatric theoretical approach and the tradition of clinical research. However, both influential studies can be interpreted as stressing the crucial importance for warm maternal contacts with the child. It is particularly interesting to view both studies in terms of an intellectual shift from the recent past when considerable attention was given to the presumed negative consequences of "maternal over-protections" and "schizophrenic mothers," and "Mom" was a target of opprobrium for popular authors. Clearly, Mom is back in fashion.

Unfortunately, Bowlby's writings have provided considerable methodological controversy. There is very little doubt that the institutionalized and orphaned children in his studies show lower levels of development and mental health. What has been subject to considerable doubt are the inferences that these deficits are permanent and that they are due to maternal deprivation. None of the studies Bowlby cites employ sufficient controls nor follow their cases long enough to meet these technical objections. In an extended battle, which need not be reviewed in detail, Bowlby's work and that of R. A. Spitz, who has put forth a very similar proposition, have been subject to rather fierce cricicism by academic psychologists and equally fiercely defended by psychiatrists and clinicians.

Within the confines of the rules laid down for our search of the literature (general population samples, appropriate designs, appropriate statistical procedures), no studies were located directly confirming or negating the Bowlby hypothesis, although some indirect evidence will be cited in the following section.

Conclusion 22

The evidence for and against the proposition that maternal deprivation is a causative factor in poor mental health is not sufficient to justify a conclusion.

2. Parental mental health and children's mental health

The final assumption of mental health education to be reviewed is the idea that children's mental health is affected by parental mental health, and thus that mental health states have a continuity over time. As with many of the ideas we have reviewed, the precise mechanism is not spelled out. It is not clear whether poorly adjusted parents have a directly harmful influence on their children, whether they choose the wrong techniques of child rearing, or whether they lack the warmth which is believed to be a favorable condition. Furthermore, such an hypothesis always presents a knotty methodological problem in that similarity between the mental health of parents and children may merely reflect a common third factor (heredity, common SES, common environment) rather than a causal relationship. We shall be able to present fairly consistent evidence on the correlation, but very little knowledge about the mechanism which explains it.

Actually, only one study provides direct data (16,19), but it is an excellent study. In the California Guidance study, every third child born in Berkeley, California between January 1, 1929 and June 30, 1929 was followed to age 14 by means of annual interviews and tests, the initial sample consisting of 126 controls and 126 experimental cases who received special counseling. For reasons unknown to the author very few of the potentially very important findings of this study have been published, but luckily the question of correlates of children's and parents' adjustment is treated by MacFarlane in a summary article. (16) The dependent variables consist of mothers' reports on 12 frequent adjustment problems for children in the panel during ages 21 to 36 months. As we would expect from our review of adult age data, there is a distinct SES difference, but MacFarlane writes:

> Among the 12 most frequent problems at these early years, in only 1, viz., specific fears, were correlations with low economic status as high as those with straining interpersonal family relationships, although lower economic levels furnished more problem recruits than did higher levels... (16, p. 322)

> Marital adjustment yielded more consistent and higher correlations with behavior and personality difficulties than did other family variables. Attention demanding, temper tantrums, negativism, food finickiness, overdependence, and daytime enuresis showed more recruits from families with unhappy or difficult marital adjustment. With increasing age, tempers and negativism showed increasing relationships with marital adjustment during this early preschool period. Thumb sucking and nocturnal enuresis, on the other hand, showed more recruits from happy and mutually supporting marital relationships. (16, p. 323)

The usual problems are here....marital adjustment, as we have seen, is only one aspect of adult mental health; two of the measures of children's adjustment show opposite trends; it is not impossible that the children's problems exacerbated the marital tensions, and so on, but the hypothesized correlation is demonstrated.

The remaining studies provide a consistent, but less direct support for the same idea. These are studies showing a correlation between later mental health and reported family situations during childhood. More specifically, the studies concern reports about whether the family was unbroken, broken by death, or broken by divorce or separation. The classification by parental status appears extremely crude at first glance, but further consideration suggests that it contains some interesting facets. To begin with, we shall assume, on the basis of material reviewed above, that divorce is an index, if not of generally unfavorable mental health (which would be suggested by Gurin, Veroff and Feld), at least of unfavorable states in the marital happiness component of mental health. However, we can assume that death is a random variable unrelated to the parents' adjustment. If so, then some interesting possibilities turn up:

> To the extent that children from families broken by death or divorce show lower mental health, we would have support for the idea that family disruption of the type analyzed by Bowlby has a negative effect on children's mental health.
>
> To the extent that children from families broken by divorce show lower mental health than those from families broken by death, we would have support for the idea that parental adjustment contributes to lowered mental health beyond the impact of family disruptions.

A complete analysis would require controls for the sex of the parent and the age at which disruption occurred, but no such data were found. Therefore, we can only compare the three situations. However, the results are fairly consistent.

(1) Although the case base is very small, O'Neal and Robins report such data from their follow-up study of guidance clinic cases and controls. (21) The table below summarizes their results:

TABLE 39

PER CENT RATED OTHER THAN "WELL" ON FOLLOW-UP
HOME SITUATION BEFORE 18th BIRTHDAY

Group	Not Broken	Death	Divorce or Separation
Experimentals . .	82 (50)	70 (30)	86 (35)
Controls	31 (26)	38 (8)	- (1)
Total . .	68 (76)	63 (38)	83 (36)

Within the two groups there is no difference between the Not Broken and the Death groups, and there are insufficient cases among the controls to examine the effect of Divorce and Separation. However, when we examine the results within these two groups, we are, in effect, holding constant level of adjustment during childhood. When we examine the total (remembering that the exact percentage is artificial because controls are not present in their true population proportion) we see a high rate of impairment for children of divorced parents, the relationship having been concealed because all but one of the children of divorced parents were in

the experimental (less well-adjusted group) group to begin with. The suggestion of these tentative findings is that divorce, but not death, is associated with lowered mental health.

(2) The American Soldier studies provide additional, but quite guarded corroboration for these differences. Stouffer compares answers to "Did your parents always live together up to the time you were 16 years old?" for a cross-section of enlisted men, a group of "best adjusted soldiers" (who gave favorable answers to several morale and esprit items of the type discussed previously) and hospitali[illegible] neurotic soldiers, with the following results: (34, pp. 132-134)

TABLE 40

COMPARISONS FOR A CROSS-SECTION OF ENLISTED MEN, A GROUP OF "BEST ADJUSTED SOLDIERS" AND HOSPITALIZED NEUROTIC SOLDIERS

Answers to question: "Did your parents always live together up to the time you were 16 years old?"	Best Adjusted	Cross-Section	Psychoneurotic Soldiers	Q Psychoneurotic v. Cross-section
Yes	76	77	70	-.178
No	21	21	27	
Death	14	15	17	.074
Divorce or Separation . . .	7	6	10	.270
No answer	3	2	2	
Total	100%	100%	99%	
N = ...	410	3,729	613	

Because of the large sample the differences are statistically significant, and it is the case that the psychoneurotic soldiers are

more likely to come from broken homes, but the differences are quite small. That is, if death of a parent or a divorce raises one's probability of maladjustment, but only two or three per cent, it certainly cannot be considered a major factor in adult adjustment. Furthermore, Stouffer notes (and the finding is consistent with a wide variety of studies of SES) that there is a considerable association between education and broken homes, family disruption being more frequent among the less educated. If SES were introduced as a control, it is possible that these small differences would vanish.

(3) Gurin, Veroff, and Feld, similarly compared the answers of those from intact families, homes broken through death, and homes broken through divorce. Their conclusions are as follows:

> On the indices of general adjustment, there are surprisingly few differences among the three groups. In particular, growing up in a home disorganized by the death of a parent does not seem to have any special bearing on the experiences of general adjustment. People who were raised in homes in which parents were divorced or separated, however, are distinctive in some respects. (11, p. 246)

Calculation of Q coefficients from the percentages they report gives the following detail to supplement their general statement:

TABLE 41

Q COEFFICIENTS FOR FAMILY BACKGROUND
(- = unfavorable direction)

Measure	Death of Parent versus Intact	Separation or Divorce versus Intact
Happiness	-.07	-.16
Marital Happiness .	-.06	-.14
Marital Inadequacy.	-.05	-.34
Marriage problems .	.00	-.38
Psychological Anxiety	-.10	-.12
Physical Health . .	+.03	-.05
Immobilization . .	+.05	-.21
Physical Anxiety .	+.08	-.18

Note: Source: Tabular Supplement pp. B-63-6.

Although the coefficients are smaller than many considered in this document, the children of divorced parents do show a consistently less favorable pattern, while the children of families suffering the death of a parent are not different from the remainder of the sample.

The three studies reviewed show considerable agreement, each leading to the idea that the death of a parent has little measurable impact on mental health, while divorce is associated with small, but consistent lessening of mental health later in life. None of the three studies, however, presents data with SES controlled, and because SES is a major correlate of both family disorganization and mental health, the possibility of a spurious correlation cannot be ruled out.

Conclusion 23

The idea that parental mental health is correlated with children's mental health is supported by the one direct study located, and by three studies which show low, but consistent differences for children growing up in homes with a divorce. However, the mechanism involved is not known and the results for divorced parents could be a spurious function of SES.

Conclusion 24

To the extent that death of a parent is indicative of maternal deprivation,[23] the studies reviewed do not support the claim that it is associated with permanent lowering of mental health.

Recommendations and Conclusion

As in the preceding chapter, we shall not recapitulate the conclusions in detail, but for the convenience of the reader, the consecutive series of conclusions will be repeated at the end of the discussion.

In contrast to the previous chapter, however, no recommendations have been set forth in the various sub-sections of this chapter. The reason is patent...in each case, but one, the conclusion is that further research on the topic is necessary. The exception is the case of SES, where it is clear that no further studies need be made to document the claim that lower SES is associated with lower mental health. However,

[23] Obviously, given known mortality trends, the majority of the cases coded "Death of parent" involve the death of a father, not mother, and thus do not really test the idea of maternal deprivation. Furthermore, deprivation during adolescence would be predicted to have a different effect than during early life. At the same time, those people who have been subject to loss of a mother during early life must be assumed to fall within the group and unless it is assumed that death of a father has a positive effect on mental health, they should bring down the level of the group as a whole. Either this group is very small or the hypothesized effects are not very strong. Either interpretation casts considerable doubt on the idea that maternal deprivation provides a key to needed programs in mental health.

there is an urgent need for studies which can explain the reasons why the well documented SES differences exist.

For us to pick and choose among the needed research smacks of arrogance, for the need actually is for broad and rapid advances across the entire spectrum of the behavioral sciences, from small group studies (the role of peer solidarity in mental health) to child development (the effectiveness of parental techniques) to prospects of social reform (the demonstrable lower mental health of the "have nots").

If we were to argue, however, for a single piece of research which would provide information for health educators, it would be for a large scale longitudinal study of the mental health of school-age children. The argument stems from the fact that Americans View Their Mental Health and Mental Health in the Metropolis (both of which will continue in their analyses) as well as The American Soldier, have provided us with a good description of the adjustment of the adult general population. Certainly, numerous smaller scale researches will be needed to fill in the gaps and run down leads provided by these studies, but as we have seen, these three do a good job of blocking out a previously unknown area. When, however, we turn to studies of children and of parental behavior, the information thins out considerably. There have been an enormous number of studies of parents and children, of course, but they have been on such small and unrepresentative samples and devoted to so few variables, that it has been practically impossible to use them for hammering out a basic description, in the sense that the three studies

noted above yielded a basic description of adult adjustment. It is an irony that despite the tremendous concern with children, child rearing, and children's mental health in modern America, there has been no national cross-section study of children and parents since 1932.[24] It would thus be tempting to recommend, in effect, a national replication of the Sears, Maccoby and Levin study.

It is our inclination, however, to suggest that an even greater pay-off would come from a large scale study of children themselves, rather than of parents and their reports of children's behavior. Because the costs of observing a large national sample of small children would be very high (the sheer field costs of observing 5,000 children for one day might run to $125,000) we feel that a study of school-age children, based on self-administered questionnaires, would be more efficient, particularly since the evidence is against the crucial effect of early infant care techniques. Thus, to arrange for a national probability sample of, say, 10,000 school children to fill out a yearly measure of their mental health status and information on their families, friends, and communities, would be relatively easy because data collection could be done through school systems. A genuine longitudinal study in which the same children were measured for a period of, perhaps, five years, could provide a tremendous amount of information on the importance of family factors, SES, friends, and school factors, along with developmental "norms" on a sample which can be generalized

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[24]The study in question is John E. Anderson's, The Young Child in the Home, (D. Appleton-Century, 1936).

to the total U.S. population (up to the age of 15 about 98 per cent of America's children are enrolled in school these days) as well as the power in interpreting data given by longitudinal studies. (Thus, for example, in a sample of, say, 10,000 cases followed for five years, it can be expected that enough cases would turn up that one could compare a student's mental health before and after a divorce or death in the parental family.)

