AN INVESTIGATION OF THE INFLUENCE OF MENTAL RETARDATION ON COLLEGE STUDENTS' JUDGMENTS OF SOCIAL DISTANCE

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ABSTRACT

The present investigation was designed principally to determine the relative importance of mental retardation as a component of social distance among college students. Several subsidiary hypotheses concerning the relationship between certain rater variables and acceptance of the retarded were also examined.

The Dent-Dole-Distance Scale (3-D Scale) was developed as a measuring technique. The 3-D procedure combines the multidimensional method of stimulus presentation (Triandis, 1960) with the original Bogardus-type social distance scale. Selected descriptive terms designate the desirable and the undesirable levels of four stimulus components: Intellectual Status--intellectually normal vs mentally retarded; Ethnicity--your own nationality vs American Negro; Dependability--very dependable vs undependable; Friendliness--very friendly vs unfriendly. In a series of pilot studies it was established that the terms for the latter two components were independent of all other stimulus terms and also equally applicable to the normal and the retarded. The validity and stability of the scale was also established.

The component terms were arranged in all possible combinations to form 17 hypothetical stimulus persons. Ss were asked to indicate on a 5 point scale their willingness

to associate with each of the stimulus persons in eight situations that varied in social intimacy.

The Philosophies of Human Nature (PHN) measures a person's beliefs about human nature and his beliefs about the interpersonal aspects of human nature along six basic dimensions: Trustworthiness; Altruism; Independence; Strength of Will; Complexity of human nature and Variability of human nature (Wrightsman, 1964). An index of general Favorability of human nature can be obtained from the sum of the first four substantive subscales.

The Ss were 132 University of Hawaii undergraduate introductory psychology students from diverse ethnic backgrounds. The two scales were administered separately by different administrators during regular class sessions.

Results

A 2 x 2 x 2 x 2 factorial analysis of variance was performed on the social distance data. The estimates of variance indicated that the Intellectual Status component accounted for 43 per cent of the total variance of the social distance scores. Friendliness contributed 27 per cent of the variance, while Dependability contributed 22 per cent and Ethnicity controlled only 2 per cent. The hypothesis that mental retardation would exercise a greater influence on social distance scores than other stimulus components among socially 'liberal' college students was

supported. No significant differences were obtained between means of social distance scores assigned by male and female Ss. In addition, sex differences usually detected by the PHN Scale did not emerge. Cultural factors were offered as a possible explanation for these findings. Relationships between social distance and other demographic variables were negligible.

To test the remaining hypotheses high, middle and low subgroups were formed on the basis of the PHN Scale scores. For Ss high in Favorability the Intellectual Status component controlled 43 per cent of the variance, whereas for low Favorability Ss it accounted for 57 per cent of the estimated variance. The order of importance of stimulus components, Intellectual Status, Friendliness, Dependability, and Ethnicity was the same for all Ss except for those Ss who viewed human nature as complex and difficult to understand. For these Ss mental retardation was equally as powerful a determinant of social distance as for other Ss. However, high Complexity Ss considered the fact that a person was very dependable more important than if he were friendly, regardless of that person's intellectual status.

Implications for further research and possible application of the 3-D Scale were discussed.

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CHAPTER I

INTRODUCTION

Mental retardation is a phenomenon around which much interest and concern has been centered in recent years. Except for the Negro, no other large segment of the population has received more nationwide attention. The mentally retarded represent the largest single disability group, 5-1/2 million, and quite naturally with the present population growth rate the number of mentally retarded people in society will steadily increase. It has only been within the last two decades that scientists and other professionals have renewed their interest in this phenomenon and have begun to engage in large scale research, rehabilitation and educational programs for the retarded. This increase in interest has been reflected in the doubling of professional membership in the American Association on Mental Deficiency in a ten year period from 1952 to 1962 (Gibson, 1964). In a similar time period enrollment of parents of the retarded in the National Association for Retarded Children also increased but by even greater proportions (Freankel, 1961).

With the increased interest of parents and professionals the question arises whether the lay public has been sufficiently stimulated to revise its general outlook toward the

mentally retarded and particularly its willingness to accept the retarded in social relations. In the long run the real test of the effectiveness of the efforts now being directed toward the education and rehabilitation of the retarded will lie in society's willingness to accept them.

The degree of acceptance of others or the degree to which a person was willing to associate with another person or group was termed social distance by Bogardus (1928). Triandis and Triandis (1960) observed that there were three sources of variance that influenced the distance that one person experienced toward another; the stimulus characteristics of the perceived person, the personality of the perceiver, and the culture of the perceiver. He (Triandis) has developed and extensively reported on modifications made on the original Bogardus Social-Distance Scale (1933) which enables the investigator to present a number of stimulus characteristics of the perceived person simultaneously (Triandis & Triandis, 1960, 1962; Triandis, 1963, 1964; Rickard, Triandis & Patterson, 1963; Triandis & Davis, 1965; Triandis, Davis & Takezawa, 1965; and Triandis, Loh & Levin, 1966).

As the review of the literature which follows will indicate, the search to identify specific personality correlates of social attitudes has proved, more often than not, to be less than rewarding. Therefore, it was reasoned

that perhaps other characteristics of the perceiver might serve as a basis for his willingness to associate with or accept another person. Wrightsman (1964a) states that the average man believes in human nature and employs his philosophy of human nature in his dealings with other people. Then, one's philosophy of human nature might represent a perceiver variable that influences acceptance or rejection of others. Hawaii, characterized by its polycultural influences, seemed appropriate as an environmental setting in which to examine Triandis' observation about the effect of cultural influences on social distance. Therefore, the present investigation was undertaken to study the relative importance of mental retardation as a determinant of social distance judgments of college students from various ethnic backgrounds known to differ in their 'Philosophies of Human Nature.'

REVIEW OF LITERATURE

The original Bogardus Social Distance Scale (Bogardus, 1933), was a measure of the rater's expressed willingness to associate with another person or group. The attitude object was rated in nine different social situations, which varied in degree of intimacy. Generally only one stimulus characteristic of the attitude object was described e.g., a Negro, a Jew, Turk, or Communist, etc.

Westie (1952, 1953) expanded this approach both in terms of the situations described and the stimulus person. Westie's (1952) research led to the identification of four types of distances: Residential Distance, Positional Distance, Interpersonal-Physical Distance and Interpersonal-Social Distance. These different types of distance appear to be similar to the five factors recently identified by Triandis (1964) as the most common factors comprising social distance. Triandis called his factors Formal Social Acceptance vs Subordination; Marital Acceptance; Friendship Acceptance; Social Distance; and Subordination vs Superordination.

Westie also recognized that the distance perceived to exist between people was influenced by more than one characteristic of the perceived person. He developed a method to measure the strength of prejudice toward a specific group by comparing a member of that group with a member of another group, when both attitude objects were equal in at least one characteristic, e.g., occupation. Thus, a Negro lawyer was compared with a white lawyer and a Negro ditch-digger was compared with a white ditch-digger, etc. Westie also employed categories of "the average Negro man" and "the average white man". The measure of prejudice was derived through the summation of the differences in distance responses to Negroes as opposed to whites in the same

occupation.

The multidimensional method of stimulus presentation introduced by Triandis and Triandis (1960) enables an experimentor to present more dimensions of personal characteristics of the attitude object. The stimulus thus becomes more structured and reduces possible confounding, e.g., since most Irishmen are Catholic, reported prejudice toward Catholics might also represent prejudice toward the nationality as well as the religion. By combining a number of stimulus components it becomes possible to examine the affects of the interactions of these components as well as the affects of each component separately.

Advantages of the Westie and the Triandis modifications can be demonstrated most clearly through a critical analysis of a recent study which purported to measure social distance among college students in the South. Fagan and O'Neill (1965) replicated a study originally reported by Gray and Thompson (1953). The results revealed that Negro college students in Georgia expressed greater social distance toward ethnic, political and religious groups than did the white students. While there can be no question about the actual size of the scores obtained, there is a major methodological error which raises serious question about the validity of the conclusions and the implications thereof. All of Fagan's subjects rated 26 ethnic, political and

religious groups on a seven point, unidimensional social distance scale. Of the ethnic groups listed nine were unmistakeably Caucasian. The major political and religious groups in this country, and particularly in the South, are unmistakeably associated with the white majority. There were eight such groups listed among the stimulus groups. Because of the fact that other non-white groups usually enjoy higher social status in southern communities than Negroes, the possibility that Negroes might have categorized them together with whites cannot be overlooked. Thus it is clear that the race factor (and possibly status) represented a major confounding in this experiment. Theoretically the Negroes could have been rating 17 white groups, and possibly as many as 25; whereas at best the white subjects rated nine non-white groups.

It should be noted that this type of confounding occurs only in cases where the race variable is uncontrolled, and does not necessarily invalidate all other studies in which a unidimensional social distance scale was employed. The only work relevant to this issue reported in the literature in which the multi-dimensional approach was employed was conducted by Triandis and Triandis (1960). These data indicated that whites and Negroes did differ in the degree of emphasis placed on race as a determinant in social distance, but not as Fagan and O'Neill (1965) describe.

In a recent review of multiple methods of attitude assessment, Cook and Selltiz (1964) noted that innovations have added to the basic social distance scale techniques designed to reduce extraneous factors. They pointed out that these improvements attempted to correct for possible response sets, to make it easier for subjects to give answers that might be considered undesirable and also to make the focus of the experimentor's intent less apparent.

Influences on Social-Distance

The recent revival of interest in social distance began in the early 50's with the work of Westie (1952, 1953). At about the same time Milikan and Prothro (1952) reported that Lebanese students showed greater social distance toward other nationality groups than toward religious groups. Somewhat different results were obtained by Hunt (1956) using a sample of Philippine subjects. The Philippine raters showed less social distance toward Americans, Christians and whites, but increased social distance toward Buddhists, Jews and Moslems. Best and Sohner (1956) reported that their subjects showed greater distance toward political and racial groups than toward nationality groups. Prothro and Miles (1953), using an equal appearing interval social distance scale devised by Sartain and Bell (1949), obtained rankings of racial and ethnic groups similar to those obtained by Bogardus 25 years earlier ($r = .84$). Although

the raters were different, the samples were drawn from the same area of the country, the deep South.

These data suggested that subjects' expressed social distance was influenced by many factors associated with or ascribed to the attitude object. Some subjects stressed the nationality of the perceived person, others stressed race and still others stressed religion. It was also apparent, as Westie's (1952) data indicated, that rater characteristics were also related to the degree of perceived distance between people. This prompted Triandis & Triandis (1960) to hypothesize that rater characteristics and cultural influences were additional sources of variance contributing to social distance.

Perceived Person Characteristics

Characteristics of the perceived person which have been studied via the multidimensional stimulus method have included race, religion, occupation, nationality (Triandis & Triandis, 1960), age, sex, sociability, wealth (Triandis, 1963), competence, disability (Rickard, Triandis & Patterson, 1963), quality of spoken English, opinion on civil rights (Triandis, Loh & Levin, 1966), ability to understand others, mental disorder (Dent, Dole & Gaston, 1966) and amputation (Shim & Dole, 1966).

