This dissertation has been microfilmed exactly as received.

RAWSON, Harve Else, 1934—
THE RELATIONSHIPS OF MORAL VALUE DIMENSIONS AND UNETHICAL BEHAVIOR UNDER VARYING CONDITIONS OF RISK.

The Ohio State University, Ph.D., 1961
Psychology, experimental

University Microfilms, Inc., Ann Arbor, Michigan
THE RELATIONSHIPS OF MORAL VALUE DIMENSIONS AND UNETHICAL BEHAVIOR UNDER VARYING CONDITIONS OF RISK

A DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

HARVE ELSE RAWSON, A.B., M.A.

The Ohio State University 1961

Approved by

[Signature]
Adviser
Department of Psychology
ACKNOWLEDGMENTS

This dissertation was conducted under the auspices of the Research Division, Columbus Psychiatric Institute and Hospital, The Ohio State University.

The author wishes to personally acknowledge those persons without whose efforts this investigation would not have been possible:

Dr. Salomon Rettig, Research Division, Columbus Psychiatric Institute and Hospital, The Ohio State University, for his continuing guidance and friendship which made this dissertation a challenging educational experience.

Dr. Robert J. Wherry, Department of Psychology, The Ohio State University, for his patience, advice, and perceptive insights.

Dr. Benjamin Pasamanick, Research Division, Columbus Psychiatric Institute and Hospital, The Ohio State University, for his continuing support and encouragement.

Miss Carol Miller, Research Division, Columbus Psychiatric Institute and Hospital, The Ohio State University, for her valuable assistance in data collection and analysis.
## CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>An Overview</td>
<td>1</td>
</tr>
<tr>
<td>Previous Investigations</td>
<td>3</td>
</tr>
<tr>
<td>The Problem</td>
<td>6</td>
</tr>
<tr>
<td>II. THE PILOT STUDY</td>
<td>8</td>
</tr>
<tr>
<td>The Tentative Hypotheses</td>
<td>10</td>
</tr>
<tr>
<td>The Experimental Procedure</td>
<td>16</td>
</tr>
<tr>
<td>The Sample</td>
<td>16</td>
</tr>
<tr>
<td>The Moral Value Dimensions</td>
<td>17</td>
</tr>
<tr>
<td>The Socioeconomic Control Variables</td>
<td>19</td>
</tr>
<tr>
<td>The Situational Risk Variables</td>
<td>20</td>
</tr>
<tr>
<td>The Criterion</td>
<td>23</td>
</tr>
<tr>
<td>Results</td>
<td>25</td>
</tr>
<tr>
<td>Prediction of the Criterion by Moral Value Dimensions</td>
<td>25</td>
</tr>
<tr>
<td>Effects of the Situational Risk Variables on Prediction</td>
<td>34</td>
</tr>
<tr>
<td>Conclusions</td>
<td>34</td>
</tr>
<tr>
<td>III. THE MAJOR STUDY</td>
<td>38</td>
</tr>
<tr>
<td>The Hypotheses</td>
<td>39</td>
</tr>
<tr>
<td>The Experimental Procedure</td>
<td>41</td>
</tr>
<tr>
<td>The Sample</td>
<td>42</td>
</tr>
<tr>
<td>The Moral Value Dimensions</td>
<td>43</td>
</tr>
<tr>
<td>The Socioeconomic Control Variables</td>
<td>43</td>
</tr>
<tr>
<td>The Situational Risk Variables</td>
<td>44</td>
</tr>
<tr>
<td>The Criterion</td>
<td>46</td>
</tr>
<tr>
<td>Results</td>
<td>46</td>
</tr>
<tr>
<td>Prediction of the Criterion by Moral Value Dimensions</td>
<td>46</td>
</tr>
<tr>
<td>Effects of the Situational Risk Variables on Prediction</td>
<td>49</td>
</tr>
<tr>
<td>Conclusions</td>
<td>49</td>
</tr>
<tr>
<td>IV. SUMMARY</td>
<td>55</td>
</tr>
</tbody>
</table>
## CONTENTS (Continued)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPENDIXES</td>
<td>62</td>
</tr>
<tr>
<td>I. The Moral Values Scale</td>
<td>63</td>
</tr>
<tr>
<td>II. Pilot Study Socioeconomic Questionnaire</td>
<td>64</td>
</tr>
<tr>
<td>III. Pilot Study &quot;Estimation of Knowledge Test&quot;</td>
<td>66</td>
</tr>
<tr>
<td>IV. Revised Socioeconomic Questionnaire</td>
<td>70</td>
</tr>
<tr>
<td>V. Revised &quot;Estimation of Knowledge Test&quot;</td>
<td>71</td>
</tr>
<tr>
<td>LIST OF REFERENCES</td>
<td>77</td>
</tr>
<tr>
<td>AUTOBIOGRAPHY</td>
<td>79</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table                                                                 Page
1. Rotated Factor Loadings: Moral Values Scale..........................27
2. Moral Values Scale Items and Weights Used for Derivation of Factor Scores...............30
3. Correlation Matrix of Moral Value Predictive Dimensions and the Criterion (Pilot Study)........................................32
4. Significance of Difference of the Criterion Correlations for the Control and Experimental Groups (Pilot Study).............33
5. Correlation Matrix of Moral Value Predictive Dimensions and the Criterion under Conditions of High Risk (Major Study).........48
6. Correlation Matrix of Moral Value Predictive Dimensions and the Criterion under Conditions of Low Risk (Major Study).........48
CHAPTER I

