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SUMMARY OF RESEARCH REPORT

THE PSYCHOLOGICAL ENVIRONMENT OF PROTECTIVE SHELTERS

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THE PSYCHOLOGICAL ENVIRONMENT OF PROTECTIVE SHELTERS

Introduction

Should there be a thermonuclear attack upon the United States, a large proportion of the country's population would spend the first few days following it in public fallout shelters, marked and stocked by the Office of Civil Defense. Here the people would remain while the hazards in the external environment diminished to the point where they were tolerable. The first few days would be spent in the shelter entirely. No one could venture out other than for emergency reasons for short periods. However, as radiation decayed and danger subsided, individuals could leave protective areas for short periods. When the radiation reduced sufficiently, people could leave.

The current research is focused upon studying the psychological environment that would prevail in such a public fallout shelter during the shelter period. Will there be psychological and sociological problems? If so, what would be the basis for them? What preventative measures are available? How would problems express themselves? When? What remedial actions could be taken? What controls could be applied? What recommendations would be useful to shelter managers? The research described herein has attempted to answer these and other questions through studying the dynamics of behavior during a period of confinement. It was set up to define and measure psycho-social behaviors and to offer recommendations for control. The reader is referred to another publication for the earlier phase of this study (see Wright & Hambacher, 1965).

The purpose of this program of research was (a) to discover, through carefully controlled methods, a set of criteria for identifying the psychological environment found in confinement; (b) to discover changes in behavior during confinement; and (c) to develop methods, techniques, and bases for future research in enshelterment.

Statement of the Problems

Problem 1. To validate the finding that significant relationships exist between behavior and the psychological environment of early confinement.

To study this problem, two procedures were followed early in the period of confinement: (a) behavior and (b) the psychological environment were measured.

The following hypothesis is presented to discover the relationships posed by this problem:

H₁: There is a significant relationship between human behavior as evidenced in four factors,

1. Dominance
2. Submission
3. Love
4. Hostility

and the psychological environment of early confinement as evidenced in eight factors,

1. Physical Confinement
2. Psychological Confinement
3. Lack of Privacy
4. Lack of Physical Supports
5. Lack of Familiar Behavior Patterns
6. Lack of Familiar Interpersonal Relationships
7. Loss of Identity
8. Fears

Problem 2. To validate the finding that significant relationships exist between behavior and the psychological environment of later confinement.

To study this problem, the same procedures given for Problem 1 were carried out 60-65 hours following the inception of the period of confinement.

The following hypothesis is presented to discover these relationships:

H₂: There is a significant relationship between human behavior as evidenced in four factors (see Problem 1) and the psychological environment of later confinement as evidenced in eight factors (see Problem 1).

Problem 3. To discover a significant difference in behavior early in and later in a period of confinement.

Two hypotheses are presented to discover these differences.

H₃: Behavior early in confinement is no different from behavior later in a period of confinement.

H₄: The distribution of scores representing changes in behavior from early confinement to later confinement will be uniform.

Problem 4. To discover a significant difference in the acceptance of the psychological environment of confinement early in and later in a period of confinement.

To answer this problem, one procedure was followed: the evaluation of acceptance of the psychological environment of confinement early in and later in a period of confinement.

Two hypotheses are presented:

H₅: The acceptance of the psychological environment representative of confinement is no different early in confinement than later in a period of confinement.

H₆: The distribution of scores representing changes in feeling toward confinement from early confinement to later confinement will be uniform.

Problem 5. To discover significant differences in behavior in two types of shelter stays, one providing minimum psychological support and the other selected psychological support.

To discover these differences, two hypotheses are presented:

H₇: Behavior early in confinement in a shelter with minimum psychological support is no different from behavior early in confinement in a shelter which includes selected psychological support.

H₈: Behavior later in confinement in a shelter with minimum psychological support is no different from behavior later in confinement in a shelter which includes selected psychological support.

Problem 6. To discover significant differences in the psychological environment of two types of shelter stays, one providing minimum psychological support and the other selected psychological support.

To discover these differences, two hypotheses are presented:

H₉: The psychological environment of early confinement in a shelter stay with minimum psychological support is no different from the psychological environment of early confinement in a shelter with selected psychological support.