The characteristics of the mentally retarded as the perceived person or attitude object have been studied in

some depth by Guskin (1962a, 1962b, 1963a, 1963b). In a series of studies he attempted to investigate the notion that predisposing information acts to influence later judgments of people. His basic paradigm was to have college student subjects watch films of two mentally retarded children who had IQ's of about 50. One child presented no stigmata, the other had observable stigmata including a speech defect. All subjects watched two films of each child interacting with a teacher, one without sound and one with sound. Subjects rated the children after each viewing on a set of bipolar adjective choices, ranging from "very likeable" to "very unpleasant". Some subjects were told that both children were from the special classes for the mentally retarded, or were warned about the child's speech difficulties. Other subjects were told only that the children were in public school classes. The results of Guskin's first study revealed that when subjects were told that the child had a speech defect their subnormality ratings were lower, but labeling the child as mentally retarded had no influence upon perceived subnormality. However, a later study (Guskin, 1963a), provided somewhat conflicting results, which led to a qualified conclusion that labels or stereotypes concerning subnormality will not influence judgments unless the stimulus person presents relevant but ambiguous cues.

Less equivocal evidence of the strength of stereotypes was obtained when the label was applied to older stimulus persons (Guskin, 1963b). College students and non-college adults were subjects for this study. Each subject was asked to give his opinion of the personality and character of an 18 year old boy and of an 18 year old feebleminded boy. In addition each boy was rated by means of a 16 pair adjective choice list. Some of the subjects were presented with descriptions of two other stimulus persons, a male and a female, in which no mention was made of the person's intellectual functioning. Half of the subjects were given identical descriptions except for a specific reference to the effect that the stimulus persons were mentally retarded. For college and non-college subjects alike the 'label' resulted in greater judged subnormality than the controls (non-labeled stimulus person). These results were significant beyond the .001 level. Guskin commented that if the strength of a stereotype was based on the stereotype's distortive properties, then the stereotype of mental retardation may be termed a 'strong' one.

A recent study by Jaffe (1965) indicated that negative attitudes were elicited by the use of the label "mentally retarded" but a retarded person who functioned adequately was evaluated more favorably. Two hundred and ten high school seniors served as Jaffe's subjects. The procedure

was similar to that employed in Guskin's later study. A descriptive sketch of an adequately functioning person who had attended classes for the mentally retarded was provided some subjects. Another statement identical to the first except there was no mention of retardation was given to the remaining subjects. A separate study employing just the label "mentally retarded" was also conducted. The Evaluative and Activity Scales of the Semantic Differential, the Adjective Checklist, and a Social Distance Scale were used as measures of attitudinal components. Of particular interest to the present study were the findings that social distance rating of high school seniors were not influenced when the retarded person was fully described as adequately functioning, and also that female high school seniors were more favorable in their descriptions than were male subjects.

Another study of the concept of mental retardation in which the semantic differential was employed was reported by Greenbaum and Wang (1965). Their subjects were parents of the retarded, professional experts working in the field of mental retardation, paraprofessional workers in the field, and business executives. (Whether the executives had any previous contact or experience with the retarded was not specified.) The subjects rated a technical term for mental retardation and a technical term for mental illness on 21 semantic differential scales. The results indicated that the general conception of the mentally retarded was essentially a negative one. Paraprofessionals and parents were

more favorable in their stereotypes than were the professionals and the executives, but the essential structure of the stereotype was the same for all groups.

On the basis of these studies it is assumed that mental retardation as a perceived characteristic should operate as a potent determinant in social distance.

Perceiver Characteristics and Cultural Influences

The task of identifying personality correlates of attitudes was attempted by Triandis and Triandis (1962) without resounding success. A personality scale comprised of items from four standard personality scales was administered to a sample of American college students and a sample of Greek college students. The personality variables tapped by the scale were Authoritarianism, Dogmatism, Rigidity and Anxiety. The authors reported that the Greek translation of the scale differentiated Greek subjects who were high, middle and low in their social distance ratings more often than the American version differentiated American subgroups. A strong acquiesence set was operative among Greek subjects. When this was controlled cultural group differences disappeared. Nevertheless, the F scale (authoritarianism) was the only scale that significantly differentiated high and low social distance groups among Greek students but not American students. On the Anxiety and the Rigidity measures the highs were higher than lows in both cultures. The authors stated that insecure individuals in both cultures

were more likely to experience large social distance towards minority groups. Grenskov (1961) failed to find a relationship between social distance ratings of college students and their scores on the dogmatism scale.

Other perceiver characteristics as well as cultural influences have been found to be related to social distance. In one of their earlier studies Triandis and Triandis (1960) found significant differences between over-all prejudice and subject variables. Mean differences between groups were all significant beyond the .01 level; whites were more prejudiced than Negroes, Catholics more prejudiced than Protestants or Jews, and women more than men, Ss from "high" ethnic backgrounds (English, Swedes and French) were more prejudiced than Ss from "low" ethnic backgrounds (Greek, Italian and Portuguese).

Comparisons of social distance scores of Greek college students with those of American college students (Triandis and Triandis, 1962) provided further support for the cultural influence hypothesis. The results indicated that nationality and religion were the two most important variables for the Greek sample, and race and religion for the American subjects. Differences in the child rearing practices of these cultural groups were also significantly related to ratings of social distance.

German, Japanese and American college students also differed in their responses to social distance questionnaires,

which were standardized independently in their respective countries (Triandis, Davis and Takezawa, 1965). For the American students, race, occupation, religion and nationality (in that order) were the important determinants of social distance. For the German students the order of importance of these same determinants was occupation, religion, race and nationality. Since most Japanese students reported they were non-religious, religion was eliminated from the Japanese form of the scale. Nevertheless, the order of importance of determinants was essentially the same as the German students, occupation, race and nationality. Despite the similarity of rankings among the latter groups, the fact that religion was considered so insignificant that it was eliminated from the questionnaire was in itself evidence of differences in cultural influences.

Perceiver Characteristics and Mental Retardation

The research on mental retardation conducted in foreign countries deals primarily with physiological processes, Pavlovian learning and educational curriculum. There have been no studies reported in the available literature on cross-cultural attitudes toward the retarded. Therefore differentiating perceiver influences from cultural influences was not a problem as it had been in the discussion of social distance.

The popular notion that stereotypes and misconceptions are the result of lack of knowledge or lack of contact with

the attitude object would appear to be highly untenable in light of the evidence reported earlier by Guskin (1953) and by Greenbaum and Wang (1965). The results of the following studies should also help dispel such a notion. Mahoney and Pangrac (1960) found that the grade point average of college seniors correlated negatively ($p < .05$) with their knowledge of mental retardation. The number of relevant courses taken by seniors and their knowledge of retardation also correlated negatively ($p < .05$). Although seniors were more accurate in their knowledge of mental retardation than were freshmen, the authors concluded that taking a course did not markedly influence attitudes. Semmel (1959) studied teachers' attitudes and the amount of information held concerning mental retardation. Teachers of special classes for the retarded (CRMD classes) showed greater knowledge of retardation than regular class teachers. But attitudes held by both groups of teachers toward retardation were positive. Correlations between attitudes and knowledge were high for the CRMD teachers. But no relationships were found between these variables when regular class teachers' scores were tested. Employer attitudes toward hiring the mentally retarded were examined by Cohen (1963). Consistent with other data presented in this review, Cohen found that employers' attitudes were essentially negative. A positive correlation was obtained between the employer's educational level and his knowledge of mental retardation. No

correlation was found between employer's knowledge of retardation and his attitude toward the retarded.

More theoretical discussions and case studies about parental attitudes toward their retarded children were described in the literature than actual research. Grebler (1952) attempted to relate parental frustration to acceptance or rejection of the retarded child. He observed that parents of retarded children got less compensation from their child's performance than did parents of normal children. This frustration, he believed, influenced their reactions to their retarded child. He reported that extrapunitive parents tended to reject their retarded child; the intropunitive parents were ambivalent toward their retarded child; and the impunitive parents were more accepting than the other parents. Worchel and Worchel (1961) asked parents of retarded children to rate the 'ideal' child, 'most' children, their retarded child and their normal child on 40 traits. The retarded child was judged less favorably than the 'ideal' child and their normal children, but there were few differences in judged favorableness between their retarded child and 'most' children.

The demographic data obtained in the Greenbaum and Wang (1965) study suggested that paraprofessional subjects of lower educational and lower socioeconomic standing were more favorable in their conception of the mentally retarded than those subjects of higher educational and economic

standing. Older adult subjects were also more favorable toward the mentally retarded than younger adult subjects.

The Philosophy of Human Nature Scale

The Philosophy of Human Nature Scale (PHN) (Wrightsman, 1964a) is a Likert-type scale designed to measure a person's beliefs about human nature and his beliefs about the interpersonal aspects of human nature. Human nature was conceptualized as possessing six components: (1) Trustworthiness, or the extent to which people are seen as moral, honest, and reliable; (2) Altruism, or the extent of unselfishness, sincere sympathy, and concern for others; (3) Independence, or the extent to which a person can maintain his convictions in the face of society's pressures toward conformity; (4) Strength of Will and Rationality, or the extent to which people understand the motives behind their own behavior and the extent to which they have control over their own outcomes; (5) the Complexity of Human Nature, or the extent to which people view human nature as complex and hard to understand or simple and easy to understand; (6) the Variability of Human Nature, or the extent of individual differences in basic nature and the basic changeability of human nature.

Each of the above dimensions can be measured by a subscale within the PHN. An index of general favorability toward human nature can be obtained from the sum of the scores of the four subscales measuring the substantive dimensions, Trustworthiness, Altruism, Independence, and

Strength of Will. Wrightsman (1964a) states that significant intercorrelations between the four substantive subscales were sufficient justification for using the summary score as a measure of general evaluative orientation toward human nature. This index enabled the present investigator to examine the fundamental question posed earlier: To what extent are attitudes of acceptance or rejection of others (in this case, the mentally retarded) anchored in a person's basic philosophy of human nature?

In standardizing his Philosophy of Human Nature Scale, Wrightsman (1964b) surveyed 12 colleges and universities, primarily in the southern section of the country. The schools were classified according to the students' ability level and the college environment (Astin and Holland, 1961, 1963). The contrast in characterizations of schools was remarkable, ranging from, ". . . schools with very bright students, a very able faculty, excellent library facilities and a prevailing environment which emphasizes Social and Enterprising Orientations, as well as Intellectual," to ". . . schools possessing a heavily religious orientation, undistinguished faculty, poor library facilities, generally mediocre students, and a campus atmosphere that is restrictive rather than stimulating" (Wrightsman, 1964b),(p. 2).

For the 1072 subjects employed in this standardization, the mean score for each of the substantive subscales tended to fall close to the neutral point. For the Complexity and

Variability subscales the mean scores fell slightly above the neutral point suggesting that these subjects tended to view human nature as complex rather than simple, and held the belief that people were variable rather than similar.

Students from a religious, fundamentalist college were less favorable toward human nature than most other students, which Wrightsman interpreted as consonant with the school's doctrine as stated in its catalogue. Students from Negro colleges were predominantly negative in their belief about the trustworthiness of human nature. (Other things considered, this might suggest possible support for Fagan and O'Neill, 1965). Subjects from schools whose students were classified as being high in ability tended to see others as more complex and many-faceted.

Sex differences were most pronounced and were consistent for all eight PHN scoring categories. To quote Wrightsman, "Females have significantly more favorable beliefs about trustworthiness, strength of will, altruism, and independence present in human nature. They also see human nature as more complex and different from person to person." Recalling that female high school seniors were more favorable than males in their ratings of the retarded (Jaffe, 1966), one would expect to find sex difference in social distance ratings of college students as well.

PHN data were also reported for guidance counselors, student nurses, and divinity students. The guidance

counselors expressed extremely favorable views of human nature but did not see it as extremely complex or variable. Nurses were essentially positive in their beliefs and tended to see human nature as complex and variable. Divinity students were neutral to slightly positive in their beliefs about human nature.