It is certainly not the task of Pennsylvania Mental Health, Inc., an action agency, to conduct such a study merely because it lacks sufficient research information to plan its mental health education programs, but the writer recommends that, since action programs will be handicapped seriously by the lack of needed basic research, Pennsylvania Mental Health might seriously consider using its good offices to urge the commissioning of this or other studies necessary to provide sufficient research evidence to support action programs.

The current state of our knowledge concerning the relationships between mental health variables can be assessed by the following review of the conclusions of this chapter:

Conclusion 11

To the extent that there is a sex difference in mental health, women's adjustment is less favorable, but:

a) The relationship is limited to older and less well educated groups;

b) Expert ratings in terms of impairment show no difference.

Conclusion 12

Numerous studies and findings suggest that adult mental health is more favorable in higher Socio-Economic Status groups. However:

a) Higher education apparently produces an increased sensitivity and self-critical capacity, which slightly offsets this trend.

b) The available ebidence does not enable us to determine how much of this reflects differential environmental pressures, how much reflects a superior adjustment capacity of higher educated groups, or the extent to which SES is determined by mental health.

Conclusion 13

Age differences in mental health are complex, although studies tend to show less favorable results for older people. Two contradictory trends are noted:

a) Older people are more often subject to environmental stresses which increase generalized subjective distress (low SES, physical illness, social isolation).

b) Older people are more likely to have a "frame of reference" which softens the negative impact of environmental stresses.

Conclusion 14

Community differences, in generalized subjective distress in terms of size and urbanization, are relatively unimportant.

Conclusion 15

The evidence on marital status and mental health is inconsistent, although more often than not it suggests superior adjustment for the married person.

Conclusion 16

There is scanty, but fairly persuasive research evidence that high rates of contact within informal groups of homogeneous people facilitate mental health.

Conclusion 17

Persons whose rate of religious participation is below the conventional norm tend to have less favorable scores on indices of mental health, although the evidence gives no hint as to the reasons.

Conclusion 18

No studies were located bearing on the relative contribution of past histories and contemporary environments toward adult mental health, but the scattered evidence that mental health states are surprisingly constant over time, does suggest an historical continuity to adult mental health.

Conclusion 19

There is no evidence for a correlation between specific infant handling techniques and children's later adjustment.

Conclusion 20

The only study located bearing on maternal warmth tentatively suggests that it operates not as an independent factor, but as a factor making other psychological techniques of child rearing more effective.

Conclusion 21

The only study located on the effectiveness of psychological techniques (as opposed to techniques of infant care) suggests that such techniques are effective, but their effectiveness varies with the specific situation and the mother's warmth.

Conclusion 22

The evidence for and against the proposition that maternal deprivation is a causative factor in poor mental health is not sufficient to justify a conclusion.

Conclusion 23

The idea that parental mental health is correlated with children's mental health is supported by the one direct study located, and by three studies which show low, but consistent differences for children growing up in homes with a divorce. However, the mechanism involved is not known and the results for divorced parents could be a spurious function of SES.

Conclusion 24

To the extent that death of a parent is indicative of maternal deprivation,[25] the studies reviewed do not support the claim that it is associated with permanent lowering of mental health.

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[25] Cf. footnote 19, page III-137.

CHAPTER IV

EXISTING KNOWLEDGE: EXPERIMENTAL ATTEMPTS TO INFLUENCE MENTAL HEALTH IN NORMAL POPULATIONS

The field studies reviewed in Chapters II and III provided a wealth of facts about the distribution of mental health variables in the American population, and yielded a number of clues regarding the underlying causes. Nevertheless, such studies lack the crisp persuasive power of a well-controlled experimental study in which the existence of carefully equated "control" and "experimental" groups adds tremendously to the validity of the conclusions.

In this chapter we shall review the findings from the experimental literature relevant to mental health education, considering each study as a laboratory prototype of a possible mental health education program.

None of this is to say that experiments are "better" than field studies. Indeed, we shall find it harder to draw consistent conclusions in this chapter than in preceding analyses. Most of the studies reviewed are quite deficient in sampling, many have such small case bases that negative results are almost inevitable, and in the majority of instances it is very difficult to state what the "experimental treatment" really is. Because, in addition, many of the variables which are most important for mental health are not amenable to experimental variation (poverty, marital status, combat, etc.) we must remember that both types of research have contributions to make.

In the course of our limited search of the literature 40 experiments were located in which the dependent variable was a mental health

state of the type considered in this document.[1] In Chapter VIb, these studies are annotated according to a topical outline, and we shall not review the details of specific studies here, but consider general conclusions to be drawn from the total pool of results.

The procedure for annotation was as follows:

a) Studies with multiple dependent variables and/or multiple independent variables are treated as if they were separate studies and are given separate reference numbers.

b) Each reference is annotated according to the following outline:

1) Population: The general "type" of person involved in the study (e.g., "high school students" or "low income mothers").

2) Treatment: The general class of independent variable being studied (e.g., "lecture-discussion group" or "newspaper articles").

3) Dependent Variable: The general class or specific measure of the "effect" (e.g., "Taylor manifest anxiety scale" or "attitudes toward mental patients").

4) Treatment Groups: The manner in which experimental and control groups were made up from the population and the timing of measurements.

5) Results: Statistically significant differences between experimentals and controls.

6) Deficiencies: While no attempt was made to provide a complete methodological critique of each study, in the case of a design problem thought to be important enough to affect the interpretation, brief comments are provided. "None" should be interpreted as "No major obvious deficiencies" not as "perfection."

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[1] Although there are a large number of studies in which the independent variable is a mental health state (e.g., studies of the effect of anxiety on learning) these have been ignored.

7) Over-all: Classification of independent and dependent variables according to categories explained below, with outcome classified as follows:

a) + Results suggest a demonstrable effect on the dependent variable.

b) - Results suggest no effect on dependent variable or effect opposite of that intended.

c) ? Results neither positive nor negative (e.g., trend in predicted direction, but not statistically significant).

The existence of 40 separate experiments (many more than had been anticipated when this project began) raises hopes that definite patterns of findings can be established by putting together the results from a number of experiments. Unfortunately the studies cover such a wide range of populations (from college students to low income Negro families), treatments (from discussions led by a psychiatrist to reading the comic strip, Rex Morgan, M.D.), and dependent variables (from the Taylor manifest anxiety score to rating mental patients as "valuable or worthless") that it is seldom possible to confront pairs of studies which have more than a few aspects in common. For every contradiction in the findings, too many, not too few, explanations are suggested.

In order to introduce some organization, the independent and dependent variables in each experiment were classified in the following manner:

Dependent variables--the mental health phenomena being affected--were classified as:

a) Subjective states (happiness, worries, self-rating adjustment scales, etc., etc.).

b) Practices (what the respondent actually does rather than what he says or feels...e.g., whether a mother does or doesn't breast feed her child).

c) Attitudes and Beliefs (whether the respondent accepts or rejects certain factual statements or certain pro and con positions.

The classification stems from our previous chapters and is reasonably straightforward. It would be desirable to separate attitudes from beliefs, but authors' lack of detail in reports and the frequent ambiguity of the distinction (is agreement with "Psych-need to be a bit mentally unbalanced themselves in order to work with their patients" a belief or an attitude?) made the distinction impractical.

Given our lack of existing information on the factors affecting mental health states, any classification of the independent or causal variables must be a shot in the dark. Rather than following any etiological orientation, we classified the independent variables in terms of their format, as follows:

a) Media...written or sound messages in which each subject receives the same content and there is no social interaction (give and take) between communicator and audience (e.g., pamphlets, movies, books).

b) Courses...multiple sessions with a leader or instructor present and reading or lectures, content determined by leader, but some "student participation."

c) Interaction techniques...single or multiple sessions with high rates of participation by subjects and little formal presentation by leader or teacher (e.g., non-directive group therapy or role playing sessions).

d) Miscellaneous

The distinctions, obviously, are somewhat arbitrary, and perhaps the categories may best be thought of as points on a continuum from 100 per cent pre-determined symbolic content (pure media) to 100 per cent spontaneous social interaction (role playing) with most studies falling toward the middle where both media and social interaction are present (e.g., a movie followed by a group discussion).

With these distinctions in mind, let us examine the patterns which emerge when we consider our studies in terms of dependent variables.

A) Studies of Attitudes and Beliefs

Twenty-three of the forty experiments involved attitudes and beliefs as a dependent variable, and taken together they build a case that the general population is susceptible to considerable influence. Many of the studies do report failures, but the trend is positive.

TABLE 42

OUTCOME OF EXPERIMENTS INVOLVING ATTITUDES AND BELIEFS

Outcome	Number
+	13
?	4
-	6
	23

Of the total, 13 report favorable results, six report negative results and four are indeterminate. Given the vagaries of academic

publications it would be absurd to deny that an enormous number of negative results are unpublished. Nevertheless, we can cite a variety of positive results.

The following capsule summaries will provide an over-view of the studies with positive outcomes: (Numbers are the references in the annotated bibliography in Chapter VI.)

(1) Adult participants in a two-day mental health workshop showed improvement in information on mental health topics and in choosing appropriate reactions to hypothetical situations.

(8) Adult participants in a lecture-discussion series increased in measures of "liberalism in parent-child relations."

(14) Mothers of small children increased in knowledge of emotional growth and development after being given a pamphlet.

(21) Adults who viewed a series of three mental health films (but not those viewing just one) improved in scores on an item battery regarding mental health topics.

(24) High school students became more favorable toward mental patients and mental hospitals after reading one paragraph messages on cures for mental illness.

(25) Replication of (24) with similar results.

(26) Undergraduates became less favorable toward mental patients and treatment after receiving brief written messages first giving an explanation of mental illness and then refuting it.

(27) High school students learned content of brief written messages regarding mental health topics.

(30) After exposure to false information on causes of schizophrenia college students learned the information and became more favorable in attitudes toward mental patients.

(31) Grade school students improved in choices of appropriate response in human relations situations after one year experimental course.

(32) Women improved in knowledge of sexual information after home visit in experimental sex education program.

(37) High school students who read the comic strip "Rex Morgan, M.D." improved in knowledge of mental illness after reading episode about treatment of paranoia.

(38) Mothers who attended a course in child development improved in information about the topic.

The negative results are as follows:

(6) Two groups of teachers and administrators showed no increase in knowledge despite a 15-session course.

(12) A Canadian community showed no change in two attitude scales despite a six month intensive mental health education campaign.

(15) A large sample of North Carolina mothers showed no changes in beliefs regarding infant care after receipt of Pierre the Pelican pamphlets.

(22) Groups of parents viewed mental health movies, which were effective, but showed no additional effect from discussions.

(28) High school students exposed to information about mental health illness, increased in information, but showed variable changes in attitudes toward the mentally-ill and treatment of the mentally-ill.

(34) Minneapolis mothers who received home visits regarding sex education showed an increase in information, but no change in attitude.

We have had little luck in finding factors which account for the differences between the successful and unsuccessful experiments.

To begin with, the more "sophisticated" interaction techniques do not appear to be more effective than conventional forms of communication. When the attitude and belief studies are classified by format and outcome, we get the following:

TABLE 43

Outcome

Format	+	?	-
Course . . .	4	0	1
Media . . .	8	2	3
Interaction.	0	2	1
Miscellaneous	1	0	1

The courses appear most successful and the interaction techniques the least successful, if the reported experiments are representative. Although the numbers are very small, the point is rather suggestive. A number of important studies of political campaigns have led social psychologists in recent years to doubt the ability of mass media to switch voting intentions and stress the importance of interpersonal relationships as an influence. While the generalizations are well taken for political behavior, they have led many to discount the general importance of media and perhaps overstress the general importance of social interaction. The data in Table 43 suggest that the classical, unimaginative techniques of communication are just as effective as more sophisticated (and much more expensive) interaction techniques. Possibly the differences lie in the fact that in mental health communication one is more often "filling a void" rather than attempting to achieve the "reversal" of a strongly held belief or attitude.

Even such an obvious principle as that of "dosage" receives contradictory verdicts here. The higher success rates of the courses suggest

that the sheer intensity of exposure may be important. This indeed is the direct implication of the McGinnies study (21) which showed that viewing one mental hygiene movie did not affect attitudes while seeing three had a significant effect. Alas, however, the Cummings (12) fairly inundated their Canadian community with information and observed no changes, while a number of Nunnally's experiments (25,29) showed significant and long-lasting effects from the reading of a single paragraph.

