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DIMENSIONS OF PERSONALITY AND ATTITUDES TOWARD THE NUCLEAR
SITUATION: A STUDY OF WEST GERMAN VALUES

THE UNIVERSITY OF ARIZONA

M.A. 1984

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DIMENSIONS OF PERSONALITY AND ATTITUDES
TOWARD THE NUCLEAR SITUATION:
A STUDY OF WEST GERMAN VALUES

by

Pamela Bradley

A Thesis Submitted to the Faculty of the
DEPARTMENT OF PSYCHOLOGY
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF ARTS
In the Graduate College
THE UNIVERSITY OF ARIZONA

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APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

G. Domino
G. DOMINO
Professor of Psychology

7/23/84
Date

To

Frank X. Barron

a wise and faithful counselor whose ideas inspired this work and whose personal philosophy and creative realism continually guide me

and

To

Carl R. Rogers

who permitted me, a student, to test him, and who had the courage to trust in allowing me to use the results in any meaningful way

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ABSTRACT

This study assessed the relationship of specific personality variables to attitudes about the current nuclear situation. The Barron Inventory of Personal Philosophy (IPP), 1983 version, was administered to five groups of West German citizens ($n = 122$). Subjects received scores on three established measures of creativity: Complexity of Outlook, Independence of Judgment, and Originality; and on three new IPP scales: Trust in Human Nature, Internationalism, and Nuclear Values. A one-way analysis of variance with a Scheffe multiple comparison procedure demonstrated, as hypothesized, a clear differentiation among the five subsamples between "pragmatic conservatism" and "rational liberalism" on the Nuclear Values Scale. Correlational analyses revealed positive relationships between Nuclear Values (favoring nuclear disarmament) and the three creative personality measures, as well as Trust in Human Nature and Internationalism. Due to the experimental nature of the three new scales, the results must be interpreted with caution. However, these findings suggest that integrative complexity, creative realism, a basic trust in humanity, and internationalism are associated with a preference for nuclear disarmament.

CHAPTER 1

INTRODUCTION

C. G. Jung once wrote, "Whether primitive or not, mankind always stands on the brink of actions it performs itself but does not control. The whole world wants peace and the whole world prepares for war, to take but one example" (Jung, 1934/1959, p. 305). Although this was written a half century ago, it is no less true today. Modern technology in warfare, specifically nuclear capability which represents ultimate destructive capacity, gives new meaning to this statement and a sense of urgency to the task of those who seek to understand the nature of the collective humanity who are the keepers of this potentially destructive force. Political, economic, and social decisions that may radically affect the future of humanity are intertwined in the current debate over the nuclear arms build-up proposed by the Reagan administration and already underway in the form of deployment of North Atlantic Treaty Organization cruise and Pershing II missiles in Western Europe.

The spectrum of opinion on nuclear armament seems to be roughly divided into two camps: those in favor of

development of ever more sophisticated weapons to secure peace through nuclear deterrence, and those who advocate bilateral reduction and eventual dismantling of present nuclear arsenals as a show of good faith in the interest of peace by both East and West. Both groups say they want peace, but the former prepares for war. The purpose of this study is not to investigate the pros and cons of either viewpoint, but to examine these attitudes toward the present nuclear situation by looking closely at individuals who express them. Values are made and held by persons and value-attitudes are functions of personality. Because of the drastic consequences of policy decisions regarding nuclear weapons, it seems important to understand the dimensions of personality that contribute to vastly differing perceptions of this problem.

Even though the United States is in the midst of the largest peacetime military build-up in history, the debate may be more abstract or theoretical and less pressingly practical to U.S. citizens than to Europeans, who have reason to experience the immediacy of the situation. Talk by government officials of "limited" and "winnable" nuclear encounters, with the implication of reducing Europe to a theatre for limited nuclear warfare, has lent increased fervor to anti-American sentiment and nuclear protest demonstrations throughout Europe. This is

particularly true in West Germany, where the Pershing II missiles are now being put into place. Because the issues surrounding the nuclear situation are particularly salient to the citizens of West Germany, their attitudes and values and the personal qualities that contribute to them are of great interest.

This study is an inquiry into the perspectives and personalities of West German citizens regarding the nuclear situation. Like Americans, West Germans have differing views on the subject. Many factors are likely to contribute to attitudes about nuclear issues, including cultural, national, social, and political identity. Other components affecting the perception of this situation might be socioeconomic status, career interests or job security, and peer or family influences on the individual. This study looks specifically at the contribution made by personality attributes to beliefs about this personal and social issue. A central question is how do people disagree over the issues involved and how do they agree? And further, what personal values and characteristics differentiate between those in disagreement? In the present study, five groups of West German citizens, loosely distinguished by various vocational or political pursuits, were surveyed to identify variables that might provide answers to these and other questions. The five groups

surveyed were: German soldiers, civilian Messerschmidt employees (Messerschmidt is an aircraft factory which handles government military contracts), university students, medical students, and members of the Green party (an anti-nuclear political group active throughout Western Europe). Personal opinions on specific nuclear-related problems were gathered as well as a general measure of awareness or sentiment concerning cooperative international relations. The dimensions of personality addressed have to do with a basic philosophy of trust in human nature and specific measurable aspects of creativity.