The dimension of complexity would appear to offer interesting possibilities as an influence on a person's perception of others. Low, negative correlations between the dimension of complexity and the four substantive dimensions attest to its independence in human nature (Wrightsman, 1964). A person who perceived human nature as complex would probably require more information about another person before passing judgment than would someone who viewed human nature as simple and easy to understand. The high complexity person might also differ from the low complexity person in the relative importance placed on perceived characteristics as determinants of social distance.

Validity and Reliability of Social-Distance Scales

The use of a particular type of scale in the assessment of attitudes requires that validity and reliability be established for each different attitude content being measured. In the case of the social distance scale the content remains specified, it is the particular ethnic group (the stimulus) that may change at the discretion of

the experimentor. Although this does not eliminate the necessity to establish the validity and reliability of each individual instrument, it does permit some degree of confidence to be placed in the traditional form of the scale. One review of the Bogardus scale as a measure of general social distance, as distinguished from distance toward a specific group, indicated that split-half reliability coefficients of .90 and higher were repeatedly obtained (Newcomb, Turner, and Converse, 1965). Prothro and Miles (1953) obtained a reliability coefficient of .84 when they compared the ethnic rankings of southern subjects with rankings made 25 years earlier by another sample of southern subjects. Westie (1952) reported a test-retest reliability coefficient of .87 for his Interpersonal-Social Distance Scale and a coefficient of .96 when all four distance scales were combined.

Dodd and Griffith (1957) used the psychophysical method of paired comparisons to measure subjects' intensity of feeling toward other ethnic groups. They then compared each subject's intensity of expression score with his social distance score. They found that intensity of expression was greatest for subjects whose social distance scores indicated greatest hostility toward other ethnic groups. Conversely, those subjects whose social distance scores were least hostile obtained lower intensity scores. In spite of the sparcity of data available in the literature on the validity of the basic social distance scale, it was well accepted among social

psychological researchers. However, the growing recognition of social scientists, like Westie (1952), that attitudes were multidetermined raised some doubts about the appropriateness of unidimensional scales in the study of complex attitudes. Factorial studies which have clearly demonstrated the multidimensionality of social attitudes (Digman, 1962), attitudes toward mental illness (Cohen & Struening, 1962) and disability (Siller and Chipman, 1963) served to increase those doubts. Thus one of the primary goals of attitude research would be to determine what are the salient dimensions of a given attitude. In order to do this it would be necessary to make multiple comparisons of the different components that constitute a given attitude. This is precisely what the present investigation attempts to accomplish by using the multidimensional method of stimulus presentation.

Statement of the Hypotheses

In summary, the present study was undertaken to determine the relative strength of the component of mental retardation as a factor in judgments of social distance. The principal hypotheses tested were:

(1) that in a tolerant college undergraduate group the component of mental retardation would exercise a significantly greater influence on judgments of social distance than other stimulus components;

(2) that female subjects would be more accepting of mental retardation than male subjects as measured

in their social distance ratings;

(3) that raters with generally favorable philosophies toward human nature would show greater acceptance of the mentally retarded than subjects with less favorable views toward human nature;

(4) that subjects who viewed human nature as complex would assign different weights to the stimulus components in their social distance ratings than subjects who viewed human nature as simple and easy to understand.

The lack of a readily available instrument to test the above hypotheses made the development of such a scale a necessary secondary objective of this study.

Also of secondary importance was the attempt to determine the relationship between social distance judgments and selected rater background variables.

CHAPTER II

METHOD

The treatment conditions and apparatus of the present investigation were in effect the scale employed in the measurement of the social acceptability of the mentally retarded. The major purpose of this section will be to present as clearly as possible a complete and thorough account of the actual development of that instrument.

Subjects

The subjects were 132 male and female undergraduate students at the University of Hawaii enrolled in an introductory course in psychology. The two scales employed in this study (the 3-D Scale and the PHN Scale) were administered on separate occasions during the regular class hour. They were administered four weeks apart by two different administrators. Two hundred and eight students were present for the administration of the PHN Scale and 172 students attended class the day the 3-D Scale was given. As it was only 147 students actually completed both scales. Of these, 13 students invalidated their questionnaire in some way and two others were obviously uncooperative and purposely distorted their responses. The protocols from the remaining 132 subjects were used in the analysis.

Despite Hawaii's many distinctive features as an island state, the students at the University of Hawaii have been found to resemble students at other state universities in family income, parental occupation, vocational interests, emotional adjustment, attrition, academic ability and proportions continuing to graduate and professional school, but to differ markedly in ethnic origins. A majority are Americans of Oriental or Polynesian ancestry (Dole, 1965).

Because this research was initiated principally to determine the applicability of a well-accepted technique to the measurement of attitudes toward a specific subgroup, it was recognized that additional research would be needed before generalizations to a national population could be made. One of the major limitations to generalization may also be considered a major advantage, that is the diversity in ethnic background of the subjects in this study. A summary of the personal-social characteristics of the subjects is presented in Table 17 of the Appendix. The sample could be crudely characterized as a predominantly Hawaii born sample of female freshmen, under 20, from diverse ethnic backgrounds. This diversity in ethnic origin offered a unique opportunity to examine the influence of these different backgrounds and thereby test one of the important aspects of Triandis' hypothesis (1965). It should be kept in mind that Triandis' subjects were obtained from relatively stable cultural settings where the population was homogeneous.

DEVELOPMENT OF SCALE

The Dent-Dole-Distance Scale (3-D Scale)

The 3-D Scale employs a technique which combines the Triandis (1960) multidimensional method of stimulus person presentation and the Bogardus (1928) concept of social distance. In the multidimensional method of stimulus presentation four selected stimulus components are described by terms which designate a desirable and an undesirable aspect of each component. For example, if the component to be employed is Age, then the term 'Youth' might be used to designate the desirable level, and 'Senility' the undesirable level. Thus each component has two levels, or terms which designate these levels. The terms are arranged randomly in all possible combinations to yield 16 hypothetical stimulus persons. Subjects are asked to rate each stimulus person on selected social distance steps using a five point scale.

The four stimulus components with the desirable and undesirable terms adopted for use in this study were as follows: Intellectual Status--intellectually normal or mentally retarded (As used here the term mentally retarded refers to a person who was a former trainee in a state training school for the mentally retarded); Ethnicity--of your own nationality or American Negro; Dependability--very dependable or very undependable; Friendliness--very friendly or very unfriendly. Thus an example of a stimulus person would be, "a person who

(was) . . . of your own nationality, mentally retarded, very dependable and very friendly." (A copy of the 3-D Scale is provided in Appendix B).

Following Borgardus, Dent, Dole & Gaston (in press) in studying Hospitalization selected nine social situations from the infinite number of possible social situations in which people interact with each other. These social situations ranged from close, intimate relationships to remote, casual relationships involving no personal contact, and, in effect represented successive social distance steps. Eight of the original nine social distance steps were employed in the present investigation. The item, "Would you hire a person like this as a third grade teacher?", was recognized as totally inapplicable in reference to a mentally retarded person and therefore was eliminated. The question of the applicability of some of the other situations was also raised. However, it was felt that in order to retain some comparability with other social distance studies, deviations from the original situations should be kept to a minimum. Also, the marriage item, "Would you marry a person like this?", was retained because it was valued as the most intimate of human relationships. Thus, the following eight social distance steps were employed in this study:

1. Would you marry a person like this?

2. Would you have a person like this as a counselor?

3. Would you have a person like this as a close friend?

4. Would you work in the same office with a person like this?

5. Would you have a person like this as a next door neighbor?

6. Would you have a person like this as a speaking acquaintance?

7. Would you accept a person like this in your family's school?

8. Would you permit a person like this to vote?

Subjects were instructed to "respond to each question about each stimulus person as follows: 5 for absolutely (yes); 4 for probably; 3 for not sure or cannot say; 2 for probably not; and 1 for absolutely not." The score for each stimulus person was the sum of the assigned ratings for all social distance steps. The range of possible scores for each stimulus person was from 40 (indicating high acceptance) to 8 (indicating low acceptance). The mean of the responses to the 16 stimulus persons assigned by each subject was used as that subject's acceptability score. The acceptability score refers to a summary index representing the mean of all social distance scores assigned by that subject. It is assumed that the subject with a high acceptability score is describing himself as experiencing less social distance toward the attitude object depicted, and in general is more accepting of others in his interpersonal relations. A score for each level of each component was obtained by computing the mean of the scores

for all stimulus persons described by that characteristic. Thus there were eight stimulus persons described by the term mentally retarded. A subject's score of this level of the Intellectual Status component was the mean of his responses to all stimulus persons described as mentally retarded.

Within the 16 stimulus person descriptions the order of presentation of the four components was rotated randomly. To eliminate further order effects two forms (A and B) of the scale were constructed in which the same stimulus persons appeared in different positions on the same page (1, 2 or 3). It was then possible to combine different pages from each form resulting in eight presentation forms of the scale: AAA, AAB, ABB, ABA, BAB, BAA, BBA, BBB.

To summarize, the 3-D Scale provides 25 scores: 16 stimulus person scores, 8 component scores (one for each level), and 1 acceptability (of others) score.

PILOT STUDIES

The final form of the scale employed in this investigation was preceded by a series of pilot projects. None of the subjects used in one of the pilot studies was used in any other phase of the study unless this fact is noted.

Since the successive social distance steps are always presented according to the degree of intimacy implied in the situation, the first task was to determine whether a position effect was operating to influence the response to a given social distance item. To deal with this problem one item,

"Would you have a person like this as a counselor?" was rotated in all positions on the scale. The rotated item scales were administered to 370 Ss. Approximately 35 Ss responded to the item in each position. No significant differences between the means of that item in any of the nine positions was obtained. This was accepted as evidence that the response to a given social distance item was not influenced by the position of that item in the sequence of presentation of the successive social distance steps.

In another of the earlier pilot studies, Dent, Dole & Gaston (in press) employed the components of Competence, Understanding of Others, Ethnicity, and Hospitalization (for a mental disorder). The selection of these stimulus components will be briefly described. Patterson's (1962) suggestion that job competence might be enough to offset the prejudical effects of disability was supported by Rickard, Triandis & Patterson (1963). The potency of Understanding of Others as a factor in human relations had also been established in another preliminary study in which 300 University of Hawaii students most frequently mentioned that "the ability to understand others" was highly desirable in intimate relationships. Race as a component in social distance has been well established, as indicated in the review of literature in the previous chapter. Mental disorder was the descriptive term selected to designate the undesirable level of the fourth component because it was a popular concept that has received much public attention over the years.

For a group of Hawaii college subjects (N = 127) Competence and Understanding were the most important determinants, controlling almost all (85%) of the total variance of the social distance scores. Hospitalization and Race, in that order, were of only minor importance, regardless of ethnic background of the subject (Dent, et al., in press).

Kentucky College Students*

The fact that Race controlled only 2 per cent of the variance of social distance scores in the above-mentioned study raised some question about the instrument's ability to detect such differences in attitudes. The study was therefore repeated with subjects known to differ in their attitudes toward the American Negro. The same four components, Competence, Understanding, Hospitalization and Ethnicity (American White and American Negro) were presented to samples of 93 white and 63 Negro college students attending separate southern public institutions. The white subjects were students enrolled in an introductory class in psychology at the University of Kentucky. The Negro subjects were students from a similar class at Kentucky State College. Table 1 presents a summary of the proportions of variance accounted for by each of the four components for each Kentucky sample. The means for each level of each component for all Kentucky samples are presented

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*Appreciation is expressed to Dr. Joseph Lyons, Research Associate, Veterans Administration Hospital, Lexington, Kentucky, for his cooperation in the collection of the data from the Kentucky student samples.