More likely, content is more important than the communication form in determining whether a mental health education campaign will be successful. Because so many of the experiments treat scores on omnibus inventories which cover a wide variety of content, it is difficult to sort the studies in terms of success and failure for different content areas. More useful, perhaps, is to simply state Nunnally's conclusions from his carefully planned program of experimental studies. Nunnally limits his research to one question--the relationship between exposure to information and changes in favorability toward mental patients and mental illness treatments--but his conclusions appear to have general importance:

> Proposition 17.1: It is relatively easy to transmit mental health information effectively. (p. 218)
>
> Proposition 17.2: It is more difficult to change attitudes toward mental health concepts than to increase knowledge of mental health phenomena. (p. 220)
>
> Proposition 17.4: Favorable attitudes toward mental health concepts develop when people think they know something about the phenomena, regardless of whether or not their information is actually correct. (p. 223)
>
> Proposition 12.1: The more certainty with which mental health information is stated, the more favorable will be the attitudes toward concepts related to the message. (p. 164)
>
> Proposition 12.2: The destruction of information about mental illness without supplying new information results in negative attitudes toward related concepts. (p. 165)

Or, in blunter words, again Nunnally's:

> The..results..demonstrate the bad effects that are obtained from communicating in an unsure, hesitant manner, and the even worse effects that are obtained by telling people only what does not cause mental disorder and what does not cure mental disorder. (p. 166)

> What our findings indicate is that the public is not emotionally invested in its opinions about mental health to the point where it resists new ideas. Instead the public is apparently hungry for more and better information and will gobble it up when presented. Consequently, diverse methods of communication and presenting material may all be successful in improving public understanding. (What is needed is for the experts to derive a more solid body of facts to communicate to the public.)

We see no reason why Nunnally's conclusions do not apply to acceptance of techniques of mental hygiene and prevention, as well as attitudes toward mental patients. If so, our general conclusion on attitude and belief studies is as follows:

Conclusion 25

The important problem in mental hygiene campaigns about techniques of personal adjustment and prevention of mental illness is not the appropriate means of communication and persuasion, but the fact that mental health educators have nothing concrete and practical to tell the public.

B) Studies of Subjective States and Practices

In the context of our project, studies of information and attitudes treat only a means to an end. More important are the 13 studies which bear directly on the subjective states which we have defined as mental health.

In terms of outcome, they fall as follows:

TABLE 44

OUTCOMES OF EXPERIMENTS REGARDING SUBJECTIVE STATES

Outcome	N
+	4
?	2
-	7

In contrast with belief and attitude studies, negative results predominate, but there are four studies with positive results, this quartet being from a certain point of view, the empirical rock upon which the edifice of mental health education must rest. The successful studies are as follows:

(5) College students in a non-directive section of a psychology course improved in MMPI adjustment scores during the semester.

(9) Adult participants in lecture-discussion groups showed improvement on some, but not all measures of adjustment.

(11) Grade school students exposed to a year's program in "causal learning" improved on adjustment scales.

(35) Children in an experimental ward of a children's hospital showed fewer severe reactions (crying, nightmares, etc.) than those in a control ward.

The indeterminate results are:

(13) Undergraduates anxious about exams showed a positive trend after non-directive group therapy, but the small number of cases and lack of control for grades made the experimental-control contrast statistically insignificant.

(40) Low income Negro families who moved into public housing showed slightly favorable but not consistently significant advantages in self-rating adjustment scales.

The negative results are as follows:

(7) Teachers participating in a lecture-discussion series showed no improvement in adjustment.

(10) Experiments on "catharsis" suggest that expression of hostility does not lower the probability of further aggression.

(17) Bullis Human Relations classes has no significant effect on grade school pupils' adjustments.

(18) Mental hygiene movies had no significant effect on grade school pupils' adjustments.

(19) Socio-drama and role playing had no significant effect on grade school pupils' adjustments.

(20) Hobby and crafts groups had no significant effect on grade school pupils' adjustments.

(36) Operant conditioning (saying "uh huh") influenced students' rate of verbalizing positive self descriptions, but not their self-rated adjustment.

The smaller number of studies and the great diversity of techniques make it even harder to find thematic generalizations in this set. Thus:

The two studies of lecture-discussion groups (by the same authors) show contradictory findings.

The two studies of school mental hygiene programs showed positive results for one (The Ojemann program) and negative results for the Bullis course, mental hygiene movies, and socio-drama.

The three studies of interaction techniques show positive results for a college psychology class, indeterminate results for a non-directive college student counseling group, and negative results for role playing among school children.

The results are too scattered to allow generalizations about promising and doubtful avenues for future research. The following comments are about all that may be said:

First, the existence of some positive results in reasonably well-controlled studies should be construed as a hopeful sign. Those who believe that adjustment is not modifiable except by lengthy psychotherapy or manipulation of the environment must grant that some of the results are favorable. In fact, the statistical evidence for the efficacy of these mental health projects compares favorably with the statistical evidence for the efficacy of psychotherapy.

Second, it would appear that in comparison with information and attitude change campaigns, programs attempting to influence subjective states must expect smaller and less decisive effects. It is not impossible, by any means, to influence people's adjustments (the percentage differences in the children's hospital study are striking), but it is a very difficult task because so many factors other than the program are operating. In particular, the clear-cut evidence that reality factors (poverty, health, family crises) play an important part in affecting subjective distress means that a considerable part of the variance in subjective distress comes from factors which cannot be changed by "educational techniques." That is, one might hope to totally change a person's beliefs about mental illness, but it is unrealistic to expect that the wife of an unemployed man can be converted from unhappy to happy, even though her adjustment might be improved through education.

It follows from these considerations that the research need is for a sheer quantitative increase in evaluation studies. It is a statistical principle that the smaller the difference, the greater the number of

observations necessary to provide reliable evidence. Thus, in election polling much larger samples are needed to predict the winner when the final vote is 52 versus 48 per cent than when it is 75 versus 25. As with individual observations, so with studies. Since programs for influencing adjustment may be expected to show only small effects, a large number of studies based on large numbers of subjects will be necessary before reliable conclusions can be drawn.

Conclusion 26

The small number of studies concerning changes in subjective states show both positive and negative results, and no clear-cut patterns from which to draw generalizations.

Conclusion 27

It may be expected that even "good" programs will show relatively small effects, so it is necessary to multiply the number of evaluations and the number of cases per evaluation considerably before any general conclusions can be drawn.

Third, it is interesting to note that only one of the studies reviewed concerns the most common technique of mental health education--mass media. In that study (#18) it was shown that grade school students exposed to mental hygiene movies showed no change in their adjustment. The result is not encouraging, but it is hardly a fair test of the extensive labor which has been put into the preparation and distribution of books, pamphlets, comic books, magazine articles, movies, filmstrips, etc., etc.

While it may be obvious to the sophisticated that this deluge of print and sound is useless, behavioral science researchers have long ago learned that documenting the obvious is not always possible. In particular,

the positive results from information and attitude studies such as Nunnally's warn us not to write off these techniques without a fair test.

There is an additional argument for further testing here, the argument of practicality. Given: a) the high cost of professional psychologists and psychiatrists, b) the limited size of a discussion group or class, and c) the known biases in volunteers for mental health programs (young, highly educated women...the people who need it least...predominate) in comparison with the low cost, limitless capacity, and relatively higher penetration of media techniques; it may be argued that mass media are "more efficient" in the following sense. Let us assume, for the sake of argument, that 10 per cent of the people exposed to an intensive program such as a lecture-discussion course show some change, while only one per cent of those exposed to a pamphlet show the change. If, however, the cost of reaching a target person with a pamphlet is less than a tenth of that for an intensive technique, the same amount of money invested in pamphlets will produce more effects than when invested in a "more effective" intensive program.

One may doubt that exposure to a mental health pamphlet will result in striking changes for a large proportion of the readers; but if one is satisfied with small changes among a large absolute number of readers, mass media techniques deserve a fair trial.

The nub of the problem is that it is not known whether these materials have any effects at all. In Cahpter VI a design for such a study is proposed.

Conclusion 28

The paucity of research on the effects of media campaigns on subjective states along with the economy of such campaigns if shown to have some effects, argues for the need of extensive research on this form of mental health education.

Having reviewed the studies concerning attitudes and beliefs and those about subjective states, we shall close this chapter by noting the four studies in which the dependent variable is behavior or practices... what people do. Although few in number, they are consistent in the sense that none shows positive results. The studies are as follows:

(2) Mothers who participated in a non-directive discussion group showed a non-significant trend toward more favorable ratings of their children's behavior problems.

(16) A large mailing of Pierre the Pelican pamphlets showed no effect on mother's child handling practices.

(34) A sex education program showed changes in knowledge, but no changes in practices.

(39) A parent education course showed no significant effects on "home practices."

Because each of the four studies involves one particular kind of practice, child rearing teachniques, it is impossible to charge up the loss to the general inability of educational techniques to affect behavior. After all, people do learn to swim in physical education classes. Perhaps parental behavior is particularly resistant to change, perhaps change that involves a chain of behavior (the parent and the child) is harder to effect. In either case we may be gratified that theoretical emphasis has shifted away from stress on child rearing as a mental health problem, for the existing record is quite pessimistic.

Conclusion 29

Studies of attempts to modify mothers' child handling practices show generally negative results.

Conclusion

The results of this review of the literature are, in the author's judgment, disappointing. Although 40 experiments were located, some successful and some unsuccessful, it proved almost impossible to tease out generalizations which held beyond a given study. Roughly speaking, the best that we can do is as follows:

1. It appears that there is a continuum in case of change from beliefs to attitudes to subjective states to practices. At one extreme, almost all studies of change in information show positive results, while at the other, studies of change in practices show uniformly negative outcomes.

2. The most strategic target areas of mental health education, attitude and subjective state changes, lie in the middle of this range where both positive and negative effects are reported.

3. The diversity of studies and measures makes it almost impossible to advance speculations about the differences between successful and unsuccessful attempts.

4. A key assumption of existing mental health education programs--that mass exposure to books, pamphlets, movies, and so on has a positive effect on subjective states--has not been and should be studied.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

A mental health education program may be thought of as involving four major parts: 1) Substantive content, 2) Medium or vehicle, 3) Audience, and 4) Goal. Thus, for example:

Major Parts	Program A	Program B	Program C
Content	Principles of Child Development	Principles of Child Development	Principles of Adjustment
Medium	Discussion Groups	Movies	Pamphlets
Audience	Mothers	Mothers	Teenagers
Goal	Improving Mothers' Techniques of Child Rearing	Improving Techniques of Child Rearing	Improving Personal Adjustment

Our original assumption was that the major obstacles would turn up in the bottom three rows, specifically: (1) dependent variables would be difficult to measure, (2) audiences might be resistant to the information, (3) that because of the delicacy of the content, special techniques such as discussions lead by a psychiatrist might be required. On the whole, the assumptions were not borne out in the review of the literature. 1) Omnibus inventories of mental health and ratings by experts appear to be no less efficient than other social science measures. 2) Audiences appear eager to receive mental health information because they have few firm existing ideas and a great interest in the area. 3) Simple mass media techniques appear to be as efficient as more complicated and sophisticated vehicles for conveying information.

Rather, the major problem appears to be this: Mental Health Educators have little or nothing specific and practical to tell the public. In stark generalizations:

1. The so-called principles of mental hygiene are vague slogans rather than strategies of behavior which can be put into practice.

2. The weight of research findings is to challenge existing lay ("big cities are bad for mental health") and professional ("breast feeding is good for mental health") beliefs, rather than to add positive generalizations.

3. Environmental and situational stresses play such a part in determining generalized subjective distress that candid rules for mental health must include such advice as: "Do not be poor or ignorant, and stay out of armed combat."

4. There is no known method of preventing the major functional psychoses.

5. There are no known rules for influencing the emotional development of children.

6. Although basic research on these matters is increasing in quantity and quality, it is extremely unlikely that the situation will change much in the next decade, since progress will come from gradual accumulations of knowledge, not from a dramatic experimental "break through."

Shall we then abandon the task? Tempting as this answer might be, we feel it to be irresponsible. The human problem is there, and it is enormous. Even slight results are better than doing nothing. The research results do not tell us that subjective states are unmodifiable, they merely say that we cannot state principles for modifying them. The general population seeks information on adjustment and development and the field should not be abandoned to quacks and

popularizers. There has been no study of the effectiveness of mass campaigns aimed at the positive mental health of adults.

Furthermore, a somewhat more optimistic tone may be taken if we distinguish between "doing" and "understanding." We have assumed all along the line that principles of mental health would be useful to the extent they can be applied as a means to an end. Thus, the principle that "cigarette smoking causes cancer" can be translated into a means-ends rule, "If you want to avoid cancer, do not smoke cigarettes." However, the mental health principle that "Racial discrimination is associated with unhappiness" cannot be translated into the means-end rule... "If you want to be happy, do not be discriminated against," and the mental health principle, "There is no correlation between infant care practices and children's personality" cannot be translated into the means-end rule, "If you want your child to have a certain personality either breast feed him or do not."

However, a case can be made that information serves many other functions than guides for doing. We shall note the following:

1) Possessing information reassures people. Again, let us quote Jum Nunnally:

> People are evidently unsure of their information about mental health issues. Consequently, they will accept almost any seemingly authoritative and factual sounding information. The acceptance of new information, regardless of its validity, reduces the fear....[1]

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[1] Jum Nunnally, Popular Conceptions of Mental Health, (New York: Holt, Rinehart and Winston, 1961), p. 231.

2) Information provides standards for evaluating one's self. A number of social psychological theories[2] based on a wide variety of empirical findings lead to the general conclusion that people tend to assess rewards and punishments not only in terms of their intrinsic hedonic value but also by comparison with standards based on the experience of others (reference groups and persons).