Nuclear Values

It is hypothesized that groups of subjects will differ significantly according to the division of nuclear opinion mentioned above. Specifically, it is expected that the nuclear-related values and attitudes expressed by the soldiers and the civilian Messerschmidt employees will be more conservative than those endorsed by the student groups and the Greens. From a social perspective such a finding might be anticipated for the soldiers and aircraft factory employees for readily apparent reasons having to do with a valuation of job commitment and stability. However, way of life, including vocation or military service, is complexly related to personal philosophy, and personality variables are intertwined in the formation of attitudes based on

values. In this study value-laden attitudes related to the nuclear situation will be referred to as "nuclear values."

A further hypothesis is that these nuclear values will relate to world view in such a manner that those persons who favor nuclear disarmament will also demonstrate an attitude of internationalism. Such an attitude could be described as reflective of an openness to experience of other cultures and countries, to an exchange of ideas, and to shared resources in mutuality of interest. This study will attempt to demonstrate a relationship between this construct and a preference for settling international disagreements without the threat of nuclear weapons.

Aspects of Personality and Creativity

Trust in human nature refers to a view of human nature as "basically good," as opposed to "basically evil." It is hypothesized that the individual's fundamental belief about the nature of humanity will influence his/her perceptions and judgments about a situation that threatens the existence of the human species. Thus, it is anticipated that those who support nuclear disarmament will also express a personal philosophy of trust in human nature.

Three behavioral constructs, whose empirical validity has been demonstrated, are of interest in describing the personalities of the West Germans sampled:

Complexity of Outlook, Independence of Judgment, and Originality. Complexity of Outlook is viewed as integrative capacity and flexibility of thought processes which allow for verbal fluency, tolerance of unusual ideas, originality, and creativeness. Independence of Judgment is associated with deeply felt personal philosophy and refers to inner-directedness. Originality is seen here as novelty of cognitive interpretation and insight in a highly organized mode of response to experience. These three variables have been found to correlate positively with creativity (Barron, 1968). They are of importance in the present study because an individual who displays these characteristics would look at the nuclear issues in question in an original way, with minimal inappropriate influence from others, with a capacity to deal with the complexities of the situation, and with the ability to make unique and realistic judgments about it. It is hypothesized that scores on these dimensions will relate significantly to nuclear values, with Complex, Independent, and Original personalities opposing the status quo militaristic stance and more conventional personalities endorsing the nuclear weapons build-up.

CHAPTER 2

A REVIEW OF THE LITERATURE

Feshbach (1982) surveyed 75 University of California students in an attempt to determine the basis for resistance and opposition to nuclear disarmament efforts. He found that proponents and opponents of a nuclear moratorium differed in their estimates of the relative strengths of the United States and the Soviet Union. Opponents of a nuclear moratorium were more willing to use nuclear weapons and had faith in government authority to make that decision. Opponents also tended to feel that animal death or injury was irrelevant and believed there will be survivors in a nuclear conflict. Twenty-nine percent of the nuclear moratorium opponents were willing to wipe out the Soviet Union "if we could be sure they wouldn't retaliate."

It may be important to know what personality variables contribute to such fundamentally conflicting sentiments and opinions regarding nuclear issues. However, to date such studies are rare. This is surprising in view of the nature of the problem. Publications in every sphere abound which present discussion on many facets of the

nuclear debate, but research on the influence of personality on this debate is lacking.

There is a small body of literature on public opinion about nuclear weapons and nuclear war from 1945 to the present (see Kramer, Kalick, & Milburn, 1983, for a review), but little scholarly research on the topic. More studies have been made of personality and political orientation in general, without specific reference to nuclear concerns (Doob, 1964; Kelman, 1965; Klineberg, 1964; McClosky, 1967; Smith, 1949; Smith, Bruner, & White, 1956), as well as studies of personality variables, such as authoritarianism, that contribute to aggressive foreign policy attitudes (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1956; Christiansen, 1959; Eckhardt & Lentz, 1967; Etheredge, 1978; Goldhamer, 1950; Raser, 1966; Tetlock, 1981). A review of this line of psychological research will not be attempted here since it is somewhat peripheral to the topic at hand, however such work provides suggestions as to how a person's characteristic attributes and dispositions may influence social decision regarding nuclear weapons.