Table 1

Proportions of Variance Accounted for by each Component
by Sex and Race in Kentucky College Students

Source	White Females (N = 51) % Variance	Negro Females (N = 21) % Variance	White Males (N = 42) % Variance	Negro Males (N = 42 % Variance
Understanding (U)	30	57	39	53
Hospitalization (H)	6	8	12	5
Competence (C)	45	27	27	34
Race (R)	13	0	15	1
U x H	0	0	0	1
U x C	2	4	3	5
U x R	2	0	0	0
H x C	0	3	1	0
H x R	0	0	0	0
C x R	1	0	2	0
U x H x C	1	0	0	1
U x C x R	0	0	1	0
H x C x R	0	1	0	0
U x H x C x R	0	0	0	0
Error	0	0	0	0
Total	-	-	-	-

in Table 2. For the white male and female subjects, the Race component contributed 15 and 13 per cent of the variance of their social distance scores. Whereas, for the Negro subjects the Race component controlled only 1 per cent of the variance at most. The mean for the component American White assigned by Negro Ss was 29.62, and by White Ss it was 31.26. The mean for the component American Negro with Negro raters was 30.59 and with white raters 26.66. These data are presented as evidence of the sensitivity and validity of the 3-D Scale to detect differences in expressed social distance among subjects in whom these differences are known to exist.

Shim and Dole (in press), using Amputation instead of Hospitalization as the fourth component, found differences between generations of Hawaii subjects in their ratings of social distance. Parents were less accepting of the disabled and of those with another ethnic background than their college age children. The similarity between Shim's college students and Dent's original Hawaii college sample in the order and magnitude of importance of Competence, Understanding, and Ethnicity was further evidence of the constancy and potency of these components for this population.

Mental Retardation

With the knowledge that these components were stable, potent determinants of social distance for this population, it was felt that the inclusion of Intellectual Status as a

Table 2

Component Means by Sex and Race in Kentucky College Students

Components	Females		Males	
	White (N = 51)	Negro (N = 21)	White (N = 42)	Negro (N = 42)
Total Acceptance of Others	28.11	28.78	29.82	31.43
Understanding	31.65	33.91	33.36	35.57
Lacks Understanding	24.56	23.62	26.28	27.29
Competent	32.48	32.33	32.78	34.75
Barely Competent	23.73	25.23	26.85	28.12
Mentally Normal	29.68	30.67	31.75	32.77
Ex-Mental Patient	26.53	26.89	27.89	30.09
American White	30.49	28.36	32.03	30.89
American Negro	25.72	29.20	27.60	31.98

new component of unknown stimulus strength would enable the investigator to make general comparisons with some of the stimulus variables thus far tested. Another pilot study was undertaken in which Intellectual Status (including mental retardation) was combined with Competence, Understanding and Ethnicity as stimulus components. Twenty-two University of Hawaii College of General Studies introductory psychology students responded to this scale. A summary of the analysis of variance of the social distance scores obtained from these subjects is presented in the Appendix (Table 13). These subjects rated Mental Retardation more important as a determinant of social distance than either Competence or Understanding. The amount of variance controlled by each component was as follows: Mental Retardation 36%, Understanding 33%, Competence 21%, Ethnicity (the usual) 2%. However, Guskin (1963b) has pointed out that the labeling of a person as mentally retarded influenced judgments of that person's intelligence, skill, and competence. To test whether the subjects were aware of any conflict or dissonance created by the combining of retardation with competence or understanding the question, "Can you conceive of a person like this?" was added to the social distance questionnaire. Thirteen of the 22 subjects responded "no" to that question when mental retardation was part of the stimulus complex. Thus it was concluded that mental retardation was in fact dissonant with the term 'competence' and possibly with 'understanding'. In

other words, these responses indicated that intelligence was not always perceived as independent of the concept of competence.

Selection of Terms

In an effort to select terms that were independent of other terms used in the stimulus complex other pilot studies were undertaken. The following statement was read to 200 undergraduate Ss: "Competence on the job is a highly desirable characteristic which most employers look for in their workers." They were then asked to supply adjectives that best described the characteristic of 'job competence'. The same Ss were also asked to supply adjectives that best described the 'ability to understand others' after the following statement had been read: "The ability to understand others is a highly desirable characteristic that many people seek and admire in others." A frequency distribution of the 189 response words elicited by 'Competence' (C-words) was tabulated. Similarly, a frequency distribution of the 165 response words elicited by 'Understanding' (U-words) was tabulated. Of particular interest was the fact that 'Intelligence' ranked second in frequency as an associative response to the word 'Competence' and eighth in the distribution of associations to 'Understanding'. This further supported the speculation that dissonance might have been created by combining the component of Mental Retardation with the components of Competence and Understanding. Thus it was apparent that new words would have to be

substituted in place of these terms in the stimulus complex in order to avoid possible confounding.

The criteria established for the selection of substitute terms were that the terms as far as possible be independent of the other stimulus components in denotative and connotative meaning; equally applicable to the mentally retarded and to the normal person; and reasonably comparable in connotative meaning to the original terms.

From the separate distributions of associative responses, the 12 words with the highest frequency of occurrence in each list were retained, including "intelligence". The words in each of the derived lists were then rated by two groups of 20 Ss. C-words were rated on the competence-incompetence dimension, and U-words were rated on the dimension of understands others - lacks understanding of others. Ss rated each word on a seven point scale. The scale value (S) and the interquartile range (Q) was computed for each word (Edwards, 1953). No attempt was made to employ characteristics that were equated on other dimensions. It should be kept in mind that the terms were to be used to identify characteristics of a theoretical stimulus person, or 16 such stimulus persons. Since personality traits and other characteristics are not known to be combined in equal strength within human organisms, no attempt was made to locate terms of equal strength for use here. The scale values were used to aid in selecting words that were approximately equal in meaning to the original word

(the word for which they were to be substituted) and the interquartile deviations were inspected to aid in selecting words that were least ambiguous. (Appendix A, Table 16).

The appropriateness of applicability of the 12 C-words and the 12 U-words was next measured in two separate pilot studies. In the first pilot, a two-paragraph sketch was prepared in which a worker was described as being competent in his job and understanding of his fellow workers (See Appendix B). For one group of 49 Ss the worker was identified as a person who was recently discharged from a training school for the mentally retarded. For another group of 47 Ss the sketch indicated that the worker had recently graduated from high school. The statements were identical in other details. Ss were asked to rank the list of C-words from one to twelve as they best described the worker's functioning on the job, and the U-words as they best described the person's ability to interact with other people. The scale value and interquartile range for each word were computed from these rankings.

The methods for determining applicability of the terms to the retarded and the normal person were quite straightforward. The C-words and the U-words were combined into one list to which was added six extraneous words (See Appendix B). One group of 32 Ss was instructed to rate each word as it could be applied to mentally retarded people. Another group of 38 Ss was instructed to rate each word as it might be applied to normal people. The rating scale used was as follows:

1 - not applicable to any mentally retarded (normal) people,

2 - applicable to only some (about 25%) mentally retarded (normal) people,

3 - applicable to many (50%) mentally retarded (normal) people,

4 - applicable to most (75%) mentally retarded (normal) people,

5 - applicable to all mentally retarded (normal) people.

Of the C-words, 'dependable' met the criteria better than any other, and among the U-words 'friendly' was selected as the best substitute word. Thus, the four stimulus components employed in the present investigation were as follows: Intellectual Status (mentally retarded vs normal); Ethnicity (of your own ethnic background vs American Negro); Dependability (very dependable vs very undependable); Friendliness (very friendly vs very unfriendly).

Stability

The stability of the 3-D Scale was determined from the responses of a sample of 19 Ss to whom the scale was administered twice over a period of one week. The mean social distance score for each stimulus person, the mean of each component term and the social acceptability score were computed for the set of scores obtained at each administration.

A rank order correlation coefficient (Rho) for each stimulus person was calculated from the relative ranks of the social distance score assigned to each stimulus person on the separate administrations. These rho's ranged from .56 to .91 (Table 3). The means of each social distance step obtained from both administrations are presented in Table 4. The rank order correlation coefficient between testings for these steps was .95. It should be noted that these situations, although ordered in successive steps, should not be construed as representing an equal interval scale.

From the evidence presented in this chapter the investigator concluded that the validity and stability of the 3-D Scale had been adequately demonstrated to serve the specific purpose of the study, that is, to assess the social acceptability of the mentally retarded.

Analysis of the Data

In order to make these necessary comparisons between the effects of different components or dimensions, Triandis (1960, 1962, 1963, 1964, 1965) computes estimates of variance based on the sums of squares obtained in the analysis of variance. His justification for this practice is based on the similarity between analysis of variance and regression analysis. Triandis (1963) states that in a balanced analysis of variance design, when (and only when) a given factor has only one degree of freedom, the estimates of the percentage of variance controlled

Table 3

Stability of 3-D Scale Over One Week
(N = 19)

Stimulus Persons[a]	Test $\bar{X}$	Test SD	Retest $\bar{X}$	Retest SD	Rho
NORM, OWNL, VDPD, VFRD	36.79	3.24	37.32	3.04	.83
NORM, NGRO, VDPD, VFRD	33.42	5.21	35.21	3.82	.82
NORM, OWNL, UDPD, VFRD	28.63	4.78	30.47	5.02	.67
NORM, NGRO, UDPD, VFRD	26.58	5.07	28.16	6.01	.58
NORM, NGRO, VDPD, UFRD	25.95	5.10	27.42	6.31	.69
NORM, OWNL, VDPD, UFRD	25.16	6.03	28.05	7.21	.67
RETD, OWNL, VDPD, VRFD	24.21	4.23	24.37	4.49	.56
RETD, NGRO, VDPD, VFRD	22.89	5.96	24.16	5.68	.63
NORM, OWNL, UDPD, UFRD	21.68	6.04	24.58	6.03	.70
RETD, OWNL, UDPD, VFRD	21.37	3.67	22.32	4.75	.73
NORM, NGRO, UDPD, UFRD	21.05	5.40	22.95	4.62	.60
RETD, NGRO, UDPD, VFRD	20.47	5.24	21.10	5.72	.58
RETD, OWNL, VDPD, UFRD	19.68	4.68	21.68	5.95	.91
RETD, NGRO, VDPD, UFRD	19.32	5.08	19.47	5.97	.68
RETD, OWNL, UDPD, UFRD	16.89	4.89	19.58	5.21	.75
RETD, NGRO, UDPD, UFRD	16.58	4.89	17.42	5.89	.61

[a]Abbreviations used to designate the stimulus components are translated below:

NORM -- Intellectually Normal
RETD -- Mentally Retarded
OWNL -- Of your own Nationality
NGRO -- American Negro

VDPD -- Very Dependable
UDPD -- Very Undependable
VFRD -- Very Friendly
UFRD -- Very Unfriendly

Table 3 (continued)

Component	Test $\bar{X}$	Test SD	Retest $\bar{X}$	Retest SD
Acceptance of Others	23.85	3.80	25.26	4.09
Normal Intelligence	27.53	3.31	29.27	3.88
Mental Retardation	20.18	4.39	21.20	4.93
Own Nationality	24.43	3.41	26.05	3.88
American Negro	23.28	3.76	24.48	4.12
Very Dependable	26.05	3.44	27.21	3.76
Undependable	21.66	3.91	23.32	4.27
Very Friendly	26.79	3.39	27.89	3.57
Unfriendly	20.91	3.98	22.64	4.11

Table 4

Stability of Social Distance Steps Over One Week
(N = 19)

SD Steps	$\bar{X}_1$	$\bar{X}_2$
Would you:		
1. Marry a person like this?	27.32	28.21
2. Have as a personal counselor?	32.32	37.32
3. Have as a close friend?	33.68	39.05
4. Work in same office with . . . ?	42.95	46.74
5. Have as a next door neighbor?	59.84	61.26
6. Have as a speaking acquaintance?	58.11	62.37
7. Accept in your family's school?	63.47	66.26
8. Permit a person like this to vote?	63.63	63.89

by each of the characteristics are proportional to the beta weights of a regression equation. In the equation

$$P = b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

the Xs are in standard score form. The beta weights are the cross products of the Xs and the Ps of the equation. "These weights are proportional to the difference between the sum of the Ps obtained when the Xs are equal to +1 and the sum of the Ps obtained when the Xs are equal to -1. Since in the analysis of variance the same difference determines the magnitude of the sum of squares, the weights obtained from the analysis of variance are proportional to the regression weights" (Triandis, 1963), p. 90).