The heart of this theory of "relative deprivation" can be conveyed by a classic example from The American Soldier studies. Although promotion rates for enlisted men were higher in the Air Force than in the Military Police, soldiers in the former tended to take a dimmer view of promotion opportunities. Stouffer explains this by saying that where promotion is common, the promoted soldier has not achieved so much relatively and the non-promoted soldier has been relatively deprived. Where promotion rates are low, though, the promoted soldier sees himself as doing very well relatively, while the non-promoted can console himself with the fact that many of his buddies are in the same boat.

What does this famous theory then have to do with information? If it is the case that people tend to evaluate their situation in terms relative to the situations of others, the conclusions they draw will be a function of the information available. To the

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[2] Cf. Robert K. Merton and Alice S. Kitt, "Contributions to the Theory of Reference Group Behavior," in Robert K. Merton and Paul F. Lazarsfeld, eds., Continuities in Social Research, Free Press, 1950; Leon Festinger, "A Theory of Social Comparison Processes," Human Relations VII (1954) 117-40; James A. Davis, "A Formal Interpretation of the Theory of Relative Deprivation," Sociometry, XXII (December, 1959) 280-96.

extent that people are misinformed about others they will misjudge their own situations.

Actually, very little is known about the accuracy with which we judge social facts, but what little evidence there is suggests that such judgments are far from accurate. The phenomena of "everyone" believing something along with the conviction that they are alone in the belief, has been dubbed "pluralistic ignorance." For example:

a) In a recent NORC survey of a national sample of college seniors, 67 per cent said they felt that the most important purpose of college was "a basic education and appreciation of ideas," but 38 per cent said it was "most important to the typical student here."

b) Breed and Ktsanes,[3] in a study of a Southern congregation found that among those who perceived others' opinions, 43 per cent said they would quit or protest if the church were de-segregated, while 70 per cent thought others would react this way.

c) Political polls, which treat an area where there is a tremendous flood of information, show the American public to be poorly informed. Thus, the Gallup Poll in 1952 found that 31 per cent of a national sample did not know the name of the Vice-President of the United States (Alben Barkely); in 1952, 53 per cent could not give a correct answer to "Will you tell me what the initials

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[3] Warren Breed and Thomas Ktsanes, "Pluralistic Ignorance in the Process of Opinion Formation," Public Opinion Quarterly (Fall, 1961) 382-392.

G.O.P. stand for?"; in 1961, 43 per cent did not know the answer to "Would you tell me what is meant by the 'fall-out' of an H-bomb?"[4]

d) We remember from Chapter III that Fiedler found very low correlations between his subjective and objective measures of assumed similarity.

Taken together, the assumptions that self judgments are heavily affected by perceived social norms and that perceptions of social phenomena are only roughly accurate, lead to the hypothesis that the presentation of accurate information should have a definite effect on self judgments.

3) Information serves to inoculate against over-reactions to stress. This proposition is the subject of a book-length discussion in Irving Janis' volume Psychological Stress[5] where attention is centered on emotional reactions to surgery, but Janis suggests that his argument is general. In paraphrase, his position is that if a group of people will be exposed to a stress situation those who are uninformed prior to the stress or those who "pooh pooh" the forthcoming difficulties will find the discrepancy between expectation

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[4] A large number of such findings are reviewed by Hazel Gaudet Erskine in "The Polls: The Informed Public," Public Opinion Quarterly, (Winter, 1962), 669-677.

[5] Irving L. Janis, Psychological Stress: Psychoanalytic and Behavioral studies of Surgical Patients (New York: John Wiley and Sons, Inc., 1958).

and reality so great that they will become upset, while those who "expected trouble" all along will handle it more realistically. Thus, his thesis is that "forewarned is forearmed."

Taken together these three hypotheses suggest the following idea: Even though the causal dynamics are unknown and no rules for efficient action can be justified, merely exposing people to "Gesell norms" for strategic areas of their lives should have the following effects: 1) The feeling of possessing valid knowledge about the area should be reassuring in itself; 2) Knowledge of how one realistically compares with others should lead to the elimination of unrealistic self judgments based on inaccurate perceptions; 3) Knowledge of impending problems should serve to "inoculate" people against over-reactions when the actual stress situation occurs.

At this point a major practical obstacle appears, for with the exception of certain demographic variables reported in the United States Census, we do not have available, in the content areas relevant to mental health, appropriate normative data. For most of the important aspects of life, samples are grossly unrepresentative (e.g., Gesell's own norms), limited to very small populations (Blood's data on Detroit or the Berkeley, California, growth study), or are not of sufficient size for reliable tabulations on small subgroups (Americans View Their Mental Health).

Therefore, we suggest the following general strategy for a study of mental health education:

1. Survey some fairly large population, gathering data on specific problems, satisfactions, and environmental situations as well as initial measures on the dependent variables.

2. Expose some, but not all of the respondents, to the results in the form of a popularly written description of the factual findings.

3. Re-survey, after a period of time, those subjects who received the informational feedback (experimentals) and those who did not (controls) to see whether there are any differences in terms of the dependent variables.

Recommendations for a Mental Health Education Research Study: A "Feedback" Survey

As set forth above, the feedback hypothesis is extremely general, and could be applied to any population group. There is no reason, in principle, why such a study could not be carried out on a representative cross-section of the total American population.[6] However, the heterogeneity of the nation's population would require an enormous sample, diverse separate feedback programs for particular population groups, and high sampling and field costs.

Thus, for technical as well as substantive reasons, we propose a study limited to grammar and high school children.

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[6] A possible limit is that according to the reference group hypothesis, information on a given population should be effective only to the degree that that population is used as a reference group. The prediction is that an information campaign telling middle-aged Americans how they compare with Japanese teen-agers of the opposite sex would be less effective that one telling them how they compare with people whom they routinely use for a reference group.

Technically speaking:

1. Because up to age 15, some 90 per cent of the nation's children are in school, existing rosters of students provide a cheap sampling frame for a quite representative population.

2. If school staffs are willing to cooperate (and because mental health is a topic of considerable concern to educators we may assume near unanimous cooperation) schedules may be administered efficiently and inexpensively through the school systems.

Substantively speaking:

1. Because young people's lives may be assumed to change more in a given period of time than adults, children can provide a test of the "inoculation" hypothesis more conveniently than adults (e.g., it might take 10 years to test the effectiveness of information campaigns inoculating people against the stress of aging and retirement).

2. It may be assumed that students use each other as a reference group, so the norms will probably be "salient."

3. If shown to be successful, such a program could be turned over to educators for practical application, remembering that schools reach more Americans for a longer period of time than any other formal institution in the society.

4. Even if the action program is shown to be a failure, the data generated can fill an important research gap as noted in Chapter III.

5. There is considerable literature indicating a complicated pattern of changes in worries and concerns by grade in school.[7]

6. It may be assumed that gross environmental factors (health, unemployment, etc.) play a lesser role in students' adjustments.

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[7] Cf. Sidney L. Pressey and Raymond G. Kuhlen, Psychological Development Through the Life Span (New York: Harper and Brothers, 1957) 338-353.

Let us now proceed to sketch the steps in such a research program in terms of sampling, initial measures, treatment, follow-up and analyses.

Sampling

In sketching the design, we shall use the State of Pennsylvania as our universe. There is no great obstacle and few differences in the design and cost, if the study were to be carried out in another geographical area or on the total United States.

The steps involved are:

1) Obtain a list of the schools in Pennsylvania and a reasonable estimate of the number of students enrolled in each grade from 6 to 12.

2) Stratify the schools in terms of size, size of city, and Census measures of the SES of the community or neighborhood served by the school.

3) Set a total sample size. Assuming that the predicted effects, at best, are fairly slight, this sample size should be rather large, perhaps 30,000 cases.

4) Set a total for the number of schools to be included in the study. Because schools will be the treatment unit, the number of schools should be rather large, perhaps 100 per treatment.

(We anticipate some difficulties at this point. Ideally, a "school" should consist of a single institution in which the same students progress from sixth grade through high school graduation. The existence of junior high schools, non-geographically recruited schools, etc., as well as multiple primary schools feeding a given secondary school presents a number of conceptual problems which would have to be ironed out during the planning stage.)

5) By the use of well established multi-stage sampling procedures sampling intervals can be established, giving a specified number of cases to be sampled in each school, the total cases in the study being representative of the students in the universe.

6) Within each sampled school, draw the "quota" of students by means of probability sampling from school records.

Initial Measures

7) Identical, brief, schedules (save perhaps for different forms for boys and girls) are to be filled out by each student in the sample, save for a small fraction who will receive only a post measure. (This group will enable one to determine whether the sheer filling out of the original questionnaire contributed to any observed effects. This analysis is discussed in step 13 below.)

8) The content of the schedules should include the following:

a) Brief, omnibus (10 to 15 item) mental health scale of the type discussed in Chapter II.

b) A list of approximately 35 worries, concerns and behaviors from existing scales such as the Pressey Interest-Attitude test or made up for this research.

(1) An attempt will be made to cover each content area with two separate items, a "factual" and a "reaction" item. Thus, for example: "I go out on dates once a week or more" and "I worry about my popularity with the opposite sex"; "I usually miss two weeks or more during the school year because of illness" and "I am concerned about my health"; "I often worry whether my grades are good enough to get into college" v. reported grade average.

(2) Each item will be presented in three separate response frameworks:

A) True-False for me personally.

B) Your guess as to how most students you know will answer this. (T-F)

C) How you guess you would answer this question one year from now. (T-F)

These frameworks enable us to score students in terms of their A) subjective states, B) perceived standing vis-a-vis reference group, and C) expectations regarding future.

c) Brief set of background items: Father's education, father's occupation, siblings, religion, length of time in this school, grade average or rank in class, race, school program, career plans.

d) Question asking whether student has taken a course in "psychology," "personal adjustment," "mental hygiene," etc. This item can be used in two ways: (1) in the final analysis exposed students can be separated out to control for the influence of these courses; (2) some students may say "no" in the initial measure and "yes" on the follow-up, in which case their changes may be used to see the effects of such courses.

e) The students' home mailing addresses (for use in treatments).

f) A brief (10 ? item) true and false test concerning the content of the "advice" treatment described in step 10 below.

The schedules should be completely "pre-coded" so that no coding or editing is necessary and they may be key-punched immediately upon receipt.

Treatments

We propose two treatments and two "levels" of each, with schools randomly assigned to treatment groups.

9) Treatment One (Information)

It is assumed that the pre-coded schedules can be key-punched, machine edited, converted to computer tape, and key tables run on a high speed computer within four months after the completion of the field work. Basically the runs will consist of tabulating the "me-personally," "most students," and "year from now" responses for check-list items against grade in school, separately by sex, with perhaps controls for community type and/or father's education (SES).

The results should turn up findings on the following order:

(1) Major and minor concerns for particular grade levels
(2) Patterns of increase and decrease over grades
(3) Items characterized by "misperception" of reference groups (e.g., where high percentages say they worry, and low percentages say "most students" worry)
(4) Items characterized by "misperceptions" of future states (e.g., where there are discrepancies between "next year" for students in grade N, and "me personally" in grade N + 1.

At this point, a professional writer and a commercial artist, hired on a consultant basis, working with the study director, will prepare a series of perhaps half a dozen short, simply written, attractively illustrated pamphlets, presenting the results to student readers (e.g., "What's in store for you next year?" "Teen-agers' Concerns," "Are you really different?"). Although an attempt will be made to "package" the results in a readable fashion and to suggest that they are "important," no specific advice or suggestions as to techniques for problem solution will be presented. The pamphlets will be mailed at a regular (weekly?) interval to the homes of students in the Information Treatment group, and the final mailing will include a return postal card with one or two questions on reactions, as a rough measure of penetration.

10) Treatment Two (Advice)

Students in the Advice Treatment group will be mailed the same number of pamphlets at the same time, but instead of the information content described above, the pamphlets will be selected from already existing pamphlets concerning students and student problems, of the sort already in plentiful supply from existing mental health education programs. An attempt will be made to find a series appropriate to the grade levels involved, similar in attractiveness and format, giving heavy stress to classical mental health themes, rather than factual information.

11) Treatment Levels

In order to check for the differential effects of differences in "dosage," an attempt will be made to incorporate the two treatments into actual school programs at a small, but randomly selected, fraction of the schools. The actual procedures will have to be carefully worked out (e.g., whether it is possible to incorporate the materials into regular courses in Social Studies or whether a special "after-school" class must be established) but the general aim would be to have the students meet for one period on each pamphlet with a teacher, cover the materials in standard class room fashion, and take a final examination. Actually, their post measurement will serve as a final examination for purposes of research, but a "real" examination may be assumed to have motivating properties. Assuming seven grade levels and five classes per grade level, 35 such intensive treatment groups are proposed for each treatment (information and advice), making a total of 70.

The following chart summarizes the design and indicates a tentative distribution of children and schools to the treatments.