In a study of social ideology and personal traits, Copeland (1979) used the Sixteen Personality Factor Questionnaire and a conservatism scale (C-scale) to assess 120 college and university students' personality traits and

social ideology. The findings pertinent to the present study are: (a) Conservatives were found to be concrete thinkers, (b) Liberals were trusting, and (c) Moderates were suspicious. Although the Copeland study does not address nuclear issues, these social ideologies are often connected with points along the spectrum of nuclear opinion. Conservatism is often associated with militarism and a tendency to uphold values of the past rather than search for novel solutions to social problems. Thus, these findings may add information for consideration, particularly since literature specific to the present study is sparse.

In 1961, Barron and his students at Harvard devised a measure of attitude towards disarmament which reflected the views of a pacifist group, the Committee for a Sane Nuclear Policy (the "Sane Attitude Scale"), as well as a questionnaire to measure knowledge about nuclear weapons and the arms race (the "Information Scale"). Barron (1968) included these two questionnaires in a battery of tests administered to 152 undergraduates at the Rhode Island School of Design. As part of a program to select students for fellowships in Rome, the students were rated by a faculty committee on a number of personality variables, for example, Originality, Achievement Motivation, Vitality, Personal Independence, etc. In addition, the students were

administered personality tests including the MMPI, the CPI, the IPAR Special Composite Inventory, the Barron-Welsh Art Scale, and others. The results are of particular interest to the present study and are summarized as follows:

1. The Information and the Sane Attitude scales were highly intercorrelated ($r = .90$).

2. The "Sane" attitude was positively correlated with faculty ratings of Curiosity, Self-development, Independence, and Vitality ($p < .01$), and with Originality, Creativity, Motivation to Achieve, and Visual Ability ($p < .05$).

3. The "Sane" attitude correlated positively with psychological constructs from other tests in the following manner: MMPI: Femininity ($p < .001$), Psychasthenia and Ego Strength ($p < .05$); CPI: Achievement through Independence Index ($p < .05$); IPAR Composite: Independence of Judgment, Esthetic Sensitivity, and Disposition Toward Originality ($p < .05$); and Creativity Tests: Barron-Welsh Art Scale, Guilford Consequences, and Barron Symbolic Equivalence ($p < .05$).

Results of this study showed that, in this sample of students in 1961, attitudes in favor of disarmament were significantly associated with Independence of Judgment, Originality, and a measure of creativity (the Barron-Welsh

Art Scale) from which the variable of Complexity in the present study was derived.

CHAPTER 3

METHOD

Subjects

Samples were obtained from five diverse groups in West Germany during the period from December, 1983 to March, 1984: (a) 21 German soldiers stationed in Koblenz; (b) 22 civilian employees of Messerschmidt Aircraft Factory in Ulm; (c) 30 students at Munich University; (d) 27 medical students at the University of Regensburg; and (e) 22 members of the Greens, a peace movement activist party, from Cologne. Each sample consisted of both male and female respondents, with the exception of the soldiers, who were all male. The mean age was 27 years. These groups were selected because they seemed to represent a continuum of the traditional political spectrum from liberal (Greens and students) to conservative (Messerschmidt employees and soldiers).

The first attempt to collect data from Munich University students met with a response reflective of the anti-American spirit abroad at that time. Arrangements were made with a professor at the university for administration of the questionnaire to students in his

psychology seminar. The following is from a letter written by Irene Petrache, who collected data in Munich. She reports,

Although most of the seminar students were cooperative at first and started to fill in the forms, one of them started to ask about the possible use or abuse of the answers. The whole situation was that the students felt very paranoid towards the U.S.A. (that was just before the parliamentary debate about the stationing of the missiles). They thought the answers might be used against them and refused to complete the forms.

Ingrid Sladeczek, who arranged for data to be collected from four West German samples, attempted to obtain subjects from a Catholic church group. She met with the priest and asked him if parish members might be willing to participate in the study by filling out the questionnaire. The priest agreed to propose this at the meeting of the church council. The council voted not to allow administration of the questionnaire, giving the reason that it was "too complicated."

Despite these experiences, Ms. Petrache and Ms. Sladeczek both report that most of the subjects who completed the questionnaire were cooperative and interested, and a number of people requested to be informed of the results of the study.

Measures

The Inventory of Personal Philosophy, Part II, Social Attitudes and Personal Opinion, in its original 1950

edition consisted of 114 true-false items. This form was used to measure personal and social values without reference to internationalism and to nuclear arms issues. One of its purposes was to measure enduring personality dispositions, particularly in creative individuals, and it has been used extensively in research on the creative personality at the Institute of Personality Assessment and Research (IPAR), at the University of California, Berkeley. The Inventory of Personal Philosophy (IPP) contains both factor and criterion-keyed scales which have been repeatedly analyzed across samples over more than 30 years. The scales of interest in this study are three criterion-keyed scales: Complexity of Outlook, Independence of Judgment, and Originality.