H₁₀: The psychological environment of later confinement in a shelter stay with minimum psychological support is no different from the psychological environment of later confinement in a shelter with selected psychological support.

Procedures:

The instruments used to measure behavior and the psychological environment of confinement for "near-normal" psychiatric patients, Group I (see Wright & Hambacher, 1965), were administered to two other groups while each was confined to a fallout shelter. Group II was made up of twenty-four shelterees who received no supplementary psychological support; Group III was made up of twenty-six shelterees who did. Psychological support was provided primarily in the form of complete rather than broken family units as well as more detailed instructions prior to coming and early in the shelter confinement by the shelter manager. Both shelter confinements were carried out under austere circumstances. Shelterees were allowed 1 quart of water per day and 10 square feet of space per person. They were told to bring two blankets per person and allowed

to bring in what they could and normally would carry on their persons. Group III was given the additional privilege of bringing "whatever you would gather together in one or two minutes if you were suddenly called from your home, school or work, or from off the street," although no items unique to the group were brought.

The instruments used to measure the dependent and independent variables were the Self-Description I Scale (Leary) and the Self-Description II Scale (CAS, or Confinement Acceptance Scale), respectively. Data were gathered with other procedures which lent themselves to reporting by categorical methods.

Findings.

The current study was designed to cross-validate the Confinement Acceptance Scale on a Shelter population, to provide a refinement of methodology, to investigate the effects of specified shelter relevant stresses and to approximate a standard for evaluation of indices of psycho-social stresses occurring in shelter confinement.

Problem 1: Hypothesis 1. It was found that H_1 could be accepted in several instances for Group III (and in the hospital sample, Group I) but in no case for Group II. It was found that significant relationships exist between Dominance and the acceptance of (a) Psychological Confinement, (b) Lack of Privacy, and (c) Lack of Familiar Behavior Patterns. Significant relationships were also found for Group III to exist between Love and the acceptance of a Lack of Familiar Behavior Patterns. Throughout the entire study Group III frequently produced findings similar to those of Group I, whereas Group II did not.

Problem 2: Hypothesis 2. It was found the H_2 could not be accepted for Group II but could for nine correlations for Group III. This was true for four for Group I. The nine instances for which significant relationships were found are (a) between Dominance and the Acceptance of Confinement measured by Acceptance of Physical Confinement, Psychological Confinement, Lack of Privacy, Lack of Familiar Behavior Patterns, and Fears and (b) between Love and the Acceptance of Confinement as measured by the Acceptance of Physical Confinement, Psychological Confinement, Lack of Familiar Behavior

Patterns, and Fears. Found with the hospital sample, Group I, were high relationships between Love (lack of hostility) and the Acceptance of Confinement as evidenced by the CAS of Acceptance of Physical Confinement, Psychological Confinement, Lack of Privacy and Lack of Familiar Physical Supports.

Problem 3: Hypothesis 3. None of the measurements of behavior changed significantly, as determined by t-tests, during the period of confinement for Group II or Group III.

Problem 3: Hypothesis 4. In testing H_4 by Chi-square, it was found that the distribution of scores representing changes in behavior from early confinement to later confinement did not change significantly for Group II but did for Group III and Group I.

Problem 4: Hypothesis 5. None of the means for the scores measuring the psychological environment indicating acceptance of confinement, taken early in confinement, were found to be statistically different from those taken later in confinement as determined by t-tests. This was true for Group II and III. These scores changed significantly for Group I.

Problem 4: Hypothesis 6. In testing H_6 by Chi-square, it was found that the values reached significance for Group II in three instances and for Group III in seven instances. For Group I all of the variables measuring the psychological environment of confinement changed significantly.

Problem 5: Hypothesis 7. The Love (lack of hostility) scores were significantly different in early confinement for Groups II and III while the Dominance (lack of submission) scores were no different statistically, as determined by t-tests.

Problem 5: Hypothesis 8. Behavior of Group II differed from Group III late in confinement by having mean scores that were statistically different. (Group II's means were lower than Group III's.)