Initial Questionnaire		
Treatment	Yes	No
None (Controls)	10,000 students, 100 schools	1,000 students, 10 schools
Information--Low Intensity	10,000 students, 100 schools	500 students, 5 schools
Information--High Intensity	*1,050 students, 5 schools	
Advice--Low Intensity	10,000 students, 100 schools	500 students, 5 schools
Advice--High Intensity	*1,050 students, 5 schools	
Total	32,100 students, 310 schools	2,000 students, 20 schools
Grand Total	34,100 students, 330 schools	

*Based on following assumption: 30 students per class x 7 grade levels x 5 schools.

The size of the project appears tremendous, but it should be noted that NORC has successfully completed a panel study of 1961 college graduates with a sample of approximately 34,000 students from 135 colleges, without the advantage of class room administration of the schedules.

Follow-up

12) One year after the initial measure, the same instrument should be administered to the total sample, the group receiving no initial questionnaire filling out the schedule for the first time at this step, the remainder filling out their second. The operation appears to be straightforward, except for the problem of the students in higher grades who leave school prior to graduation, and the fact

that those in the 12th grade at $wave_1$ will have been graduated. Two approaches can be taken to this problem. On the one hand, the existence of mailing address and the high probability that the schools could help locate those whose mailing addresses are invalid means that it may be possible to reach a very high proportion of these students by mail. On the other, it may be argued that the drop outs should be considered as "mortality," in the sense that the feedback information about 11th graders given to 10th graders will be about 11th graders who continued in school, not those who dropped out. This information is thus not entirely appropriate for the 10th grader who is going to leave school (whether he knows it or not), and his results are not entirely germane to the hypotheses being tested. Since, however, the characteristics and later adjustment of drop outs and graduates are of such high substantive interest they undoubtedly should be followed. It should be noted, however, that even high loss rates do not vitiate the logic of the design.

Analyses

The data generated in the two waves should provide a rich store of information, even though the sheer number of items in the schedule will be modest by the standards of contemporary survey research.

At the worst, assuming that neither of the treatments has any effect on the group as a whole or any significant subgroup, the

data may then be treated as a simple representative sample of the universe and analyzed in terms of the following questions: 1) differentials in adjustment and subjective distress among adolescents and pre-adolescents by age and various subgroups, 2) stability and change in mental health states over a one year period, 3) items predictive of leaving secondary school without graduating, 4) reference group phenomena among adolescents, 5) changes in plans for careers and advanced training by grade in school and over a one year time span, and by various background characteristics.

In terms of the analyses structured by the experimental design, the following questions may be answered:

1) Are there significant differences in the changes of the experimental groups in contrast with the control groups?

2) If yes:

a) Are there significant differences between the two treatment groups by specific items or degree of change in a particular item?

b) Are there particular subgroups in the sample which show greater or lesser changes in various items or in amount of change?

c) Are there significant differences in the items changing or frequency of change on a given item associated with levels of intensity for a given treatment?

d) If there are significant differences for treatment level, do the effects vary with student characteristics?

3) Regarding the group which received no questionnaires in the initial wave, three comparisons are of particular interest:

a) A comparison between those of this group falling into "control" and the total sample in $wave_1$ will give an estimate of cohort historical change....that is, the degree of difference between nth graders in subsequent years, regardless of the experiment.

b) A comparison between those of this group falling into "control" and the $wave_2$ results for controls measured twice will indicate the effect of sheer questionnaire administration on the dependent variables.

c) A comparison between this group and the appropriate treatment groups in the twice measured will indicate the degree to which prior administration of the questionnaire enhances (perhaps sensitizes) or inhibits (perhaps creates resistance) the effects, that is, whether prior questionnaire administration interacts with the treatment.

4) The inoculation hypothesis can be tested if chains of inference such as the following are supported empirically:

a) Let us assume that we find, as Pressey suggests, that worries about examinations increase steadily from sixth grade to high school graduation.

b) If, in the control group at the second wave, it is found that students who expected exam pressures to decline (i.e., who checked "Yes" for "Me personally" and "No" for "Next Year" on a question about finding examinations hard) were more worried a year later than students who anticipated continued or increased pressures, Janis' general hypothesis would be confirmed....

(and)

If it were shown that exposure to the information treatments resulted in more realistic expectations...

c) It would follow that the information treatment has an inoculating effect.

5) The reference group hypothesis can be tested, if chains of inference such as the following are supported empirically:

a) If students, in the same objective circumstances (e.g., who date irregularly, are more worried about their popularity when they believe that "Most students" date more frequently...

(and)

If it turns out that "others" dating is overestimated....

(and)

If exposure to the information treatment brings down the estimate for "Most students"...

b) It would follow that the information treatment has the effect of reducing the negative effects of "pluralistic ignorance" on self-judgments.

6) The hypothesis of the advice treatment--that the acceptance of principles of mental hygiene is associated with improvement in adjustment--can be tested by determining whether improvement in scores on the 10 item test is associated with the advice treatment and with improvements in adjustment, and if so there is any significant advantage for the advice group when their wave$_2$ information scores are held constant.

Timing and Budget

It is anticipated that such a study could be conducted with the following time schedule:

Phase	Required Time	Target date, assuming project would begin January 1, 1964
1) Design, sampling, pretest of schedules, securing cooperation of sample schools	9 months	January-September, 1964
2) 1st Field Wave	1 month	October, 1964
3) Keypunching, tabulation, preparation of feedback materials	4 months	November, '64--February, '65
4) Treatment mailing	1 month	March, 1965
5) Analysis of wave$_1$ data and preparation for 2nd field wave	6 months	April, 1965--September, 1965
6) Second field wave	1 month	October, 1965
7) Keypunching, tabulations, analysis	14 months	November, 1965--December, 1966
Total	36 months	

No detailed budget estimates have been prepared on this preliminary design. However, it is the writer's impression, from similar projects, that total costs would be on the order of $175,000, the heaviest expenditures being during the first (sampling and first field wave), and second (treatment and second field wave) years, with a considerable drop in costs during the final year of analysis and write-up.

CHAPTER VI

ANNOTATED BIBLIOGRAPHY

VI a. Studies Cited in Chapters II and III

VI b. Studies Cited in Chapter IV

VI c. Bibliographies, Symposia, Review Articles, etc., not cited elsewhere

CHAPTER VI a.

STUDIES CITED IN CHAPTERS II AND III

(1) Baldwin, Alfred L.; Kalhorn, Joan; and Breese, Fay Huffman. "Patterns of Parent Behavior," Psychological Monographs, Vol. 58, No. 3 (1945).

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(2) Blood, Robert O., Jr., and Wolfe, Donald M. Husbands and Wives: The Dynamics of Married Living. Free Press, 1960.

Analysis correlates of role patterns and of marital adjustment based on personal interviews with a 1955 probability sample of Detroit wives 21 and over (N = 731), and a sample of 178 farm wives from three rural counties close to Detroit.

(3) Blum, Richard H. "Case Identification in Psychiatric Epidemiology: Methods and Problems," The Millbank Memorial Fund Quarterly, Vol. XL, No. 3 (1962) 253-288.

A review and critique of research findings on psychiatrists' ratings and survey techniques in mental health research.

(4) Boek, Walter E.; Lawson, Edwin D.; Yankauer, Alfred; and Sussman, Marvin B. Social Class, Maternal Health and Child Care. New York State Department of Health, 1957.

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(5) Bowlby, John. Maternal Care and Mental Health. Geneva: World Health Organization, 1951.

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(7) Bronfenbrenner, Urie. "Socialization and Social Class Through Time and Space," in Eleanor E. Maccoby, Theodore M. Newcomb, and Eugene L. Hartley, (eds.) Readings in Social Psychology, 3rd edition. New York: Henry Holt and Company, 1958, 400-425.

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A survey of a national sample of 2,842 arts and science graduate students...not a mental health study, but occasional data on adjustment are reported to compare effect of finances and other problems in student morale. Source of unpublished data treated in text of this report.

(9) Fiedler, Fred E.; Dodge, Joan S.; Jones, Robert E.; and Hutchins, Edwin B. "Interrelations Among Measures of Personality Adjustment in Nonclinical Populations," Journal of Abnormal and Social Psychology (1958), 345-51.

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A summary of the findings of the California Guidance Study, described in the preceding citation.

(17) MacFarlane, Jean W.; Allen, Lucille; and Honzik, Marjorie P. A Developmental Study of the Behavior Problems of Normal Children Between Twenty-One Months and Fourteen Years. University of California Publications in Child Development, Vol. 2. University of California Press, 1954.

Longitudinal study of every third child born in Berkeley, California, between January 1, 1928 and June 30, 1929, by means of physical examinations, psychological tests, and interviews with mothers. Sample divided into 126 experimentals provided with counseling services and 126 controls, samples matched on parental national derivation, income, father's occupation, SES, neighborhood, mother's age, and mother's education. Because of shrinkage, data at age 14 are based on 41 mothers among controls v. 16 at age 10, 91 at age 5, 116 at age one and three quarters.

Data reported in this volume concern time distribution, intercorrelations, and correlates of specific problems (e.g., "Food finickiness," "Diurnal enuresis," "Specific fears," etc.).

(18) Myers, Robert C. "Influence of Age on Physicians' Views Concerning Mental Health Matters," Public Opinion Quarterly (1955), 252-258.

Schedules completed in Fall, 1954 by 405 New Jersey physicians not specializing in psychiatry or neurology. Answers of those under 50 compared with older practitioners, younger physicians generally more interested in psychiatry, more aware of mental health problems, and had greater factual information.

(19) Nunnally, Jum C., Jr. Popular Conceptions of Mental Health. New York: Holt, Rinehart and Winston, Inc., 1961.

Reports of a large series of interrelated studies on experts' opinions on mental health topics, general public opinions, content analyses of mass media, and experimental studies of the impact of various themes and techniques in mental health education. (Probably the single most important research project in mental health education.)

(20) O'Neal, Patricia and Robins, Lee N. "Childhood Patterns Predictive of Adult Schizophrenia: A 30-Year Follow-up Study," American Journal of Psychiatry, (1958), 385-391.

(See Robins, Gyman and O'Neal for a description of the study.) Reports a correlation between the number of symptoms in case record of children referred to guidance clinic and adult diagnosis of schizophrenia, based on 28 patients with adult diagnosis of schizophrenia and 107 patients diagnosed as "No disease."

(21) O'Neal, Patricia and Robins, Lee N. "The Relation of Childhood Behavior Problems to Adult Psychiatric Status: A 30-year Follow-up of 150 Subjects," American Journal of Psychiatry, (1958), 961-969).

(See Robins, Gyman, and O'Neal for a description of the study.) Reports data comparing adult adjustment of children referred to a child guidance clinic and control group matched from public school records. Patients, particularly those referred for delinquent or anti-social behavior, show lower levels of adult adjustment.

(22) Orlansky, Harold. "Infant Care and Personality," Psychological Bulletin, 46 (January, 1949), 1-48.

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Summary of a 1958 conference and of background papers prepared for the conferences. Raises questions which led to the commissioning of this document.

(24) Ramsey, Glenn and Seipp, Melita. "Attitudes and Opinions Concerning Mental Illness," Psychiatric Quarterly, Vol. 22 (1948), 428-444.

Interviews with a quota sample (quotas set on sex, race, age, education, religion, occupation,

country of birth) of 345 respondents in Trenton, New Jersey. Tabulations by age, sex, education, occupation, separately for selected questions, e.g., "Do you or do you not think that insanity is inherited?" "Some people believe that poor living conditions are a cause of insanity. Others disagree. What is your opinion?" General conclusion is that higher education is associated with more enlightened attitudes.

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Adult occupational status of 524 children referred to a St. Louis municipal psychiatric clinic between 1924 and 1929, in contrast with 100 controls chosen from public school records. Concludes that patients have much less favorable occupational outcomes, but only for those referred because of anti-social behavior, neurotic and similar patients being no different from controls.

(26) Rosenberg, Morris. "The Dissonant Religious Context and Emotional Disturbance," American Journal of Sociology, LXVIII (July, 1962), 1-10.

Questionnaire data from approximately 1,000 public high school juniors and seniors from 10 high schools in New York State, apparently a representative probability sample.

Students reporting themselves as living in neighborhoods where the majority were of different religion during grammar school report themselves lower on self-esteem, higher on psychosomatic symptoms, and depressive affect.

(27) Roth, Julius and Peck, Robert F. "Social Class and Social Mobility Factors Related to Marital Adjustment," American Sociological Review, 16 (August, 1951), 478-487.

A reanalysis of data on 523 cases in the Burgess and Cottrell marital adjustment study show the relationship between the Warner Index of Status Characteristics and the Burgess-Cottrell marriage adjustment index.

(28) Sears, Robert R.; Maccoby, Eleanor E.; and Levin, Harry. Patterns of Child Rearing. Evanston, Illinois: Row, Peterson and Company, 1957.

Studies of interrelations between child rearing techniques and children's behaviors, as reported by a sample of 379 mothers of kindergarten children in eight public schools in two suburbs of Boston.