The Creative Personality Scales

Complexity of Outlook. Complexity of Outlook is a bipolar variable which contrasts a preference for perceiving and dealing with complexity as opposed to a preference for attendance to simplicity. The phenomenal fields relevant to this construct seem to be interpersonal relations and interpersonal psychodynamics, politics and economics, religion, relations to authority, attitude towards sensual experience, social conformity and adherence to tradition, and originality and intellectual independence (Barron, 1953a). This 50-item scale was developed using

the criterion of preferences for simple or complex figures on the Barron-Welsh Art Scale (Barron & Welsh, 1952). The items were drawn from a combined 975-item MMPI-CPI-IPAR pool frequently used in assessments at IPAR. Analysis of samples of university seniors and medical students who had taken both the MMPI-CPI-IPAR composite and the Barron-Welsh Art Scale was carried out with the top and bottom 27 percent of scorers on the Art Scale contrasted in terms of their responses on the true-false items. This procedure yielded 50 items with phi-coefficients significant at the .05 level in one sample and no greater than the .10 level in either group. The resulting criterion scale, Complexity of Outlook, correlated .67 with scores on the Barron-Welsh Art Scale for the samples tested (Barron, 1963). The items were keyed in the direction of complexity so that a high score indicates a more complex outlook, or a greater degree of preference for complexity. Mean scores on this scale for various samples reported by Barron (1963) include: (a) 17.4 for a sample of 343 male officers with the rank of Captain in the United States Air Force, (b) 27.14 for a group of college undergraduates, (c) 23.9 for a group of successful commercial writers, (d) 31.3 for a group of creative writers, and (e) 26.7 for a sample of women who had earned the Ph.D. in mathematics. No truly random sample of the general population has been carried out, but

the mean of the scale is assumed to be about 15, with a standard deviation of 5. The scale is significantly correlated with IPAR ratings of creativity for samples of highly creative subjects, which lends further evidence for the validity of the scale.

Perceptual preference, as measured by the scale, refers to a characteristic way of attending to the complex stimuli that make up our world of experience. According to Barron, "The world is both stable and unstable, predictable and unpredictable, ordered and chaotic. To see it predominantly as one or the other is a sort of perceptual decision . . . Either of these perceptual decisions may be associated with a high degree of personal effectiveness" (italics added) (1968, p. 198).

Based on both clinical impressions and objective evidence, Barron proposes that at best the preference for simplicity "makes for personal stability and balance, a sort of easy-going optimism combined with religious faith, a friendliness toward tradition, custom, and ceremony, and respect for authority without subservience to it" and at worst, "categorical rejection of all that threatens disorder, a fear of anything that might bring disequilibrium . . . associated with stereotyped thinking, rigid and compulsive morality . . . a kind of perceptual distortion which consists in refusing to see parts of

reality that cannot be assimilated to some preconceived system" (1963, p. 198).

At best the preference for complexity "makes for originality and creativeness, a greater tolerance for unusual ideas and formulations . . . and a constant effort to integrate the inner and outer complexity in a higher-order synthesis . . . to allow into the perceptual system the greatest possible richness of experience, while finding in this complexity some overall pattern" and at worst "nihilism, despair, and disintegration" (1968, p. 199).

Independence of Judgment. The Independence of Judgment scale was constructed in a study of personality variables of subjects who responded very differently to experimentally produced conflict. Asch (1952) studied hundreds of subjects with variations of an experimental technique in which individual subjects were placed in a conflict situation. Groups of "subjects," all but one confederates of the experimenter, were asked to judge the lengths of lines and to state publicly, one at a time, whether the lines matched in length. The naive subject was placed so that he would be one of the last respondents. On the critical trials the majority gave a prearranged incorrect response and the conflict situation was set for the real subject to deny sensory evidence and yield to the

majority opinion or to independently give the correct response. While Asch was interested in the social forces at work in the experimental situation, Barron compared the personalities of the subjects who showed Independence (25 percent of all the subjects) with the 25 percent of subjects who most often yielded to group opinion. Barron (1953b) compared these two groups (92 subjects in all) on a number of dimensions, including the usual clinical and validity scales of the MMPI, as well as other kinds of comparisons using various MMPI subscales, and found no significant difference between Independents and Yielders in personal stability. Barron constructed and administered a questionnaire consisting of 84 items which represented theoretical formulations of the personality characteristics hypothesized to be associated with Independence. An item analysis of the scale was carried out and the 22 items (keyed in the Independent direction of response) which discriminated between the two groups form the present scale, Independence of Judgment.

The scale has since been employed in a series of studies in which it correlated significantly with measures of creativity and has differentiated the professional groups studied at IPAR (such as writers, architects, engineers, mathematicians, research scientists in physics, high level managers and entrepreneurs, and artists) between

those considered by their peers to be representative of the profession and those nominated as highly creative (Barron, 1983, June). In a study of Italian politics, members of the Left were significantly more Independent than the Right, with the Moderates represented in the middle (Barron & Young, 1970).