Problem 6: Hypothesis 9. Group II differed from Group III early in confinement as measured by their acceptance of Physical Confinement (Group II was lower), Psychological Confinement (Group II was lower), and Lack of Privacy (Group II was lower).

Problem 6: Hypothesis 10. The psychological environment of later confinement was different in two instances for Group II and Group III as determined by t-tests. These two were the Acceptance of Confinement as measured by Acceptance of Psychological Confinement and Lack of Privacy.

Finding Related to Problems 5 and 6.

Groups I, II, and III were somewhat similar in their acceptance of physical and psychological confinement. The psychological environments of confinement were found to be made up primarily of large general factors, made up of measurements of acceptance of confinement. The second factor extracted for Group II changed from early to later confinement, being made up of dominance and love measurements in the early period but in the later period made up of scores from the opposite ends of the continuum, namely, submission and hostility. For Group II, hostility did not emerge, rather the opposite, love, remained throughout confinement. Group III's configuration for late confinement was basically love-submissiveness while Group II's was primarily hostility-submissiveness.

Findings from Categorical Data.

Subjects' preconfinement expectations of annoying factors of shelter living proved to be much different from the discomforts expressed post-confinement. Most bothersome were: food, sleeping conditions, lack of water for washing, toilet facilities, temperature and humidity, and lack of exercise.

Preference for shelter management appeared to be dependent upon an individual leader's actual performance, leadership assumption, and shelteree support in the confinement situation.

The shelter groups differed with respect to methods of distributing food and water, perhaps as a function of the personal standards of the individual in charge.

The items desired in a shelter stay as well as those brought in were related to problems of food, entertainment and comfort.

The needs of special groups which might command special attention in a shelter did not appear unique. In the randomly selected sample of this study, the special groups were represented by three pregnant women and one amputee.

Person who were separated from their families seemed to develop more anxiety than those who remained together.

Shelterees appeared to staff observers to choose to do simpler tasks as the period of confinement progressed.

Delayed expressions of stress were manifested by several shelterees upon their return home. These were: periods of crying, irritability, inability to eat, "nervousness," and difficulty in returning to normal habits.

Conclusions:

The following conclusions appear justified on the basis of the findings of the study under the limitations presented in the report and pending further validation procedures.

1. Certain behaviors appear to be important in the psychological environments that exist (a) at the beginning of a period of confinement and (b) following a period of confinement.
2. The psychological environments that exist early and late in a period of confinement can be (a) defined, (b) measured, and (c) controlled.

Implications.

The major implication of the current research is that the provision for psychological support in fallout shelters will result in a greater acceptance of confinement by the shelterees.

An important contribution of this study is the validation of identifiable psychological phenomena related to confinement and the continued successful use of an instrument designed to measure these aspects.

Methods, techniques and bases for research in behavior as related to confinement in fallout shelters do exist and should be utilized.

Suggestions for Research.

The Self-Descriptions I (Leary) and the Self-Descriptions II (CAS) were found to be sensitive to changes in behavior, feelings toward confinement, and the acceptance of it. As yet in the HRB-Singer's studies there have been no manifestation of extreme behaviors, i. e., no one lost self-control, no one defected from the shelter stay, no one flagrantly violated rules, etc. There is a definite need to learn more about those who are unable to tolerate confinement and to learn the conditions under which this might take place.

The samples (Group I, II, and III) in HRB-Singer's study accepted confinement somewhere on a continuum. It is not known just where on that continuum they fell. This should be studied to establish more complete norms.

The shelterees in the study just completed gave several indications of a delayed expression of stress. Do shelterees "bottle-up" stress? If so, does it matter? What provisions can be made in the shelter or by the shelter manager to allow stress to be expressed in socially acceptable methods?

A decrease in the performance of mental tasks by some shelterees was observed by staff members. This appeared to be a normal adjustive technique employed under conditions of reduced perceptual stimulation. Concrete data should be obtained concerning the potentiality of this condition.

The effect of good vs. poor shelter management is a fruitful area for research. In the current research, (Groups I, II, and III) good management prevailed. How does this influence behavior? It would be well to know just what minimums a fallout shelter populace could stand with a good shelter leader and what it would be willing to tolerate with a poor one.