(29) Sewell, William H. "Infant Training and the Personality of the Child," American Journal of Sociology (1952), 150-159.

Correlations between seven infant care practices (e.g., breast versus bottle feeding, early versus late bowel training) as reported by mothers and various measures of adjustment at ages 5 and 6 in a sample of 162 Wisconsin farm children. No reliable correlations were found.

(30) Spock, Benjamin. The Pocket Book of Baby and Child Care. New York: Pocket Books, Inc., 1946.

The single most influential source of doctrine on child development in contemporary America.

(31) Srole, Leo, Langner, Thomas S.; Michael, Stanley T., Opler, Marvin K.; Rennie, Thomas A.C. Mental Health in the Metropolis. New York: McGraw-Hill Book Company, 1962.

Demographic correlates (age, sex, marital status, socio-economic status, religion, ethnicity) of psychiatrists' ratings of mental health based on personal interviews with a probability sample of 1,660 respondents ages 20-59 in a New York City neighborhood with a population of 175,000.

(32) Star, Shirley A. "The Screening of Psychoneurotics in the Army: Technical Development of Tests," in Samuel A. Stouffer, et. al., Studies in Social Psychology in World War II, Vol. IV, Measurement and Prediction, Chapter 13, pp. 486-547. Princeton, New Jersey: Princeton University Press, 1949.

A report on the development of a questionnaire designed to screen military inductees for evaluation by psychiatrists. Reports information on interrelations between a large number of predictors, and

differential ability of various predictors to discriminate between diagnosed neurotics and cross-sections within the army.

(33) Star, Shirley A. "Psychoneurotic Symptoms in the Army," in Samuel A. Stouffer, et. al., Studies in Social Psychology in World War II, Vol. 2, Chapter 9, 411-455. Princeton, New Jersey: Princeton University Press, 1949.

Analysis of effects of overseas service and exposure to combat on Neuropsychiatric Screening Adjunct, and Anxiety and Psychosomatic Symptoms indices constructed from NSA items. Based on self-administered questionnaires from large samples of soldiers in World War II.

(34) Stouffer, Samuel A. and DeVinney, Leland C. "How Personal Adjustment Varied in the Army," in Samuel A. Stouffer, et. al., Studies in Social Psychology in World War II, Vol. I, Chapters 3 and 4, 82-154. Princeton, New Jersey: Princeton University Press, 1949.

Description of Personal Esprit, Personal Commitment, Satisfaction with Status or Job, and Approval or Criticism of Army indices, and patterns of association with age, education, marital status, longevity, etc. Based on self-administered questionnaires from large samples of soldiers in World War II.

(35) Stouffer, Samuel A. Communism, Conformity, and Civil Liberties. New York: Doubleday and Company, Inc., 1955.

Report of personal interviews with a national sample of 4,939 adults and 1,500 community leaders, with data on political and personal worries, field work completed in 1954.

(36) Taylor, Janet A. "A Personality Scale of Manifest Anxiety," Journal of Abnormal and Social Psychology (1953), 285-290.

Description of the development of one of the most popular psychological self-rating scales. Items were selected from the Minnesota Multi-Phasic Inventory by judges on the basis of face validity, administered to samples of students, subjected to

criterion of item to total correlations, and scale shown to distinguish between students and psychoneurotics in treatment. Sample items listed in text of this report.

(37) Veroff, Joseph; Feld, Sheila; and Gurin, Gerald. "Dimensions of Subjective Adjustment," Journal of Abnormal and Social Psychology (1962), No. 3, 192-205.

Factor analysis of various subjective measures of mental health based on data from Gurin, Veroff, and Feld, Americans View Their Mental Health.

(38) Wickman, E. K. Children's Behavior and Teachers' Attitudes. New York: Commonwealth Fund, 1928.

(Not read, abstract "It was found that school teachers were more concerned about overt violations of classroom routine than with fundamental behavior problems.")

(39) Wilner, Daniel M.; Walkley, Rosabelle Price; Pinkerton, Thomas C.; and Tayback, Matthew. The Housing Environment and Family Life. Baltimore: The Johns Hopkins University Press, 1962.

A longitudinal study contrasting the physical and mental health of 300 lower class Negro families in Baltimore before and after entering public housing with 300 control families matched on a number of characteristics. Unpublished data on intercorrelations of mental health scales were kindly made available by Professor Wilner.

(40) Woodward, Julian L. "Changing Ideas on Mental Illness and its Treatment," American Sociological Review (1951), 443-454.

Personal interviews with an area probability sample of 3,971 Louisville, Kentucky residents 18 years of age and older, origins of mental illness, treatment of deviants, acceptance of psychiatry, etc., along with special samples of lawyers, doctors, teachers, and clergymen. Article reports tabulations by age and by education separately for a number of questions, e.g., "Suppose a member of your family became mentally-ill. Do you think you would tell your friends and acquaintances about it?"

CHAPTER VI b.

STUDIES CITED IN CHAPTER IV

Andrew, Gwen. "A study of the Effectiveness of a Workshop Method for Mental Health Education," Mental Hygiene (1954), 267-278.

Population: Parents, teachers, public health nurses, and college students in the Upper Peninsula of Michigan.

Treatment: Two-day workshop using phonograph records, lectures, films, discussions on mental health topics.

Dependent Variables: = 30-item test of information and items measuring reactions to hypothetical situations, Hovland Effectiveness Index used to assess change.

Treatment Groups: E = Pre and post measures on work shop participants.
C = Two measures on "people of different background who were in college."

Results: Improvement in Experimentals significantly greater than in Controls, and Experimentals improved on 21 out of 30 items.

Deficiencies: No evidence that experimentals and controls were similar to begin with, impossible to determine from the report which, if any, differences were associated with particular media...discussions, lectures, etc.

Over-all: Course X Attitudes and Beliefs +

Andrew, Gwen; Sibilio, John Paul and Stehman, Vernon. "Utility of the Small Group Discussion Method as Practiced in Certain Applied Settings: 1 - Instrumental Goal Achievement of a Mental Health Group," American Journal of Public Health (1960), 785-790.

Population: Mothers of pre-school children who volunteered for project.

Treatment: Non-directive Group Discussion.

Dependent Variables:

1) Mothers' ratings of children's behavior (temper, care of property, capacity to occupy self, cooperation in routines, etc.) as observed, preferred by mother, and as mothers perceive experts' evaluations.

2) Checklist of alternative reactions to 16 common problems of child rearing.

Treatment Groups:

E = 3 groups of 8 mothers, meeting once a week for 10 weeks, final N = 14, measured pre and post.

C = 13 participants in an undescribed "YWCA program" measured at one and 10 weeks.

Results: No significant differences, although direction of differences in problem checklist favored experimentals.

Deficiencies: No evidence on comparability of experimentals and controls, very small numbers of cases mean that only very strong effects could be "statistically significant."

Over-all:

2) Interaction x Beliefs and Attitudes ?

3) Interaction x Practices ?

Asch, Morton Jay. "Non-directive Teaching in Psychology: An Experimental Study," Psychological Monographs, Vol. 65, No. 4 (1951).

Population: Male second semester general psychology students at Mohawk College (upstate New York), in Spring semester, 1948. All were World War II veterans.

Treatment: Non-directive ("student centered") college course in psychology.

Dependent Variables:
1) Knowledge...final exam scores in the course.
2) Bogardus Social Distance scale for various nationality and social groupings.
3) MMPI...blind ratings of "adjustment" of profile results.
4) Ratings of course reactions.

Treatment Groups:
E = 23 cases selected at registration (not clear whether randomly or not) chosen to exclude anyone with previous experience in such a course and to have equal numbers from first semester sections of various psychology instructors.

C = 101 students enrolled in other conventionally taught sections of the same course. Various cases used in various analyses, depending on variables chosen for equating experimentals and controls.

Note...both groups were assigned the same conventional textbook.

Results:
1) Knowledge...experimentals did significantly worse. (It should be noted that experimentals knew that their examination had no effect on their final grades.)
2) Social Distance...both groups showed lessened social distance, but experimentals no more than controls.
3) MMPI...73 per cent of experimentals rated as "better adjusted" in post test in comparison with 23 per cent of 22 controls, difference highly significant.
4) Course reactions...Experimentals liked the course better, but no difference in "helping to know myself better."

-4-5--Continued

Deficiencies: No very important deficiencies, except that it is unclear in the nature of the design which aspect of the experimental treatment produced the results...the leader, the other students, the fact that the experimentals were told that their section was an innovation, the fact that students assigned their own final grades.

Over-all:
4) Interaction x Attitudes and Beliefs ?*
5) Interaction x Subjective States +

-6-7-

Balser, Benjamin H.; Brown, Fred; Brown, Minerva L.; Joseph, Edward D.; and Phillips, Donald K. "Preliminary Report on a Controlled Mental Health Workshop in a Public School System," American Journal of Psychiatry (1955), 199-205.

Population: Teachers and school administrators in New Rochelle, New York, and an unnamed control school system.

Treatment: Lectures of 15-1/2-hour duration by a psychiatrist on "normal personality development, mechanisms of defense," etc., followed by one-hour discussions.

Dependent Variables: Measures of knowledge, pencil and paper measures of personal adjustment.

Treatment Groups:
E = 1) 38 volunteer teachers
2) 19 volunteer administrators

C = Two similar groups, matched on age, sex, grade taught, etc., in a different school system. Controls were informed that they were serving as controls.

Results:
1) Neither experimentals nor controls showed a significant increase in knowledge.
2) Both experimentals and controls showed significant increases on about half of the adjustment measures. The authors interpret this as a "Hawthorne effect."

Deficiencies: As noted by the authors, the fact that both experimentals and controls showed increases in adjustment measures along with the fact that controls were informed of the purpose of the study suggests that the changes were not due to the course, but to the subject's reaction to participation in the study.

Over-all:
6) Course x Attitudes and Beliefs -
7) Course x Subjective States -

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*Vis-a-vis conventional teaching, although undoubtedly there was some increase in knowledge of psychology in experimentals.

Balser, Benjamin H.; Brown, Fred; Brown, Minerva L.; and Laski, Leon. "Further Report on Experimental Evaluation of Mental Hygiene Techniques in School and Community," American Journal of Psychiatry (1957), 733-739.

Population: Groups of parents, groups of teachers, and parent-teacher groups in four New York metropolitan area communities.

Treatments: Lecture-discussion courses.

Dependent Variables: Minnesota Personality Scales (Morale, Social Adjustment, Family Relations, Emotional Stability), Sentence Completion measure of tension and adjustment, scale measuring "liberalism" in parent-child relations.

Treatment Groups: Seven lecture-discussion groups formed according to the following design:

Population	Treatment	Leader	N
Experimentals			
Teachers	Leader centered discussion	Psychiatrist	20
Teachers	Leader centered discussion	Psychologist	11
Parents	Group centered discussion	Psychiatrist	11
Controls			
Parents	Informed of nature of study		25
Teachers	Not informed of nature of study ("Blind")		50
Parents	Not informed of nature of study ("Blind")		20
Teachers	Not informed of nature of study ("Blind")		8

Results:

Five Measures of Adjustment

	Zero or Unfavorable Change		Positive Change Not Significant		Positive Change Significant at .05		Total Tests
3 experimental groups	3		10		2		15
Informed controls . .	3	11	2	8	0	1	5
Blind controls . . .	8		6		1		15

Liberalism in Parent-Child Relations

3 experimental groups	0		1		2		3
Informed controls . .	1	2	0	2	0		1
Blind controls . . .	1		2		0		3

Deficiencies: Small sizes of groups mean that only the strongest possible changes could be statistically significant.

-8-9--Continued

Over-all: Although only four out of a possible 15 tests on changes in adjustment showed a significant increase for the experimentals, when all the tests and groups are pooled, we get the following, ignoring levels of significance:

Changes in Adjustment		
	Zero or Negative	Positive
Experimentals	3	12
Controls . .	11	9

By Fisher's exact test, this table is significant at the .05 level. Hence, the experimentals tended to show more improvement.

8) Course x Attitudes and Beliefs +
9) Course x Subjective States +

-10-

Berkowitz, Leonard. Aggression: A Social Psychological Analysis. New York: McGraw-Hill Book Company, 1962, Chapter 8, "Catharsis," 196-228.

The chapter is an extensive review of a considerable number of complex experimental studies and thus cannot be cited in the outline form applicable to the other references in this section.

On the basis of his own and other experiments, however, Berkowitz is led to question strongly the assumption of some mental health educators that the expression of aggression (as opposed to "bottling it up") has positive results.

For example:

"There is no conclusive evidence one way or another as to the consequences of aggressive contests. Nevertheless, such findings as are available seem to point to an aggression-anxiety (and/or guilt) reaction to these games rather than pleasant feelings following the discharge of hostile impulses." p. 204.

"Expressing aggression does not in itself lessen the probability of further aggressive acts. Aggressive habits may even be reinforced." p. 207.

-10--Continued

"Overt hostility is relatively unlikely to weaken to any great extent if an obstacle to need satisfaction continues to elicit anger." p. 211.