According to the theoretical construct, Independents value creativity, new ideas, and theory, respond to personal integrity rather than superficially pleasing characteristics of another person, do not find it necessary to get along with everyone, are intrceptive rather than extrceptive, and prefer imperfections and contradictions which challenge the imagination to the polished and the perfect (Barron, 1968).

Originality. The Originality scale was developed against the criterion of originality as measured by eight tests which composed a creativity battery at IPAR: Unusual Uses, Consequences B, and Plot Titles B (Guilford, Wilson, Christensen, & Lewis, 1951); Rorschach O+, Thematic Apperception Test: Originality Rating; Anagrams; the Barron Word Rearrangement Test: Originality Rating; and the Barron Movement-threshold Inkblots (Barron, 1955). The summed standard scores on these eight measures of 100 United States Air Force officers were analyzed together with items

from the MMPI-CPI-IPAR composite to yield this 17-item scale.

The Development of a Scale to Measure Nuclear Values

In 1983 Barron added 54 items, which reflected topical concerns from newspapers and discussions with students, to the IPP. These new items included statements related to attitudes toward the nuclear situation, for example: (a) I am willing to do whatever is necessary to survive a nuclear war, (b) Nuclear war is inevitable, (c) All new homes ought to be equipped with bomb shelters, (d) The Russians would not hesitate to strike first if they thought a nuclear war inevitable, (e) I would push the button if I had to, and (f) I favor a nuclear freeze now.

In the present study the first steps toward the development of a new scale to measure nuclear values were initiated. The aim of the scale is to combine the nuclear relevant items on the IPP in a meaningful way in order to measure this novel personality variable, i.e., attitudes about the nuclear situation that are based on prized personal belief and value orientation.

The Nuclear Values scale was constructed from theoretical a posteriori item comparisons and interitem correlations of the 54 new IPP items. Data from the West German samples revealed two sets of interitem correlations:

those which seemed to represent a "pragmatic conservatism" and another cluster of items that represented a sort of "rational liberalism." These item sets were combined and keyed in the direction of "rational liberalism." Each subject's protocol was then scored on the experimental scale and an item analysis was performed. Of 31 original items, 29 correlated significantly with the entire scale, and these items were retained. Protocols were rescored on the 29-item scale and a second item analysis showed the scale to be internally consistent. This procedure yielded the Nuclear Values scale which is included in the present study (see Appendix A for a list of items on this scale).

Internationalism and Trust in Human Nature

Two new a priori scales, made up of both "old" and "new" items on the IPP, were developed by Frank Barron and Pamela Bradley. The first of these, the Internationalism scale, contains 12 items that broadly imply freedom from stereotypic ethnic, political, or social values, and an appreciation or awareness of global cooperation (see Appendix B for a list of items on this scale).

The second scale, the Rogerian-based Trust in Human Nature scale, contains six items that seem related to a basic philosophy which holds that when functioning freely, human beings are positive, forward-moving, and

constructive, as opposed to a view that human impulses, if not controlled, will lead to destruction and chaos. In March, 1983, the distinguished psychologist Carl R. Rogers, whose theory of psychology is based on this principle (Rogers, 1961), was asked by the author if he would be willing to answer the items on the IPP. He graciously consented, and the Inventory was administered to him at his home in Southern California. The Trust in Human Nature scale has since been developed against the criterion of Dr. Rogers' responses to these six items. Two other psychologists familiar with Rogers' theory have judged the items and keyed direction of response to be representative of this construct (see Appendix C for a list of items on this scale).

Summary of Scales

In summary, the Inventory of Personal Philosophy, consisting of 168 true-false statements, was used to measure personal and social values and attitudes toward the nuclear situation. Subjects received scores on three empirically based criterion-keyed scales: Complexity of Outlook, Independence of Judgment, and Originality, and three experimental scales: Nuclear Values, Internationalism, and Trust in Human Nature.

Procedure

A German translation of the IPP was given to subjects to complete at their convenience and return. Apart from the occurrence in Munich described above, in which the first attempt at data collection was unsuccessful, 122 of the 150 protocols distributed were completed and returned. To protect anonymity, protocols were coded by number and respondents were instructed not to give their names on the answer sheets.

CHAPTER 4

RESULTS

As a further check on the internal consistency of the three new scales (Nuclear Values, Internationalism, and Trust in Human Nature), and as a first step in crossvalidation, the entire sample, $n = 122$, was randomly divided into two subsamples of equal size for separate analyses. Pearson correlation coefficients were then obtained on all possible pairs of scale scores, yielding five coefficients per scale for each subsample. Thus, for each new scale, five pairs of experimentally independent correlation coefficients were obtained. These coefficients were changed into Fisher z scores and tests for significance of the difference between independent correlations were performed. This computation yielded a z statistic to be measured against a criterion of a z value larger than 1.96, which would be significant at the .05 level using a two-tailed test. A significant z would mean that the two correlation values are very likely really different. For the purpose of this study, a significant z statistic indicates caution in evaluating correlations between the two criterion scales, whereas nonsignificance

provides evidence for the scales' distinctiveness. Of the 15 comparisons, only one was significant: Internationalism with Originality ($z = 2.06$, $p < .05$). All other comparisons were nonsignificant. These findings contribute to the confidence that can be placed in the observations made on the present sample for the three new scales as they apply to the population from which the sample was selected.