The accuracy or inaccuracy of this explanation has as yet gone unchallenged in the literature. Therefore, it would seem that this was an acceptable explanation and ample justification for the use of estimates of variances derived under the conditions specified. One advantage of the use of these estimates seems quite clear. Estimates of variance in the form of proportions facilitate comparisons and discussions of the magnitude of the differential effects of treatments. Unfortunately, these estimates do not specify significance levels, and the most commonly used tests of the significance of the differences between variances cannot be applied because the scores are not independent. Inferences about the magnitude of the differences based on the size of the F ratio are equally unjustified. Therefore, to answer

the crucial question around which this investigation was based, it was deemed necessary to demonstrate clearly that the component of mental retardation exercised a significantly greater influence on social distance ratings than did every other stimulus component. At the same time it was felt necessary to attempt to demonstrate that one treatment was significantly greater than the next, the next, etc., or $T_1 > T_2 > T_3 > T_4$.

Wilcoxson Matched Pairs Signed-Ranks Test

To demonstrate the above relationships, The Wilcoxson Matched Pairs Signed-Ranks Test for related samples (Siegel, 1956) was applied to the data from the first stability sample. The reasoning here was that if the above relationships could be demonstrated through the use of a less powerful nonparametric statistic on a small sample, the differences, if found, would have greater interpretive value for larger samples where obtained differences would be more stable. Through this procedure the magnitude of the effect of each treatment was compared with the effect of the other treatments. The difference between the mean of level one and the mean of level two of each component was computed for each S. The difference score for each component was paired with that S's difference score on another component. Thus D_1 was compared with D_2, D_2 with D_3, and D_3 with D_4. The difference score for the Intellectual Status component was found to be

significantly greater than the difference score for the Friendliness component, $T = 47$, $P < .05$ for a one tail test. The difference score for the Friendliness component was significantly greater than the difference score for the Dependability component, $T = 20$, $P < .005$. The difference score for the Dependability component was significantly greater than the difference score for Ethnicity, $T = 6$, $P < .005$. The analysis of variance of the social distance scores for these same Ss is presented in Table 5.

Subject variability would easily account for the fact that the difference scores between Intellectual Status and Friendliness components barely reached the .05 level of significance, whereas the difference scores between these and all other components were well beyond the .005 level. Nevertheless, the analysis of these data obtained from 19 Ss in this pilot study convincingly indicated that even small differences in estimates of variance obtained from the sums of squares of the analysis of variance reflected significant differential effects of treatments.

Variables

The 3-D Scale ratings obtained from 132 University of Hawaii students, the PHN Scale scores of those Ss, and pertinent background information about those same Ss constituted the basic data analyzed in this study.

The background data, age, sex, religion, ethnic origin,

Table 5

Analysis of Variance of Stability Group (First Test)
(N = 19)

Source	df	MS	% Varience	F
Intellectual Status (I)	1	4111.59	41.34	151.66***
Ethnicity (E)	1	99.59	1.00	3.67
Dependability (D)	1	1467.84	14.76	54.14***
Friendliness (F)	1	2629.06	26.44	96.98***
I x E	1	13.47	0.14	-
I x D	1	218.96	2.21	8.08**
I x F	1	236.26	2.38	8.71**
E x D	1	2.22	0.02	-
E x F	1	44.26	0.45	-
D x F	1	34.22	0.34	-
I x E x D	1	0.21	0.00	-
I x E x F	1	11.06	0.11	-
I x D x F	1	41.26	0.41	-
E x D x F	1	5.26	0.05	-
I x E x D x F	1	2.21	0.02	-
Error	288	27.11	0.27	-
Total	303	-	-	-

*$p < .05$; **$p < .01$; ***$p < .001$

etc., were arranged in 18 dichotomized variables. (Table 17 provides a summary of these data although they are not listed as dichotomized in the table). The PHN Scale provided eight continuous variables: scores from the four substantive subscales, Trustworthiness, Strength of Will, Altruism, and Independence; the Complexity Subscale scores; the Variability Subscale scores; plus two composite scores, General Favorability and Multiplexity. These were the 26 independent variables. As previously described, the 3-D Scale contributed 25 dependent (criterion) variables: 16 stimulus person scores; 9 composite scores generated from the stimulus person scores (the acceptability score and the means for each component).

Mental Retardation

Returning now to the major hypotheses described at the end of Chapter II, methods of analyses will be described. To test the strength of the influence that mental retardation exercised on social distance ratings, the scores from the 132 Ss were treated in a 2 x 2 x 2 x 2 factorial analysis of variance. The results of these and other analyses described in this section are reported in the next chapter.

To test the hypothesis on the relation between beliefs about human nature and social distance the sample was divided into subgroups according to certain background variables or on the basis of scores obtained on the PHN Scale. The data

from each of these subgroups were analyzed separately in the 2 x 2 x 2 x 2 factorial design and the estimates of proportions of variance were calculated. A summary of these data is presented in Table 11 in the Appendix.

To test the hypothesis that Ss who viewed human nature as complex would differ in the relative importance placed on the stimulus components, the sample was divided into three groups. Those Ss who scored one standard deviation above the mean or more on the Complexity Subscale of the PHN constituted the high complexity group. Those Ss who scored one standard deviation or more below the mean were placed in the low complexity group and the remainder of Ss made up the middle group. The social distance data for each group were analyzed separately. The Wilcoxson Matched Pairs Signed-Ranks Test for related samples was also applied to the data from the high complexity group to test the significance of the shift in the hierarchical arrangement of stimulus components exhibited in the ratings of this group of Ss.

The hypothesis that Ss who held a generally favorable view of human nature would be more favorable toward the mentally retarded than low favorability Ss was tested in the factorial analysis of variance.

To test the hypothesis that females would express less distance toward the mentally retarded than would male Ss, the factorial analysis of variance was made and mean scores assigned to each stimulus person by both groups were

subjected to t Tests.

The 51 variables described earlier were intercorrelated to yield the 26 x 25 correlation table presented in Appendix A. Regression analysis (Guilford, 1954) was applied to those background variables and PHN variables which correlated significantly with any one of the criterion variables. This made it possible to determine the extent to which variables other than the actual stimulus variables were influencing social distance judgments of the raters.

Additional Validity Data

In the previous section data were presented from pilot studies which provided substantial evidence of the ability of the 3-D Scale to discriminate successfully between Ss known to differ in their attitudes toward the American Negro. Through the use of an indirect or unobtrusive measure an attempt was made to differentiate Ss who were believed to differ in their acceptance of the mentally retarded. The assumption was that Ss who expressed an interest in learning about the retarded would be more accepting of the retarded than those Ss not expressing this interest. Two months after the 3-D Scale was administered those same Ss were given an opportunity to sign up to receive a sample copy of an informational newsletter about mental retardation. During the regular class session a folder was passed among the students with the following statement: "COMBAT is the Newsletter of

the Hawaii State Planning Committee to Combat Mental Retardation. This newsletter presents up-to-date information on services and programs available to the retarded and their families. It also summarizes research projects and plans being developed in the State of Hawaii to deal with this most pressing community problem. If you would like to receive a sample copy of this bi-monthly newsletter, please sign below." No announcement, preface or comment was given by the classroom instructor concerning the sign-up sheet.

Of those students who attended class that day, 28 signed up to receive COMBAT. From this group only 18 were among the 132 who completed both the PHN and the 3-D Scales. The social distance data from these 18 Ss were then analyzed in the 2 x 2 x 2 x 2 factorial design and compared with the data from the remaining 114 Ss of the original sample. (These data are presented in Table 14).

CHAPTER III

RESULTS*

Social Distance

The hypothesis that mental retardation would exercise a greater influence on social distance scores than other components was supported in the analysis (See Table 6). The main effects of all stimulus components were found to be significant ($p < .001$). Estimates of variance indicated that the Intellectual Status component contributed 43 per cent of the total variance of the social distance score. Friendliness controlled 26 per cent of the variance, while Dependability controlled 22 per cent and Ethnicity only 2 per cent. Some of the second and third order interactions reached significance beyond the .05 level. However, the total variance controlled by these interactions was 6 per cent. The fact that these interactions reached significance was an indication of the precision achieved by the size of the sample. Even among Ss whose liberal social attitudes are recognized, the perceived characteristic of mental retardation was unmistakably the most important factor in

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*The data analysis described in the presentation was made on the 7040 IBM Computer at the University of Hawaii Statistical and Computing Center.

Table 6

Analysis of Variance of Social Distance Scores and Proportions of Variance Accounted for by each Component (N = 132)

Source	df	MS	F	% Variance
Intellectual Status (I)	1	32720.63	1190.15***	43
Ethnicity (E)	1	1293.75	46.06***	2
Dependability (D)	1	16364.89	575.24***	22
Friendliness (F)	1	20047.84	729.20***	26
I x E	1	121.74	4.42*	0
I x D	1	1441.77	52.44***	2
I x F	1	2122.01	77.18***	3
E x D	1	67.29		0
E x F	1	76.14		0
D x F	1	428.22	15.58***	1
I x E x D	1	103.26		0
I x E x F	1	11.38		0
I x D x F	1	590.76	21.49***	1
E x D x F	1	19.89		0
I x E x D x F	1	00.03		0
Error	2096	27.49		0
Total	2111			

*$p < .05$
**$p < .01$
***$p < .001$

their judgments of social distance. The fact that a person was friendly and/or dependable was far more important for these Ss than was the perceived person's ethnic background.

Males vs. Females

The hypothesized sex differences in ratings of acceptability of the retarded were not evident in the data. Minor differences in the predicated direction were detected in the analysis of variance and reflected in the variance estimates (see Table 10 in the Appendix), which was further evidence of the sensitivity of this method of reporting. However, mean differences between the 3-D scores assigned to each stimulus person by males and females did not differ significantly. (One out of the 25 did reach the .05 level, but this was accepted as chance occurrence.) The absence of sex differences in responses to the 3-D Scale was consistent with the fact that no differences between male and female scores were obtained on the PHN Scale. In addition, the sex variable did not correlate significantly with either of these scales. The means and standard deviations of the 3-D and the PHN Scale scores for males and females are presented in Table 9.

PHN Complexity

The hypothesis that high complexity Ss would differ from low complexity Ss in the relative weights assigned to

the stimulus components was also supported. Examination of the estimates of variances for these groups revealed that the low complexity Ss presented a pattern of weightings very similar to the pattern exhibited by the total sample from which it was drawn. The order of importance of the stimulus components for the low complexity Ss was Intellectual Status, Friendliness, Dependability and Ethnicity. However, as predicted, the pattern of preference was significantly different for those Ss who viewed human nature as complex and difficult to understand. As within all other subgroups, Intellectual Status was the most important determinent of social acceptability and Ethnicity the least. However, the component of Dependability replaced Friendliness in the hierarchy as the second most important determinent for these Ss. The significance of the shift between Dependability and Friendliness within the high complexity subgroup was tested in a Wilcoxson Matched Pairs Signed-Ranks test. The Wilcoxson T for large samples was found to be significant ($z = 2.0893$, $p < .02$). It should be noted that such a shift in ordering of stimulus components was not observed in the data from any other subgroup (excluding these Ss). Of interest, was the fact that differences between means of the undesirable level of each component for the hi-lo complexity groups were not significantly different in spite of the differences detected by other measures.