"Some people advocate the free expression of feelings when barely submerged resentment impedes harmonious relationships...Unfortunately, however, such a philosophy sometimes leads to enhanced anger. Mutual recriminations may develop....But more than this, when a person vents his feelings he may also excite himself even more." p. 213.

"In general there is no unequivocal evidence of a cathartic lessening in the strength of aggressive tendencies following the performance of hostile acts. Such a phenomenon may well exist, but the studies that have been conducted to date have not been altogether convincing." p. 219.

Over-all: Miscellaneous x Subjective States -

-11-

Bruce, Paul. "Relationship of Self-Acceptance to Other Variables With Sixth Grade Children Oriented in Self-Understanding." Journal of Educational Psychology (1958), 229-238.

[A further report from this study, giving essentially similar results for a smaller sample appears in Muss, Rolf E. "The Effects of a One and Two-Year Causal Learning Program," Journal of Personality (1960), 479-491.]

Population: 6th grade students in different elementary schools in a Midwestern community of 80,000.

Treatment: "Causally oriented" teaching program.

Dependent Variables: Discrepancy in rating of self and ideal self; Children's manifest anxiety scale; Kooker Security-Insecurity Rating Scale

Treatment Groups:

1) Experimental classes exposed to weekly program oriented toward "causal" approach to human problems with specially trained teachers:
   a) Two classes exposed two years
   b) Two classes exposed one year
2) Control classes matched on sex, IQ, teacher type, etc., and given no special program.

Results: At testing, experimentals showed significant advantage ($p < .05$) on manifest anxiety and Kooker scales, but not on discrepancy rating.

-11--Continued

Deficiencies: No obvious ones, although data are all post, rather than pre-post.

Over-all: Course x Subjective States +

-12-

Cumming, Elaine and Cumming, John. Closed Ranks: An Experiment in Mental Health Education. Cambridge: Harvard University Press, 1957.

Population: Two communities (population 1,500 and 1,100) in central Canada.

Treatment: Six month intensive campaign....front page stories in local newspaper, series of PTA programs, weekly radio program, three-day mental health film festival, speeches to local conventions, five meetings with older high school students, pamphlets put on display in public buildings, books given to public library, study group established, etc., etc., etc.

Dependent Variables: Guttman scales measuring:

1) "Social distance"..how close a relationship the respondent is prepared to tolerate with someone who has been mentally ill.

2) "Social responsibility"...covers two possible ideas, responsibility for causing mental illness, as well as responsibility for assuming the social burden which the mentally-ill person places on society. (p. 54)

Treatment Groups: Campaign conducted in one community, both communities surveyed before and after....total adult population in experimental community, 107 randomly selected adults in control city.

Results:

1) "Fifty-six per cent of those interviewed in experimental community had had some contact with the program and were aware of its content, but these people were concentrated in the upper and medium rental areas." (p. 32)

2) "The average scores on our two Guttman scales had not changed....the experimental community did not show any move in score which distinguished it from the control community, although one

-12--Continued

section of the population--the most highly educated--did, after the project, have a more polarized opinion regarding responsibility for mental illness...the occurrence of more high and low scores with an unchanged average." (p. 87)

Deficiencies: Many possible dependent variables were not explored, in particular none of the standard measures of adjustment.

Over-all: Media x Attitudes and Beliefs -

-13-

Fiedler, Fred E. "An Experimental Approach to Preventive Psychotherapy," Journal of Abnormal and Social Psychology (1949), 386-393.

Population: University of Chicago undergraduates.

Treatment: Non-directive group therapy to reduce anxiety about examinations.

Dependent Variables: Ten-item graphic self-rating scale. Sample items "more, less or about as nervous, jittery, restless," "Many students sleep poorly and toss and turn the nights immediately preceding an exam. How did you fare?"

Treatment Groups:

1) Requested volunteers for a study on "whether nervousness, anxiety, etc. before an examination can be effectively reduced by organized group discussions."

2) Volunteers randomized as follows:

E = 25 cases randomly assigned to five groups with four different leaders, met 50 minutes per week for six weeks.

C = 19 cases.

RESULTS: "No significant differences were obtained when all experimental subjects were compared with all control subjects on any item or on the total scale."

-13--Continued

Deficiencies: a) Small sample size makes it difficult to get statistically significant results except for very strong effects.

b) Data presented in article show that scores on adjustment index increase with grades, and while grades were not associated with return of $time_2$ schedules among experimentals, there was a sharp loss of control cases with low grades. The net result is that control cases have higher grades than experimentals. Where experimentals are compared with controls with similar grades, experimentals have more favorable scores, but case bases are very small.

Over-all: Interaction x Subjective States ?

-14-

Ford, Marie, and Hartman, Evelyn E. "Measuring Reader Comprehension of a Preschool Pamphlet," Public Health Reports (1954) 498-502.

Population: Working mothers (ages 20-29) of small children in Minneapolis, Minnesota, whose children were in four day-care centers in low income neighborhoods.

Treatment: Preliminary version of a pamphlet regarding "Contributions of parents and others in the emotional growth and development of the child," reasons for preschool physical and dental examinations, immunization, "sound health practices and habits," training for safety.

Dependent Variables: Scores on 10-item, multiple choice examination on content of pamphlet.

Treatment Groups: On a given Friday every other mother was given pamphlet and asked to take a pamphlet home and read it. Both experimentals and controls re-tested on following Monday. For experimentals N = 21, for controls N = 14.

Results: Significant difference ($p < .001$), Experimental mean = 6.4, Control = 3.7.

Deficiencies: None of practical importance. Authors do not report results for separate items, and hence, one cannot tell results for specific mental health questions. Implication from the text, however, is that all 10 items were in same favorable direction.

Over-all: Media x Attitudes and Beliefs +

Greenberg, B. G.; Harris, M. E., MacKinnon, C. F.; and Chipman, S. S. "A Method for Evaluating the Effectiveness of Health Education Literature," American Journal of Public Health 43 (1953) 1147-1155.

Population: Mothers of first born children in North Carolina.

Treatment: "Pierre the Pelican" pamphlets on child rearing techniques.

Dependent Variables: Personal interview data on mother's beliefs and practices regarding: reactions to refusing food, demand feeding, appropriate age for drinking from a glass, use of bottle propped on a pillow, self-feeding.

Treatment Groups: Experimentals and Controls chosen randomly from records of registrations of first births in randomly selected counties.

Experimentals (N = 1,156) received complete set of pamphlets through mail.

Controls (N = 1,043) received nothing.

Results:

1) Experimentals tended to like the pamphlets.... 100 per cent of 51 per cent return on post card query was favorable.

2) No significant differences in the five attitude-practice areas.

Deficiencies: None, a technically excellent study.

Over-all:

15) Media x Attitudes and Beliefs -

16) Media x Practices -

Leton, Donald A. "An Evaluation of Group Methods in Mental Hygiene," Mental Hygiene. (1957), 525-533.

Population: Ninth graders in four high schools in St. Paul, Minnesota, students with initially very low scores on Bell Adjustment Inventory excluded.

Treatments:
17) Bullis Human Relations Classes*
18) Mental Hygiene Movies
19) Sociodrama and Role Playing
20) Hobby and Crafts Activities

Dependent Variables:
Bell Adjustment Inventory
Bell School Inventory
Rogers Test of Personality Adjustment
Grades and Attendance Records

Treatment Groups:
1) Over 2 years - 6 classes (13 students each) were assigned to Bullis Classes, 6 to movies, 4 to sociodrama, 4 to hobby and crafts.

2) Each experimental group met weekly for one semester with leaders chosen for good relationships with students and experience with the treatments.

3) Each experimental group was assigned a comparison control class of 13 students.

Results: No consistent significant differences between changes of experimentals and controls for any of the four treatments.

Deficiencies: None of any importance, very well conducted study.

Over-all:
17) Course x subjective states -
18) Media x subjective states -
19) Interaction x subjective states -
20) Miscellaneous subjective states -

It is possible, however that the exclusion of children originally very low in adjustment removed the group most likely to benefit from the programs.

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*A didactic mental health program for school children described in Ruth Kotinsky and Helen Witmer, eds. Community Programs for Mental Health: Theory, Practice, Evaluation. Cambridge, Mass.: Harvard University Press, 1955.

McGinnies, Elliot; Lana, Robert; and Smith, Claggett. "The Effects of Sound Films on Opinions About Mental Illness in Community Discussion Groups," Journal of Applied Psychology (1958), 40-46.

Population: Members of PTA and Child Study groups in Prince Georges County, Maryland, two-thirds of housewives average education two-three years college, average age 38-39.

Treatments: 21) Series of mental health films

22) One-half hour discussion led by a trained psychologist, following the films.

Dependent Variable: Mental Health Opinion Inventory of 47 items, e.g., "It is better not to discuss a mental illness as I would a physical illness," "Few of the people who seek psychiatric help need the treatment."

Treatment Groups: Groups assigned as follows: N's indicated in cells:

Measured pre and post		
Films	Discussion	
	No	Yes
All 3 at bi-weekly intervals	16,18	13,11
C only	11	11
B only	13	8
A only	13	8
None	9,9	-

For example, two groups consisting of 16 and 18 members each saw all three movies, but had no discussion, two groups of nine members each served as controls, etc.

Results: Mean Change Pre to Post

Films	Discussion	
	No	Yes
All 3 at bi-weekly intervals	+15.4*	+16.4*
C	+ 4.6	- 1.2
B	+14.5	+ 1.9
A	+ 0.4	+ 6.1
None	+ 0.5	

*Significant increase pre to post and significantly higher than controls. All other cells, not significant.

-21-22--Continued

Conclusions: 1) While seeing one movie makes little difference, a series of three results in improved scores.

2) Discussions neither add nor subtract from the other effects.

Deficiencies: None, a well designed and executed study.

Over-all: 21) Media x Attitudes and Beliefs +
22) Interaction x Attitudes and Beliefs (-)*

-23-

Michigan State Department of Health. "A Report of Some Aspects of the Effectiveness of the Pierre the Pelican Mental Health Pamphlets." Lansing, 1952. (Mimeographed.)

(Not located; abstract is taken from Orville Brim, Education for Child Rearing, Russell Sage Foundation, 1959, p. 298)

Population: Mothers of newly registered first births in certain Michigan Counties.

Treatment: Pierre the Pelican pamphlets mailed to mothers.

Dependent Variables: "43-item questionnaire based on the pamphlet materials."

Treatment Groups: E = 477 returns from 1,000 cases.
C = 537 returns from 1,000 cases.
Difference: Not clear from Brim, apparently counties were allocated to treatments, hopefully randomly, and all subjects in a given county fell into the treatment group.

Results:

a) .05 level

8	favored experimentals
33	no difference
2	favored controls
43	items

b) Total number "correct" out of 43, $.10 > p. > .05$.

c) 23 items "involving some understanding beyond simple factual information," p. $< .03$.

Deficiencies: Low return rate of questionnaires means that effects on non-respondents could alter the outcome considerably. Content of questionnaire unclear in Brim.

Over-all: Media x Attitudes and Beliefs ?

*There being no group having a discussion and no movie, the effect of discussion can only be interpreted as a supplement to movies.

Nunnally, Jum C., Jr. Popular Conceptions of Mental Health: Their Development and Change. New York: Holt, Rinehart and Winston, 1961.

A number of different experiments are reported in this book as follows:

-24-

Pages 150-158 (study designed and conducted by T. R. Husek)

Population: Five classes of high school juniors and seniors, none of whom were taking courses in psychology or mental hygiene.

Treatments:
1) Certainty versus tentativeness in mental health information on cures for mental illness.
2) Messages "destructive" of beliefs regarding efficacy of cures for mental illness.

Dependent Variables: Semantic differential measures of: a) understandability, b) evaluation, and c) potency of 1) psychiatrist, 2) mental patient, 3) tranquilizing drugs, 4) mental illness, 5) ways of treating mental patients, 6) me, 7) a person who has schizophrenia.

Treatment Groups:
1) Subjects were randomly exposed to various one-page messages about mental illness therapy varying in certainty (e.g., "years of research are beginning to pay off in valid conclusions" v. "years of research are beginning to pay off but only in tentative conclusions") and control messages about non-mental health topics. Semantic differential completed immediately after reading.
2) Two weeks later same subjects received messages contradicting previous message, and then repeated semantic differential.

Results:
1) High certainty treatment associated with more favorable ratings of mental health concepts.
2) In control groups which had not received original message, negation messages had the effect of making attitudes less favorable.
3) Negation effects were no "worse" in experimental groups which had received previous "positive" information.

Deficiencies: None

Over-all: Media x Attitudes and Beliefs +

Pages 158-161, 201-207 (study designed and conducted by T.R. Husek)

Population: 135 high school juniors and seniors attending a particular school (different from that in #24).

Treatment: Same high and low certainty messages as #24.

Dependent Variable: Mean evaluation score on semantic differential ratings of mental health concepts, as in #24.

Treatment Groups: Treatments randomized as in #24 and semantic differential administered: 1) immediately after, 2) two weeks later and 3) 10 weeks after original measurement.