Means and standard deviations of the six IPP scales for each of the five groups are presented in Table 1. To assess the significance of the differences among the five means for the Nuclear Values scale, a one-way analysis of variance was performed. The Pearson Correlation procedure was used to reveal relationships between scores on the Nuclear Values scale and the five other IPP scales.

Do the soldiers and the Messerschmidt employees differ significantly from the students and the Greens on value-attitudes regarding the nuclear situation? The overall mean on the Nuclear Values scale was 18.26. Medical students received the highest average score (20.56), with the Greens and Munich University student scores about the same (20.33 and 20.21 respectively). Soldiers had the lowest average score on Nuclear Values (12.80), and Messerschmidt employees the next lowest (15.81).

Table 1. Means and Standard Deviations of Scales on the Inventory of Personal Philosophy.

		Nuclear Values	Trust in Human Nature	Internationalism	Complexity of Outlook	Independence of Judgment	Originality
Soldiers (<u>n</u> =21)	<u>M</u>	12.80	2.24	8.14	21.90	12.60	8.70
	<u>SD</u>	5.76	1.30	2.26	5.35	2.66	2.03
Messer- schmidt (<u>n</u> =22)	<u>M</u>	15.81	2.05	7.36	20.86	11.95	8.23
	<u>SD</u>	4.35	1.56	2.04	5.36	3.86	2.41
University Students (<u>n</u> =30)	<u>M</u>	20.21	3.00	8.25	28.31	14.93	10.29
	<u>SD</u>	4.22	1.39	1.58	5.09	3.73	1.82
Green Party (<u>n</u> =22)	<u>M</u>	20.33	3.67	8.14	26.27	14.91	10.00
	<u>SD</u>	5.30	2.20	1.98	5.10	3.04	1.83
Medical Students (<u>n</u> =27)	<u>M</u>	20.56	2.59	8.59	26.19	15.07	10.56
	<u>SD</u>	3.29	1.72	1.89	4.72	3.12	1.93

The results of a one-way analysis of variance for the Nuclear Values scale indicated a significant effect for the five samples (F 12.736, df 4, $p < .01$). Results of a Scheffe multiple comparison procedure, employed for pairwise comparison of the means, revealed two distinct homogeneous subsets whose highest and lowest means do not differ significantly: Subset 1 = soldiers and Messerschmidt employees; Subset 2 = Munich University students, Greens, and Medical students.

Pearson correlation coefficients between scores on the six scales for the entire sample are presented in Table 2. Do those who favor nuclear disarmament also demonstrate Trust in Human Nature, Internationalism, Complexity of Outlook, Independence of Judgment, and Originality? As shown in Table 2, scale scores for these dimensions all correlate positively with the Nuclear Values scale, which is keyed in the direction of pro nuclear disarmament. The strongest relationships are demonstrated between Nuclear Values and the three creative personality measures: Originality ($r = .53$), Independence of Judgment ($r = .56$), and Complexity of Outlook ($r = .62$). The Trust in Human Nature and Internationalism scales correlate with the Nuclear Values scale at $r = .41$ and $r = .50$ respectively. All the coefficients mentioned above are significant at the .001 level with a two-tailed test.

Table 2. Intercorrelations Between Scales on the Inventory of Personal Philosophy for the Entire Sample ($n = 122$).

	Nuclear Values	Trust in Human Nature	Internationalism	Complexity of Outlook	Independence of Judgment	Originality
Nuclear Values	--	.41*	.50*	.62*	.56*	.53*
Trust in Human Nature		--	.41*	.28*	.27*	.26*
Internationalism			--	.34*	.43*	.50*
Complexity of Outlook				--	.69*	.66*
Independence of Judgment					--	.71*
Originality						--

Note: * $p < .01$, two-tailed.

CHAPTER 5

DISCUSSION

The purpose of this study was to assess the relationship of specific personality variables to attitudes about the current nuclear situation. In order to do this, a scale was constructed to tap attitudes about nuclear issues: the Nuclear Values Scale.