Table 7

Means and Standard Deviations of Stimulus Persons for Males and Females

Stimulus Persons[a]	Males (N = 45) $\bar{X}$	SD	Females (N = 87) $\bar{X}$	SD
NORM, OWNL, VDPD, VFRD	37.49	3.29	37.54	2.85
NORM, OWNL, VDPD, UFRD	26.07	6.09	27.00	2.71
NORM, OWNL, UDPD, VFRD	27.16	5.68	27.54	5.48
NORM, OWNL, UDPD, UFRD	20.47	5.79	21.08	4.64
NORM, NGRO, VDPD, VFRD	34.22	4.99	33.97	3.56
NORM, NGRO, VDPD, UFRD	24.33	5.21	24.62	5.26
NORM, NGRO, UDPD, VFRD	26.24	5.43	25.55	5.00
NORM, NGRO, UDPD, UFRD	20.09	5.57	19.70	5.99
RETD, OWNL, VDPD, VRFD	23.58	6.47	24.01	5.71
RETD, OWNL, VDPD, UFRD	17.96	5.59	20.11	5.27*
RETD, OWNL, UDPD, VFRD	19.51	5.35	20.19	4.62
RETD, OWNL, UDPD, UFRD	15.60	5.41	15.63	4.91
RETD, NGRO, VDPD, VFRD	22.18	6.66	22.56	5.64
RETD, NGRO, VDPD, UFRD	18.87	5.70	18.86	4.69
RETD, NGRO, UDPD, VFRD	1840	5.42	18.97	5.32
RETD, NGRO, UDPD, UFRD	13.71	4.69	14.93	5.26

*$p < .05$

[a]The abbreviations used to designate the stimulus components are translated below:

NORM -- Intellectually Normal
RETD -- Mentally Retarded
NGRO -- American Negro
VDPD -- Very Dependable
UFRD -- Very Unfriendly
VFRD -- Very Friendly
UDPD -- Very Undependable
OWNL -- of your own Nationality

Table 8

Means and Standard Deviations of Component Scores for Males and Females

3-D Scale Components	Males $\bar{X}$	Males SD	Females $\bar{X}$	Females SD
General Acceptability	22.75	4.12	23.67	3.22
Intellectually Normal	26.78	3.72	27.13	3.16
Mentally Retarded	18.73	5.25	19.41	4.13
Own Nationality	23.26	4.13	24.14	3.13
American Negro	22.24	4.42	22.39	3.59
Very Dependable	25.34	4.28	26.08	3.16
Undependable	20.16	4.43	20.45	3.69
Very Friendly	25.97	4.03	26.29	3.24
Unfriendly	19.53	4.69	20.24	3.75

Table 9

Means and Standard Deviations of PHN Sub-Scale Score of Males and Females

PHN Scale	Males (N = 45) $\bar{X}$	SD	Females (N = 87) $\bar{X}$	SD
Trustworthiness	1.07	13.21	2.68	11.89
Strength of Will	8.53	6.93	5.51	10.90
Altruism	-4.11	11.85	-2.53	11.64
Independence	-0.60	11.51	-2.61	10.56
Complexity	11.31	10.86	11.74	10.18
Variability	13.96	9.72	14.64	10.42
Favorability	5.38	34.82	3.29	32.36
Multiplexity	25.51	17.30	25.99	17.20

PHN Favorability

The hypothesis that Ss whose philosophies of human nature were generally favorable would be more willing to accept the mentally retarded than Ss whose beliefs about human nature were unfavorable was also supported. Table 12 indicates that the proportion of variance attributed to the retardation component (Intellectual Status) by the low favorability Ss was 57 per cent, whereas for the high favorability Ss the retardation component controlled 43 per cent.

Correlates of Social Distance

The intercorrelations presented in Table 18 are those correlations that reached the .05 level of significance. The actual number of significant correlations was scarcely above chance. However, the frequency of significant correlation coefficients between two separate background variables and social distance scores suggested more than chance relationships. The Japanese ethnic variable and the Arts and Science variable correlated (negatively) with almost every social distance component. When a series of regression analyses were applied to measure the relative contributions of these variables to the social distance components, at best, the Japanese ethnic variable contributed 6 per cent of the total variance of a single criterion variable. Similarly, Arts and Science predicted no more than 5 per cent of the variance of a single social distance criterion variable. The

correlation coefficient between the Arts and Science factor and the Japanese ethnic factor was not significant. (See Table 18).

Validity Data

The analysis of the data from those Ss who signed up to receive COMBAT revealed that the Intellectual Status component controlled 35 per cent of the variance of the social distance scores of these Ss, whereas the Intellectual Status component controlled 44 per cent of the variance for the remainder of the sample (see Table 14).

CHAPTER IV

DISCUSSION

Influence of Stimulus Components

That mental retardation would serve as the major stimulus influence on perceived social distance should not come as a surprise. The similarity of weights (proportions of variance) consistently assigned to this perceived person characteristic by Ss in various subgroups clearly emphasized the potency, and to a lesser degree the generalizability, of this component. There has been little evidence in the literature to suggest exactly how potent a factor mental retardation might be. But the data reported by Guskin (1963) and by Greenbaum & Wang (1965) suggested that it would be sizable. Other single stimulus components such as mental illness (Rickard, *et al.*, 1963) and race (Triandis, 1962) when presented in a similar manner have been known to control as much as 66 per cent and 86 per cent of the variance respectively. But these variables did not show the constancy exhibited by the component of mental retardation.

The strength of other components in the stimulus complex is another consideration. The strength of Dependability or Friendliness as perceived person characteristics remains to be clearly established. However, from the obtained data it would appear that the components of Friendliness and

Dependability were fairly strong, reliable influences, which probably reduced somewhat the negative effect of mental retardation. For example, whenever the relative strength of either or both of these components increased or decreased markedly, the relative strength of the intellectual status component reflected that change.

However, the potency and generalizability of mental retardation as a major determinent of social distance established by these data raises the question of whether increased job competence achieved through overtraining could as Patterson (1962) suggested offset the negative influence of this powerful perceived person characteristic. Certainly there was little evidence of this in the data obtained in this investigation. Further research involving other stimulus components would be required before the influence of compensatory characteristics could be firmly established or ruled out.

Apparently the personality characteristic of friendliness was of much greater importance to most subjects than was the knowledge that the perceived person was dependable. Differences in estimates of variance indicated differential weightings of these components by the various subgroups, but the overall pattern indicated that the quality of friendliness was the most preferred of the two characteristics.

On the basis of all the data (including pilots) presented

here it would appear that the ethnic background of the perceived person was of relatively minor importance in judgments of social distance made by University of Hawaii students. This is consistent with other research carried out here in Hawaii (Dent, Dole & Gaston, in press; Shim & Dole, in press).

Perceiver Characteristics

The "socially liberal" attitudes for which Hawaii Ss are noted (Digman, 1962) were clearly evident in their willingness to accept persons of other ethnic backgrounds as well as persons with known disabilities (Shim and Dole, in press; Dent, Dole & Gaston, in press). If that liberalism was also expressed in their attitudes toward the mentally retarded, then one might expect that Ss sampled on the mainland would experience even greater distance between themselves and the mentally retarded than was reported in this investigation. This poses a testable hypothesis that is deserving of further consideration. Possible support for this speculation was evident in the differences between estimates of variance for the Intellectual Status component when the data from Hawaii born and mainland born Ss were examined. However, also of interest was the fact that mainland born Ss and Hawaii born Ss apparently felt that the ethnic factor was equally unimportant compared with the other stimulus components. Perhaps the mainland born Ss were expressing the liberal views of the dominant group (on campus). Or it might

well be that the more liberal mainland college student is more likely to attend a college that is publicized as having a polyethnic student population than the less liberal mainlander.

PHN Favorability

It was hypothesized that people low on the General Favorability Subscale of the PHN would experience greater social distance toward the mentally retarded than those Ss who were high in Favorability. The fact that the low Favorability subgroup assigned 57 per cent of the variance of the Intellectual Status factor while the high Favorability Ss and the total sample assigned only 43 per cent was strong indication of the tenability of that hypothesis. Consistent with the fact that the substantive subscales of the PHN correlate highly with the General Favorability score (Wrightsman, 1964a), was the observation that Ss in the low substantive subgroups expressed more social distance toward the retarded than all other Ss. This would concur with Wrightsman's (1964a) finding that Ss with essentially negative beliefs about human nature rated their classroom instructor unfavorably. It is not difficult to understand that Ss who view human nature unfavorably would be less willing to accept others, particularly those who are as deviant as the mentally retarded.

PHN Complexity

Ss who were high on the Complexity Subscale of the PHN exhibited the only significant shift in the order of importance of the stimulus components. All other Ss ranked Intellectual Status as the most important stimulus component, followed by Friendliness, Dependability, and then Ethnicity. Those Ss who expressed the belief that human nature was complex and difficult to understand also considered the characteristic of dependability as more important than the quality of friendliness. For these people the trait of dependability could imply some degree of stability and consistency, which for them might be a welcomed attribute in another person. The hypothesis that Ss who viewed human nature as complex would differ from Ss who viewed human nature as simple and easy to understand in the relative weights assigned to the stimulus components was supported.

Sex Differences

A small difference was observed between the estimates of variance on the Intellectual Status component of the social distance scores assigned by males and females. However, t Tests of the significance of the differences between means for males and females on all 25 3-D Scale variables yielded only one significant difference. This was accepted as probably a chance occurrence. Consequently the hypothesis that females would be more accepting of the mentally retarded

than male Ss was not supported.

The evidence in the literature concerning sex differences on social distance ratings is relatively sparce. Kalish (in press) reported that males received lower avoidance (of relationships) scores than females. Fagan & O'Neill (1965) found that females attending a coed college did not differ from their male classmates in their social distance scores. But female nursing students differed significantly from male college students in their expressed social distance. However, the data reported by Jaffe (1965) and by Greenbaum & Wang (1965) suggested that female Ss were more favorable in their ratings of the mentally retarded than male Ss. Then there was the substantial body of evidence to indicate that consistent differences had been obtained between males and females in response to the PHN Scale (Wrightsman, 1964).

When the data obtained from the Kentucky pilot study and the data obtained in Hawaii (Dent, Dole & Gaston, in press; Shim & Dole, in press) were examined carefully, they were found to be consistent with the results reported here. The Kentucky Ss differed across racial groups but no significant differences between males and females were observed (see Table 2). This could be interpreted as possible evidence for the speculation that the sex of the perceiver does not represent a potential influence on judgments of social distance. Another explanation seems slightly more tenable.

Triandis (1965) hypothesized that cultural factors acting on the perceiver represented a third possible source of variance to be considered. The absence of obtained differences between male and female Ss in their responses to the 3-D Scale could be accepted as evidence of no differences since differences had not been clearly established with this instrument. However, the susceptibility of the PHN to differences between sexes had been established. But sex differences were not obtained even on the PHN in the Hawaii sample. Recognizing that Hawaii Ss differed markedly from mainland Ss in their social attitudes, the possibility of cultural differences seems apparent. Minimal support for this speculation was obtained through personal communication. In an unpublished study, Breland and Elkind (1966) replicated a study of indices of sex differences on the WAIS. While these authors did find significant differences between males and females on the M-F ratio, the mean M-F score for Hawaii males was above the 60th percentile for the female standardization norms. The mean M-F score for the females fell at the 80th percentile. In other words the male and female Ss in the Hawaii sample were more alike in intellectual functioning than males and females in Wechaler's mainland standardization groups. The implication of possible cultural factor operating to influence the Hawaii Ss' performance cannot be dismissed easily. Supporting the Triandis (1965) hypothesis, the possible influence of such cultural factors could account for the fact

that sex differences were not obtained on any of the measures employed in this investigation. It should be kept in mind that other selective factors such as college attendance and S's choice of course were also sources of possible influence.