Results:

1) High certainty more effective in creating positive attitudes than low certainty.

2) Low certainty more effective than control message.

3) Differences still significant at end of 10-week interval.

4) Controls increased in evaluation on third administration (possibly due to effect of semantic differential itself).

Deficiencies: None

Over-all: Media x Attitudes and Beliefs +

Pages 161-164

Population: Undergraduates at University of Illinois

Treatment: Negation (contradiction) of messages regarding mental illness

Dependent Variables: Mean evaluation on semantic differential ratings of mental health concepts, as in #24

Treatment Groups: E1 (N = 30) read one page psychogenic explanation of catatonic schizophrenia, last paragraph of which denied validity of the explanation.

E2 (N = 30) same as E1 for physiogenic explanation.

Two control groups of 30 read messages on Great Barrier Reef and use of typewriter.

All four groups were administered semantic differential immediately after reading.

Results: Experimental groups less favorable to mental health concepts ("If you tell an individual that information about mental illness is incorrect and do not tell him what is correct, you will promote negative attitudes toward concepts like mental patient, psychiatrist, and methods of treating mental patients.")

Deficiencies: None

Over-all: Media x Attitudes and Beliefs +

Pages 225-230

Population: University of Illinois students

Treatment: False information about causes of catatonic schizophrenia

Dependent Variable: Attitudes toward catatonic schizophrenia, as measured by semantic differential

Treatment Groups: Six written messages randomly assigned to 192 students, as follows:

Explanation of catatonic schizophrenia

1)	Psychogenic	Plausible (parental rejection)
2)	Psychogenic	Implausible ("personna phobia")
3)	Physical	Plausible ("substance in the blood")
4)	Physical	Implausible (blocking of brain artery)

5) Control message...Great Barrier Reef
6) Control message...Typewriting

Results:

1) All four treatments associated with more favorable attitudes toward catatonic schizophrenia than control messages.

2) No differences among the four treatments.

Deficiencies: None

Over-all: Media x Attitudes and Beliefs +

Ojemann, Ralph H. "Sources of Infection Revealed in Preventive Psychiatry Research," American Journal of Public Health (1960), 329-335.

Population: Fourth, fifth, and sixth graders in a Midwestern city of 80,000.

Treatment: Experimental class room teaching program.

Dependent Variable: Test consisting of 22 human relations problem situations, scored (negatively) in terms of the number of situations which the child would approach in "an arbitrary, punitive way."

Treatment Groups:

1) Fourth, fifth and sixth grade classes exposed to weekly "causally oriented teaching content" and teachers given four week summer training session, measured at beginning and end of year.

2) Control classes matched on IQ, age, sex, experience and education of teachers, measured in Fall and Spring.

Results: Significant ($p. < .01$) advantage in improvement for experimentals.

Deficiencies: None of any importance. Author notes that control teachers got more improvement when in the following year they served as experimentals, a finding which argues against teacher selection as a biasing factor.

Over-all: Course x Attitudes and Beliefs +

Owings, Chloe. Studies in Parental Sex Education. Minneapolis: University of Minneapolis Press, 1931.

Population: Mothers of children 14 or younger in Minneapolis and St. Paul, Minnesota, during the late 1920's.

Treatment: Sex education program involving a personal interview (by women volunteers, not necessarily trained in mental hygiene) with each mother during which volunteer gave "upon request" specific sex education information, left pamphlets, and attempted to interest mother in local neighborhood discussion groups on sex education.

Dependent Variables: Several reported, but in essence, the data reflect measures involving 18 "scientific terms" (Breast, Nipples, Navel, Buttocks, Rectum, Uterus, Penis, etc., etc.)

1) Knowledge...mother's statement that she understands the term

2) Attitudes...mother's rating of "desirability" and "objectionability" of use of the terms

3) Practice...mother's report of the use of the terms by her children and between children and parents

Some data gathered from children themselves, but reporting is unclear.

Treatment Groups:

Experimentals

Every home in "a district selected for its economic stability and the educational advantages of the group living in it"..."the 494 blocks included in the area selected was a fair cross section of the city...mothers asked to fill out schedules after exposure to program..."

Controls

Neighborhood in St. Paul similar in socio-economic composition, not involved in program. Control families matched by pairing with experimentals re numbers, ages, and sexes of children, religion, father's occupation, mother's education, mother's age, type of home and neighborhood, parents' birthplace.

After matching and exclusion of cases with missing data, analysis N's were 235 in each group.

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Results: Although the research was apprently conducted with great care and a high level of technical skill, the report of the research is hopelessly disorganized and jumbled, and it is almost literally impossible to run down a number of details. It is the writer's impression, however, that the data support the author's conclusions that..."On six different items in knowledge content there are significant differences..favorable to Group B (experimentals). There are no significant differences in any of the items pertaining to attitude. There are slight differences in three of the six items pertaining to practice, and in one a significant difference favorable to Group B."

Over-all:

Information	?	32) Miscellaneous x Attitudes and Beliefs	+
Practices	?	33) Miscellaneous x Attitudes and Beliefs	-
Attitudes	-	34) Miscellaneous practices	-

Prugh, Dane G.; Stamb, Elizabeth M.; Sands, Harriet M.; Kirschbaum, Ruth M.; and Lenihan, Eleanor A. "A Study of the Emotional Reactions of Children and Families to Hospitalization and Illness," American Journal of Orthopsychiatry, 22 (1953), 70-106.

Population: Children two to 12 years old hospitalized at Children's Medical Center, Boston.

Treatment: "...included daily visiting periods for parents, early ambulation of patients where medically feasible, a special play program employing a nursery school teacher, psychological preparation for and support during potentially traumatic diagnostic or therapeutic procedures, an attempt at clearer definition and integration of the parent's role in the care of the child, and (sic) other techniques."

Dependent Variable: Rating of child's adjustment during and after hospitalization.

Treatment Groups: Fifty experimental cases and 50 controls matched to experimentals on age, sex, diagnosis and (sic) "other factors," controls being treated in then existing routine of the hospital.

Results: Experimentals showed considerably less severe reactions, as follows:

Reaction	Control	Experimental
Severe	36	14
Moderate	56	54
Minimal	8	32
	100%	100%
	(50)	(50)

Deficiencies: Treatment is so complex that it is impossible to determine whether any particular aspect of it had a positive effect....Raters obviously knew which subjects were experimentals and which were controls... Ward staff were undoubtedly aware of study and motivated to help it succeed...

Over-all: Miscellaneous x Subjective States +

Rogers, J. Maurice. "Operant Conditioning in a Quasi-Therapy Setting," Journal of Abnormal and Social Psychology, 60 (1960), 247-252.

Population: Male undergraduates in psychology course at Stanford University.

Treatment: Operant Conditioning (uh huh and nodding).

Dependent Variables: Taylor Manifest Anxiety Scale, Adjective Self Description, Sentence Completion, Rogers and Diamond Q Sort Emotional Adjustment Test.

Treatment Groups: Each subject received six 10-minute interviews with experimenter, and was asked to describe spontaneously his personality characteristics and traits. In initial interview experimental made no reaction, in interviews two through six following reinforcement (simultaneous nodding and saying "uh huh") groups were established:

A) Positive self references reinforced
B) Negative self references reinforced
C) No reinforcement

Results: Significant changes vis-a-vis first interview.

Group A: No significant change in content.
Group B: Positive references declined, negative increased.
Group C: Positive references declined.

No change in dependent variable measures.

Deficiencies: None, except unrepresentative nature of the sample, limits capacity to generalize; 22 of 24 cases reported they were unaware of conditioning.

Over-all: Behavior (mentioning various types of content) significantly affected in predicted directions by and large, no change in subjective states. Therefore:

Miscellaneous x Substantive States -

Rose, Arnold M. "Mental Health Attitudes of Youth as Influenced by a Comic Strip," Journalism Quarterly (1958), 333-342.

Population: Entire sophomore class in three Minneapolis, Minnesota, high schools.

Treatment: Reading episodes concerning onset and cure of a mild case of paranoia in comic strip (Rex Morgan, M.D.) in Minneapolis Tribune. (This comic strip is written by a psychiatrist.)

Dependent Variables: Information and attitude items regarding mental illness and mental patients (e.g., The mentally-ill are dangerous, Mentally-ill can become completely well, Mental patients can become completely well.

Treatment Groups: All cases measured a week or so after beginning of the episode (but before theme apparent to a layman) and several months later after end. Experimentals are self-designated readers of the strip, controls are self-designated non-readers.

Analysis based on random sub-sample of 300 experimentals and 300 controls out of 1,190 cases.

Results: Both groups tended to shift in favorable direction on items directly covered in the strip. Experimental shifts were stronger and more often significant.

Deficiencies: Non-readers of the strip may be systematically different in many ways...less intelligent, less interested in medical and interpersonal content, etc. On the other hand, true difference may be obscured by word of mouth communication from readers to non-readers. Since, however, results are consistent with Nunnally's more carefully controlled experiments, findings are accepted. Design does not control for effects of measurement instrument, which may interact with strip (i.e., strip might not have influenced experimentals if their interest had not been raised by time1 measurement).

Over-all: Media x Attitudes, Beliefs +

Schaus, Hazel Spencer. "An Experimental Investigation of Methods in Parent Education," in Katherine W. Hattendorf, et. al., Researches in Parent Education, I., University of Iowa Studies in Child Welfare, Vol. 6, 1932, 117-134.

Population: Mothers in existing child study groups in Davenport, Iowa.

Treatments: Courses (lecture or study-discussion) meeting every other week for 10 sessions, two devoted to pre and post measures, eight devoted to topics such as the optimum child, aspects of discipline, food adjustment, play, books and reading, habit formation, fear, sex education.

Dependent Variables:

a) "Home practices in parent behavior," based on mother's questionnaires.

b) Information tests on content of course.

Treatment Groups:

a) Six groups recruited from members of nine extant study groups (N's from eight to 19).

b) Three assigned to lecture only, three assigned to discussions lead by teacher... assignment "arbitrary."

c) At end, analysis groups selected from those who attended three or more times and with complete data...group matched on education, $time_1$ scores, and age of children (N's not given, but apparently:
2 - lecture (N = 28)
3 - Discussion (N = 27)

Results:

a) Home practices "only slightly higher."
b) Information....apparently both increased considerably, and at $time_2$ discussion group was slightly higher, apparently significant at the .04 level.

Deficiencies: Reporting is rather unclear (remembering, of course, that the study was done 30 years ago) and crucial data are not published (e.g., $time_1$ means on home practices; content of measures).

Since both groups had identical outside reading assignments and true-false tests each week, and since the study discussion was didactic rather than non-directive, the design is not a fair contrast of lecture and discussion as there is a

-38-39--Continued

third treatment applied to both groups and the two major treatments are not very different.

Over-all: 38) Course x Attitudes and Beliefs +

39) Course x Practices -

-40-

Wilmer, Daniel M.; Walkley, Rosabelle Price; Pinkerton, Thomas C.; and Tayback, Matthew. The Housing Environment and Family Life: A Longitudinal Study of the Effects of Housing on Morbidity and Mental Health. Baltimore: The Johns Hopkins Press, 1962.

Population: Low income Negro families in Baltimore, Maryland, 1954-1960.

Treatment: Moving into a new public housing project.

Dependent Variables: Guttman attitude scales: (typical items in parentheses).

1) Mood ("Do little things often make you feel blue?")
2) Control of temper ("Is it often hard for you to control your temper?")
3) Nervousness ("Are you a nervous person?")
4) Efficacy of Self-help ("You can work hard and in the end you're back about where you started.")
5) Optimism ("There's no reason to believe that things are going to be a great deal better in the future.")
6) Satisfaction with personal state of affairs ("I'm really very happy about the way I've been getting along lately.")

Treatment Groups: Data are reported for 300 experimentals admitted to public housing unit and 300 controls matched on 26 social and housing characteristics, each group interviewed 11 times between April 9, 1955 and April 7, 1958, beginning prior to controls' acceptance by housing authority.

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Results: (In terms of per cent in favorable half of dichotomized scales:)

	Before		After		Net Change			Significant Difference
	E	C	E	C	E	C	Diff	E v. C After
Mood	37	37	56	52	+19	+15	+ 4	
Temper	46	47	47	45	+ 1	- 2	+ 3	
Nervous . . .	44	41	43	41	- 1	0	- 1	
Efficacy . . .	49	43	53	46	+ 4	+ 4	0	
Optimism . . .	39	36	48	39	+ 9	0	+ 9	Less than .05
Satisfaction .	37	40	59	49	+22	+ 9	+13	Less than .05

Deficiencies: One of the best designed and executed field experiments known to the writer. The authors note, however, that the controls managed to better their housing considerably during the period of the study, and hence, the data may be assumed to underestimate any effects of re-housing.

Over-all: Although there are no clear-cut differences (compared, for example, with the 38 per cent difference in Net Change for the item "How do you like your apartment?") the small trends favor the experimentals more than the controls, and as noted above, the design probably underestimates effects.

Miscellaneous x Subjective States ?

VI c.

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