Values, and attitudes based on values, are made and held by persons. These same persons are participants in the nuclear drama which unfolds and gathers momentum in such a fashion that it seems to be independent of individuals, at least those individuals who are not directly involved in top level decision-making processes. However, in recent years a counterforce has emerged in the form of politically active groups of people who have chosen to act on their personal beliefs in an effort to halt the nuclear arms race. Among these are Social Scientists Against the Arms Race, Psychologists for Social Responsibility, and Physicians for Social Responsibility, in the United States; and Scientists Against Nuclear Arms in the United Kingdom. The nuclear freeze movement has become a rallying point for activism

both in the U.S. and Europe, and the Green Party has asserted anti-nuclear values throughout Western Europe.

The complexities of the nuclear situation in which the world is enmeshed are multifaceted, and there are no clear-cut answers to the controversial issues surrounding the matter. However, individuals are taking stands on the issues in heated debate and unambiguous opposition. Thus, the theoretical considerations and assumptions on which the construction and subsequent analysis of the Nuclear Values Scale were based had to do with underlying psychological and value dimensions reflected in the classical liberalism-conservatism dichotomy.

It was hypothesized that the five samples of West German citizens would differ on the Nuclear Values Scale, with the soldiers and Messerschmidt Aircraft Factory employees endorsing a "pragmatic conservatism," and the university students, the medical students, and the Green Party espousing a "rational liberalism" with regard to nuclear issues. The results of this study confirm these expectations, with the Nuclear Values Scale clearly differentiating between these groups.

Further hypotheses proposed that respondents who favored nuclear disarmament would demonstrate greater Trust in Human Nature, Internationalism, Complexity of Outlook, Independence of Judgment, and Originality than their

counterparts who endorsed a militaristic stance. Again, the analyses performed demonstrate significant relationships between these variables.

Implications

Due to the experimental nature of the three newly developed scales, the results of the present study must be interpreted with caution. However, the impressive amount of association between variables suggests some important and provocative questions for future explorations to gain insight into this absurd situation where enormous effort and energy are being poured into weapons but practically nothing into understanding.

Is there a relationship between personality and attitudes toward the nuclear situation? In the present study, results reveal substantial positive correlations between anti-nuclear values and the three creative personality variables. There is some precedent to these findings. In the 1961 Barron study (described in detail in chapter 3), creativity variables, including Independence of Judgment, were found to correlate significantly with the "Sane (Nuclear) Attitude Scale." Then and now, in these samples from different populations and social contexts, across cultures and a span of nearly 25 years, Independence of Judgment seems to be characteristic of persons who favor nuclear disarmament.

Creative Behavior

In the present study Complexity of Outlook and Originality combine with Independence of Judgment in describing the intellectual creativity of opponents of the nuclear arms race. An example of the behavioral component of these creativity constructs is the activity of the Green Party in Western Europe. This recently formed yet influential political party is comprised of persons who were not ordinarily politically active, but took action because of the urgency of the circumstances. It is the only peace party with enough realism to obtain entrance into a parliamentary body while maintaining a peace activist identity. Because the Greens had the courage and independence to act on their beliefs, to dare to raise unthinkable questions, the context of discussion about nuclear arms has changed in Western Europe. This is quite important if the context has changed toward more openness.

Certainly the type of creative realism and integrative complexity demonstrated by the Greens is a meaningful step in the process of change from the militaristic policies reflective of psychological inflexibility and authoritarianism. Recall the psychological characteristics which are descriptive of Complexity (e.g. integration of inner and outer stimuli into a higher order synthesis) versus those descriptive of

Simplicity (e.g. a kind of perceptual distortion which amounts to denial of reality that cannot be assimilated into some preconceived system). It is interesting to note that, among the 5 scales which correlated positively with Nuclear Values, Complexity of Outlook displayed the strongest relationship.

The Courage to Trust

The data confirm a significantly positive relationship between Nuclear Values and Trust in Human Nature. Proponents of nuclear disarmament tended to affirm that "Most people are basically trustworthy." They are inclined to be hopeful that someday the threat of war will no longer exist. They hold the conviction that "People create their own future." This basic philosophy about the nature of humanity seems to go along with a willingness to risk putting aside the nuclear weapons, and with the hope that the human species will choose life affirming methods of peaceful coexistence without the constant threat of death by nuclear devastation.

Openness to International Experience

The results of this study confirm the hypothesis of a positive relationship between Nuclear Values and an attitude of international cooperation. Respondents who favor Internationalism display response dispositions

characteristic of those who reach out to, embrace, or involve persons or ideas associated with countries different from one's own. When individuals are genuinely interested in and accepting of other cultures, it becomes difficult to objectify persons who are part of those cultures, and we-they dichotomies (so often evident in the rhetoric of nuclear policy makers) cease to exist.

Perhaps individuals who identify themselves as citizens of the world as well as citizens of their native land, feel a greater social responsibility to ensure world peace and survival and, therefore, are more cognizant of threat of nuclear weapons on both social and environmental levels. To the world citizen, the use, or threatened use, of nuclear weapons is tantamount to threatening oneself. In any case, there is a demonstrable relationship between the construct of Internationalism, as measured in this study, and a preference for settling disagreements among nations without the threat of nuclear weapons.