Philosophies of Human Nature Scores

Table 15 (see Appendix) contains the means and standard deviations of scores obtained on the subscales of the PHN for both the University of Hawaii Ss and for 1072 college students that Wrightsman (1964b) sampled from 12 mainland schools. The obvious similarity of the scores eliminated the necessity to apply tests of differences. Wrightsman (1964b) classified the college populations he used in his standardization study according to students' ability level. His classifications were as follows: low, low-average, average, average-high, and high. (One school was considered so much below the others that it received a rating of very low.) Schools whose means scores were closest to those obtained by the Ss in this study were classified in the low to average-high range. This suggested support for Dole's (1965) claim that University of Hawaii students 'resemble' students in other schools across the country (except where sex differences were concerned).

As mentioned earlier, none of the differences between males and females mean scores on the PHN Scale achieved significance, although one, Strength of Will, approached

significance ($p < .10$). Comparisons across other subgroups revealed essentially the same indices. On the Altruism subscale the Japanese American Ss were significantly lower than Caucasian Ss ($p < .01$), which suggested a greater degree of skepticism among the Japanese Ss about the unselfishness of human motives. Hawaii born and mainland born Ss differed significantly on the Trustworthiness dimension of the PHN ($p < .05$). The mainland Ss exhibited greater skepticism about the honesty and reliability of human nature.

Considering the fact that in some cases the same Ss were involved in different subgroups, the sensitivity of the instrument was reflected in the fact that significant differences were detected on different variables.

Before moving on to a discussion of the limitations and conclusions of this study, a brief comment on the indirect measure of attitude toward the retarded is indicated. These data are reported in Table 15 in the Appendix. Inspection of these results reveal that the number of Ss who expressed an interest in receiving COMBAT was very small, comparable in size to the subgroups whose data comprise a major part of the findings of this investigation. Thus the group must be recognized as representing an extreme segment of the total sample. The proportion of variance attributed to the Intellectual Status stimulus component by the COMBAT Ss was conspicuously smaller (35 per cent) than that assigned to the same component by the remainder of the sample (44 per cent).

In other words COMBAT Ss or those Ss who expressed an interest in obtaining literature about mental retardation also indicated less social distance toward the retarded than those Ss not seeking literature. These data are not presented as unequivocal evidence of the validity of the 3-D Scale. Nevertheless, they do represent more than token evidence of the construct validity of the scale; that is if the assumption underlying the use of indirect measures of attitudes are tenable (Campbell, 1950; Cook & Selltiz, 1963).

Limitations of the Study

The most important limitation of the study was that created by the complexity of the Dent-Dole-Distance Scale. The lack of independence of the component scores prohibited the use of the more powerful statistical techniques of analysis particularly for comparison across groups. Thus it was not possible to determine the significance of the differences between groups on a given set of responses. These problems of group comparisons were solved, however, through the use of nonparametric statistics, but there is always the risk that some valuable information may be lost or obscured when nonparametrics are employed. The alternative of applying a less complex measuring instrument was considered and abandoned because the obvious advantages of multidimensional methods to facilitate measurement of multidimensional phenomena (see Cook and Selltiz, 1964).

Another rather similar problem encountered in the process of analyzing the data was the fact that measures of central tendency frequently did not reveal substantial differences in contrast to the analysis of variance and the Wilcoxson Matched Pairs Signed-Ranks test. This was probably due to the skewness of the data obtained from the extreme subgroups. But it was most evident that extreme groups were necessary in order to obtain differences due to the size of the sample and the large number of people who traditionally comprise the "middle" group.

Implications of the Study

The immediate implications of this investigation are, of course, limited in terms of the generalizations which can be made and also in terms of the possible application of the instrument developed. The long range implications for the application of the scale are indeed far reaching. The advantages of applying multidimensional methods in attitude assessment have been emphasized repeatedly in the body of the report. Their application in the study of specific attitudes toward mental retardation is both unique and challenging. After much needed refinements have been completed, in terms of the relevance of the situations described and the appropriateness of the components, such an instrument would be of great value in future research as well as in the training and rehabilitation of the retarded. The manipulation

of perceiver characteristics via this instrument could lead to the identification of characteristics or combinations of characteristics that would increase the social acceptability of the mentally retarded. Educational and rehabilitation training programs might then emphasize the development of these traits or characteristics.

Conclusions

The results obtained in this investigation lead to the following general conclusions:

1. As a perceived person characteristic, mental retardation was a constant, potent influence on social distance ratings of the subjects sampled. It should be noted that the strength of this component must be viewed in relation to the strength of the other components.
2. Unlike other disabilities previously tested, the negative stimulus effect of mental retardation was not offset by any of the characteristics tested. However, further research would be required in order to determine more definitively the relative importance of other stimulus components when combined with mental retardation.
3. Cultural factors were suggested as a possible explanation for the observed similarity in judgments between male and female subjects.

4. Perceiver characteristics exercised small but consistent influence on expressed willingness to associate with the mentally retarded in social situations. Subjects with negative views on human nature in general tended to be more willing to reject the retarded than subjects whose philosophies of human nature were more favorable.
5. Demographic data obtained from the perceiver clearly failed to yield strong predictive relationships about the perceiver's attitude toward acceptance of the mentally retarded.

APPENDIX A

Table 10

Proportions of Variance Accounted for by Each Component for Selected Subgroups Based on Demographic Variables

Source	All Ss (N=132)	Female (N=87)	Male (N=45)	Cauc. (N=37)	Jap-Am. (N=55)	Other Ethnic Groups (N=40)	nee Hs. (N=96)	nee Mld. (N=31)
Intellectual Status (I)	43	42	45	47	40	44	41	49
Ethnicity (E)	2	2	1	2	2	1	1	3
Dependability (D)	22	23	19	22	20	22	22	20
Friendliness (F)	27	26	27	20	30	27	29	20
I x E	0	0	0	1	0	0	0	1
I x D	2	2	2	3	2	1	2	3
I x F	3	3	3	3	3	2	3	3
E x D	0	0	0	0	0	0	0	0
E x F	0	0	0	0	0	0	0	0
D x F	1	0	1	1	0	1	1	0
Other Interactions	1	1	1	0	1	1	1	0
plus Error	0	0	0	0	0	0	0	0

Table 11

Proportions of Variance Accounted for by each Component for Selected Subgroups Based on High, Middle and Low Scores on the PHN Scale

	Trustworthiness			Altruism			Strength/Will			Independence		
Source N =	− 22	± 89	+ 23	− 24	± 79	+ 29	− 23	± 89	+ 20	− 21	± 88	+ 23
Intellectual Status (I)	48	43	40	57	40	41	50	40	48	49	42	43
Ethnicity (E)	3	2	0	3	2	1	3	2	1	1	2	2
Dependability (D)	20	22	22	15	23	24	18	24	16	20	22	20
Friendliness (F)	23	26	30	21	28	26	20	28	25	24	27	27
I x E	0	0	0	1	0	0	1	0	0	0	0	0
I x D	1	2	3	0	2	3	4	1	3	2	2	2
I x F	2	3	3	2	3	3	2	3	4	2	3	4
E x D	0	0	0	0	0	0	0	0	0	0	0	0
E x F	0	0	0	0	0	0	0	0	0	0	0	0
D x F	1	1	0	0	1	0	0	1	1	1	1	0
Other Interactions	0	1	1	0	1	1	1	1	1	0	1	1
plus Error	0	0	0	0	0	0	0	0	0	0	0	0

Table 12

Proportions of Variance Accounted for by each Component for Selected Subgroups Based on High, Middle and Low Scores on the PHN Scale

	Gen.Favor			Multiplexity			Complexity			Variability		
	-1	±	+1	−	±	+	−	±	+	−	±	+
Source N =	19	92	21	20	89	23	29	75	28	24	82	26
Intellectual Status (I)	57	41	43	43	41	51	42	45	40	42	42	48
Ethnicity (E)	3	2	1	2	2	2	2	1	3	1	2	3
Dependability (D)	15	23	22	20	22	20	20	20	27	24	22	19
Friendliness (F)	19	29	25	30	28	19	30	26	24	29	27	22
I x E	1	0	0	0	0	0	0	0	1	0	0	1
I x D	0	2	3	2	1	4	0	2	2	1	2	2
I x F	2	3	4	3	3	2	3	3	2	2	3	3
E x D	0	0	0	0	0	0	0	0	0	0	0	0
E x F	0	0	0	0	0	0	0	0	0	0	0	0
D x F	0	0	0	0	1	1	1	0	0	0	1	0
Other Interactions	2	1	1	0	1	1	0	1	1	0	1	2
plus Error	0	0	0	0	0	0	0	0	0	0	0	0

Table 13

Analysis of Variance of Social Distance Scores with Mental Retardation Combined with Competence and Understanding

(N = 22)

Source	df	MS	F	% Variance
Intellectual Status (I)	1	5584.10	128.62***	36
Ethnicity (E)	1	320.73	7.27**	2
Competence (C)	1	3289.14	74.58***	21
Understanding (U)	1	5146.92	116.71	33
I x E	1	11.63		0
I x C	1	210.18	4.76*	1
I x U	1	397.37	9.04**	2
E x C	1	0.01		0
E x U	1	80.18		1
C x U	1	262.54	5.95*	2
1 x E x C	1	0.92		0
I x E x U	1	6.54		0
I x C x U	1	127.69	2.89	1
E x C x U	1	0.01		0
I x E x C x U	1	1.91		0
Error	336	44.10		0
Total	351			

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 14

Proportions of Variance Accounted for by Each Component for COMBAT Ss and Remainder of Sample

	COMBAT Ss N = 18	Remainder Ss N = 114
	% Variance	% Variance
Intellectual Status (I)	34	45
Ethnicity (E)	1	2
Dependability (D)	32	20
Friendliness (F)	23	27
I x E	1	0
I x D	4	1
I x F	3	3
E x D	0	0
E x F	0	0
D x F	0	1
I x E x D	0	0
I x E x F	0	0
I x D x F	1	1
E x D x F	0	0
I x E x D x F	0	0
Error	0	0
Total		

Table 15

Means and Standard Deviations for UH Ss and Standardization Ss from 12 Mainland Colleges on the PHN Scores

	Ss 12 Colleges N = 1072		U of H Ss N = 132	
	$\bar{X}$	SD	$\bar{X}$	SD
1 Trustworthiness	+1.35	12.99	+ 2.13	12.37
2 Strength of Will	+7.40	10.20	+ 6.54	9.84
3 Altruism	-2.38	12.80	-3.05	11.70
4 Independence	-1.41	11.48	-1.92	10.80
5 General Favorability	+4.98	37.16	+ 4.00	33.23
6 Complexity	+ 11.41	11.30	+ 11.59	10.42
7 Variability	+ 15.83	10.40	+ 14.42	10.20
8 Multiplexity	+ 27.18	17.55	+ 25.83	17.23