Future Directions

The Nuclear Values Scale offers some intriguing possibilities for future research on personality and attitudes about the nuclear situation. The present analysis, in which the scale was constructed, is a first step toward its further development. With due recognition to the obvious limitations of the present sample, a base has

now been established from which to proceed with cross-national research on this topic. Once norms are built up it may be possible to begin answering questions about the implications for actions of the people who hold these values. It would be of particular interest to utilize the Nuclear Values Scale, as well as the Internationalism and Trust in Human Nature Scales, with other personality measures, in an attempt to characterize world leaders. It would be of great interest to know how leaders in both the U.S. and U.S.S.R. would test out on these variables.

The relationships of the three established measures of creativity to Nuclear Values raise interesting hypotheses for further consideration. For example, are the present nuclear policies characterized more by projection of psychological inflexibility or by integrative complexity and creative realism?

Although the methods of personality measurement are modest, the insights provided by them may be powerful forces in helping humankind to direct its actions as it stands on the brink of nuclear history.

APPENDIX A

NUCLEAR VALUES SCALE

NUCLEAR VALUES SCALE

1. I believe there is life as intelligent as our own in outer space. (true)
2. The human life span will be greatly increased in the 21st century. (false)
3. We are bound to establish human colonies elsewhere in the solar system. (false)
4. I am willing to do whatever is necessary to survive a nuclear war. (false)
5. I often wonder whether war will cut short my own life. (true)
6. I wish we had more opportunity to participate in fallout shelter drills and other civil defense measures. (false)
7. I am often afraid. (true)
8. We should plan now to make nuclear energy the main source of energy in the 21st century. (false)
9. I expect my children to have children. (false)
10. All new homes ought to be equipped with bomb shelters. (false)
11. If there is a nuclear war between superpowers like the USSR and the USA, it will result in the extinction of the human race. (true)
12. I sometimes have nightmares about nuclear war. (true)
13. The Russians would not hesitate to strike first if they thought a nuclear war inevitable. (false)
14. The USA should strike first if a nuclear war seems imminent. (false)
15. I would push the button if I had to. (false)
16. Most anti-nuclear demonstrations in Europe are organized by the Communists. (false)
17. I often talk with my friends about the danger of nuclear war and what we should do about it. (true)

18. I get most of my news of the world from TV. (false)
19. I am skeptical of most news reports coming from government sources. (true)
20. The policy of "deterrence" through "balance of terror" is the best solution in the foreseeable future. (false)
21. We should spend a lot less money for armaments if we want a strong economy. (true)
22. I think a nuclear exchange could very easily be precipitated by accident. (true)
23. I would be interested in "brainstorming" possible solutions to the nuclear arms race with a small group of equally interested people. (true)
24. I think I would be a more creative Secretary of State than our present one. (true)
25. I favor a nuclear freeze now. (true)
26. Other things being equal, I would vote for the political candidate most dedicated to ending the nuclear arms race. (true)
27. Whoever made up this questionnaire is probably biased in favor of left-wing politics. (false)
28. It is more important to uphold the law than to be compassionate. (false)
29. I take an objective view of people and events and I act accordingly. (false)

Note. The scored direction of response is in parentheses after the item.

APPENDIX B

INTERNATIONALISM SCALE

INTERNATIONALISM SCALE

1. Probably members of the same profession in different countries have more in common with one another than they do with other citizens of their own country. (true)
2. The United States should look after its own national interests more, and give less of its resources to building up other countries. (false)
3. It would be a good thing if a popular international language could be established. (true)
4. No war is justifiable. (true)
5. Communism is the most hateful thing in the world today. (false)
6. I would enjoy the experience of living and working in a foreign country. (true)
7. When someone talks against certain groups or nationalities, I always speak up against such talk, even though it makes me unpopular. (true)
8. I don't understand how men in some European countries can be so demonstrative to one another. (false)
9. We might yet be saved from World War III if a real world government could be formed. (true)
10. The United Nations is a failure when it comes to keeping peace in the world. (false)
11. The richer nations should make every effort to raise the standard of living in poorer nations, by sharing of their wealth and resources if need be. (true)
12. I would vote to give up my American citizenship if world citizenship under a world government were feasible. (true)

Note. The scored direction of response is in parentheses after the item.

APPENDIX C

TRUST IN HUMAN NATURE SCALE

TRUST IN HUMAN NATURE SCALE

1. All people are somewhat evil at heart. (false)
2. Human passions cause most of the evil in this world.
(false)
3. There will always be war as long as there are men.
(false)
4. Generally speaking, the less authority, the better.
(true)
5. Human nature being what it is, there will always be war
and conflict. (false)
6. Most people are basically trustworthy. (true)

Note. The scored direction of response is in parantheses
after the item.

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