Table 16

Scale Values and Interquartile Deviations for C-Words and U-Words

C-Words	S	Q	U-Words	S	Q
Skilled	6.79	0.84	Perceptive	6.67	1.08
Dependable	6.59	1.11	Considerate	6.30	1.65
Efficient	6.39	1.17	Sympathetic	6.10	1.07
Responsible	6.20	1.08	Kind	6.07	1.49
Reliable	6.10	1.07	Friendly	5.94	1.20
Industrious	6.00	0.59	Patient	5.92	0.83
Hardworking	5.93	1.50	Compassionate	5.83	1.92
Diligent	5.90	1.20	Interested	5.72	1.42
Ambitious	5.33	2.00	Thoughtful	5.70	2.10
Honest	5.25	1.96	Helpful	5.50	1.54
Neat	5.12	1.50	Sincere	5.36	1.03
Trustworthy	4.75	2.00	Honest	4.67	1.45

Table 17

Summary of Personal-Social Characteristics of All Subjects

(N = 132)

Ethnic Background	N	%
Japanese	55	42
Caucasian	37	28
Chinese	11	8
Other	29	22

Years in Hawaii	N	%
10 years or more	97	73
less than 10 years	35	27
(X = 3.37 years)	35	27

Religion	N	%
Protestant	62	47
Catholic	27	21
Buddhist	28	21
Other	14	11

Sex	N	%
Male	45	34
Female	87	66

Class	N	%
Freshman	88	67
Sophomore	34	26
Junior	6	5
Senior	2	2
Other	2	2

Age	N	%
Under 20	95	72
20 and older	37	28

College	N	%
Arts & Science	82	62
Education	38	29
Business Admin.	5	3
Nursing	4	3
Other	3	2

Birth Place	N	%
Hawaii	96	73
Mainland U.S.A.	31	23
Foreign Country	5	4

Father's Occupation	N	%
Unskilled, skilled, & clerical	58	44
Managerial, Executive & Professional	52	39
Not reported	22	17

Family Annual Income		
8,000 or less	45	34
More than 8,000	75	57
Not reported	12	9

Table 17 (continued)

Father's Education	N	%
12th grade or less	73	55
Beyond 12th grade	49	37
Not reported	10	8

Mother's Education	N	%
12th grade or less	86	65
Beyond 12th grade	38	29
Not reported	8	6

Table 18

Significant Correlates of Social Distance Measures (N = 132)

Stimulus Persons	Background Correlates															PHN Correlates			
	Mo. Educ.	Fa. Educ.	Income	Fa. Occ.	Educ.	A. & S	Frosh.	Buddt.	Prot.	Japn.	Cauc.	Multpx.	Gen. Fav.	Varbty.	Cmplex.	Indepd.	Altrum.	Str/wl.	Trustw.
IN, ON, VD, VF							18												
IN, ON, VD, UF										-25	24							20	
IN, ON, UD, VF					18														
IN, ON, UD, UF				-17						-22									-17
IN, AN, VD, VF								-19											
IN, AN, VD, UF						-17			22	-20									
IN, AN, UD, VF	18								22										
IN, AN, UD, UF	20									-17									
MR, ON, VD, VF																			
MR, ON, VD, UF																			
MR, ON, UD, VF		-19		-18		-22											18		
MR, ON, UD, UF										-17							20		
MR, AN, VD, VF		-21			25	-26													
MR, AN, UD, UF																	20		
MR, AN, UD, VF						-20											23		
MR, AN, UD, UF					19	-24	21			-23	17								

Table 18 (continued)

Components	Background Correlates																	PHN Correlates	
	Mo. Educ.	Fa. Educ.	Income	Fa. Occ.	Educ.	A. & S	Frosh.	Buddt.	Prot.	Japn.	Cauc.	Multpx.	Gen. Fav.	Varbty.	Cmplex.	Indepd.	Altrum.	Str/wl.	Trustw.
Gen. Accept.						-22				-20									
Intell.Status									18	-23									
Ment. Retd.						-22											17		
Own Nat.						-19	20			-19									
Amer. Ngr.						-22				-19									
Very Depd.						-18				-19									
Undepd.					18	-22				-18									
Very Friend.						-22													
Unfriend.						-19				-24				18					

APPENDIX B

Substitute Word Questionnaire 1

John is a well dressed, well groomed, healthy looking young man, about twenty years old. He is of the same religious and ethnic background as yourself. He lives with his parents in an average neighborhood. While he was a trainee at Waimano State School for the Mentally Retarded John became proficient as a laundry worker. Since his release about two years ago he has worked steadily for a local laundry company. His employer and supervisors are very satisfied with his performance and he consistently gets 'Excellent' ratings. He is punctual and has a perfect attendance record. He knows his job and performs it competently.

John's friends and neighbors think of him as a pleasant, likeable person who gets along well with everyone. One of his co-workers at the plant said of him, "John is a good listener. He gives you the feeling that he really understands you."

Rank the words listed below as you think they best describe John's functioning as a worker. Place a one (1) next to the word that you think describes him best. Place a two (2) next to the second best descriptive word, etc. Rank all of the words listed.

( ) Skilled	( ) Dependable	( ) Efficient
( ) Trustworthy	( ) Neat	( ) Honest
( ) Ambitious	( ) Industrious	( ) Hardworking
( ) Responsible	( ) Reliable	( ) Diligent

Rank the following list of words as you think they best describe John's ability to deal with other people. Rank them in the same manner as you did the first list, 1, 2, 3...

( ) Perceptive	( ) Considerate	( ) Sympathetic
( ) Kind	( ) Friendly	( ) Patient
( ) Compassionate	( ) Interested	( ) Thoughtful
( ) Helpful	( ) Sincere	( ) Honest

Substitute Word Questionnaire 2

Joe is a well dressed, well groomed, healthy looking young man, about twenty years old. He is of the same religious and ethnic background as yourself. He lives with his parents in an average neighborhood. During the summers Joe worked and became proficient as a laundry worker. Since leaving school about two years ago he has worked steadily for a local laundry company. His employer and supervisors are very satisfied with his performance and he consistently gets 'Excellent' ratings. He is punctual and has a perfect attendance record. He knows his job and performs it competently.

Joe's friends and neighbors think of him as a pleasant, likeable person who gets along well with everyone. One of his co-workers at the plant said of him, "Joe is a good listener. He gives you the feeling that he really understands you."

Rank the words listed below as you think they best describe Joe's functioning as a worker. Place a one (1) next to the word that you think describes him best. Place a two (2) next to the second best descriptive word, etc. Rank all of the words listed.

( ) Skilled	( ) Dependable	( ) Efficient
( ) Trustworthy	( ) Neat	( ) Honest
( ) Ambitious	( ) Industrious	( ) Hardworking
( ) Responsible	( ) Reliable	( ) Diligent

Rank the following list of words as you think they best describe Joe's ability to deal with other people. Rank them in the same manner as you did the first list, 1, 2, 3 ...

( ) Perceptive	( ) Considerate	( ) Sympathetic
( ) Kind	( ) Friendly	( ) Patient
( ) Compassionate	( ) Interested	( ) Thoughtful
( ) Helpful	( ) Sincere	( ) Honest

Substitute Word Applicability Questionnaire 1

The term 'Normal' is used to describe a wide range of human functioning. Based on your knowledge of psychology, how do you think the words listed below could apply to normal people. Please rate each word in the list according to the following scale:

Place a one (1) next to the word if you think it does not apply to normal people.

Place a two (2) next to the word if you think it might apply to some (about 25%) normal people.

Place a three (3) next to the word if you think it might apply to a good many (about 50%) normal people.

Place a four (4) next to the word if you think it might apply to most (about 75%) normal people.

Place a five (5) next to the word if you think it might apply to all (about 99%) normal people.

Rate each word as it applies to: (1) no normal people, (2) 25%, (3) 50%, (4) 75%, (5) all normal people.

Please work rapidly.

( ) Ambitious	( ) Hardworking	( ) Patient
( ) Backward	( ) Helpful	( ) Perceptive
( ) Compassionate	( ) Honest	( ) Quiet
( ) Considerate	( ) Industrious	( ) Reliable
( ) Dependable	( ) Interested	( ) Responsible
( ) Diligent	( ) Kind	( ) Sincere
( ) Efficient	( ) Masculine	( ) Skilled
( ) Friendly	( ) Neat	( ) Sympathetic
( ) Gaunt	( ) Ordinary	( ) Thoughtful

Substitute Word Applicability Questionnaire 2

The term 'Mental Retardation' is used to describe a wide range of human functioning. Based on your knowledge of psychology, how do you think the words listed below could apply to people classified as mentally retarded? Please rate each word in the list according to the following scale:

Place a one (1) next to the word if you think it does not apply to mentally retarded people.

Place a two (2) next to the word if you think it might apply to some (about 25%) mentally retarded people.

Place a three (3) next to the word if you think it might apply to a good many (about 50%) mentally retarded people.

Place a four (4) next to the word if you think it might apply to most (about75%) mentally retarded people.

Place a five (5) next to the word if you think it might apply to all (about 99%) mentally retarded people.

Rate each word as it applies to: (1) no mentally retarded people, (2) 25%, (3) 50%, (4) 75%, (5) all mentally retarded people.

Please work rapidly.

( ) Ambitious	( ) Hardworking	( ) Patient
( ) Backward	( ) Helpful	( ) Perceptive
( ) Compassionate	( ) Honest	( ) Quiet
( ) Considerate	( ) Industrious	( ) Reliable
( ) Dependable	( ) Interested	( ) Responsible
( ) Diligent	( ) Kind	( ) Sincere
( ) Efficient	( ) Masculine	( ) Skilled
( ) Friendly	( ) Neat	( ) Sympathetic
( ) Gaunt	( ) Ordinary	( ) Thoughtful

3-D Scale

Part I: Form A

Directions: To keep your answers anonymous, do not sign your name. But be sure to complete the attached data sheet. Please give your first reaction to each person in terms of the characteristics listed. Respond to each question about each stimulus person as follows: 5 for absolutely (yes); 4 for probably; 3 for not sure or cannot say; 2 for probably not; and 1 for absolutely not. Read each description carefully. Work as rapidly as possible and answer every column for every person. As used here the term mentally retarded refers to a person who was a former trainee in a state training school for the mentally retarded.

	Would you have a person like this as:								
	a marriage partner	a counselor on intimate problems	a close friend	an office co-worker	a next-door neighbor	a speaking acquaintance	a voter	a student in your family's school	
A person who is									
1. Mentally retarded, very dependable, American Negro, very unfriendly.									
2. Very dependable, very friendly, mentally normal, of your own nationality.									
3. Very friendly									

2. very dependable, very friendly, mentally normal, of your own nationality.									
3. Very friendly, of your own nationality, very undependable, mentally retarded.									
4. American Negro mentally normal, very unfriendly, very undependable.									
5. Mentally retarded, of your own nationality, very dependable, very friendly.									
6. Very friendly, American Negro, very dependable, mentally normal.									
7. Of your own nationality, very unfriendly, mentally normal, very dependable.									
8. Very undependable, very friendly, American Negro mentally retarded.									
9. Very unfriendly, of your own nationality, mentally retarded, very undependable.									
10. Mentally normal, very undependable, of your own									

mentally retarded, very undependable.									
10. Mentally normal, very undependable, of your own nationality, very friendly.									
11. American Negro, very friendly, very dependable, mentally retarded.									
12. Of your own nationality, very unfriendly, very dependable, mentally retarded.									
13. Very undependable, mentally normal, very unfriendly, of your own nationality.									
14. Very unfriendly, American Negro, mentally retarded, very undependable.									
15. Very dependable, mentally normal, American Negro, very unfriendly.									
16. Mentally normal, very friendly, American Negro, very undependable.									
17. Mentally normal, very dependable, very friendly, a citizen of Turnia.									

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