INTRODUCTION

An Overview

Moral codes have been in existence since the history of man. Although these systems of values concerning the "rightness" or "wrongness" of certain human behaviors vary widely from culture to culture and from century to century, it is a well-known historical fact that certain systems of values have been agreed upon by almost all groups of people and that these systems are deemed crucial for the maintenance of some sort of orderly human society. That moral value orientations affect individual human behavior in specific situations has long been postulated. The disciplines of ethics, theology, and to some degree, psychology, have long been concerned with the effects of moral values on human behavior, and, conversely, the effects of human behaviors on moral values.

What are moral values? A precise definition could be "the tendency to respond to a given stimulus or set of stimuli in a particular manner, the manner being
determined (1) by what the respondent feels is normatively approved and/or (2) by some absolute (supersocietal) authority." In more general terms, moral values are usually considered to be values, or tendencies to respond, which are concerned with the "rightness" or "wrongness" of behavior. This "rightness" and "wrongness" are usually determined by some system of societal norms or some so-called supersocietal source, such as the Holy Bible, the Koran, or other Holy Writ.

Since moral values do influence behavior it is not surprising that psychologists have long expressed an interest in them. Almost every personality theory has some mention of moral value formation and influence on behavior. Perhaps the best known is Freud's postulation of the "superego" or "conscience", but even learning theorists, such as Clark Hull, have tried to fit moral value formation into their learning theories.

Any empirical research in the area has been extremely limited, however. Few measures of moral values have been generally available, and the few that were available were used for descriptive purposes only. None of these measures have ever been validated with any type of behavioral criterion.

In general terms, it was the purpose of this study to (1) develop a measure of moral values following a
multidimensional approach; (2) develop an experimental situation where a form of unethical behavior could be measured and controlled; (3) establish validity for one orthogonal dimension of moral values, labeled exploitation-manipulation, in terms of this behavioral criterion.

Previous Investigations

Very little empirical research has been done in the area of moral values. Most of the available studies have been descriptive in nature, either measuring differences between various socioeconomic and/or demographic groups, or measuring changes in moral values as a function of age, education, income, and so forth.

In 1942 and again in 1950, Crissman(2,3) published a study measuring temporal changes and sexual difference in moral judgments which used a 50-item moral value scale. College students were asked to mark their severity of judgment for the 50 specific acts listed on a ten-point rating scale, ranging from "least wrong" to "least right." Crissman measured students in 1929, 1939, and 1949 and compared the severity of judgment over this 20 year period. He made no attempt, however, to group the items according to some classification and to evaluate the changes accordingly.

In 1958, Rettig and Pasamanick (11) measured 489
college students with the 50-item scale devised by Crissman. The mean severity of judgments was reported for the 1958 group and compared with Crissman's findings in 1929, 1939, and 1949. These same authors (12) then factor analyzed the 1958 data so that orthogonal dimensions of moral values could be ascertained. Six orthogonal dimensions were extracted and graphically rotated toward simple structure and psychological meaningfulness. The factors extracted were interpreted as follows:
factor A, a general factor, as basic morality; factor B, as religious morality; factor C, as family morality; factor D, as puritanical morality; factor E, as exploitative-manipulative morality; and Factor F, as economic morality. As the authors stated:

Comparison of the 1958 data with those obtained from college students in 1929, 1939, and 1949 by Crissman revealed a consistent increase in the overall mean severity of moral judgments from 1929 to the present. The increase in severity of moral judgment was most pronounced in the religious and economic moral factors. Basic and puritanical morality decreased in severity of judgment in relation to the other moral factors.

Commenting on Factor E (exploitative-manipulative morality), Rettig and Pasamanick concluded:

Factor E is the most obscure but perhaps the most provocative (factor). Its high negative loadings on forging checks and habitually failing to keep promises may possibly indicate a pre-delinquent type of morality, but such
conjecture is highly speculative at this point.

In 1959, Rettig and Pasamanick (13,15) studied changes of moral judgments in relation to age. The subjects comprised three groups of college alumni, drawn at random from the lists of graduates of each of the years, 1932-1933, 1942-43, and 1952-53. The Crissman moral values scale was administered to these groups and compared with the 1958-59 student data. It was reported that the moral value structure changes somewhat as a function of adult socialization among the college educated, principally in the emergence of a "corporate economic" dimension of morality.

In 1960, Rettig and Pasamanick (17,18) administered the Crissman moral values scale to blue-collar workers drawn at random from the City Directory of Columbus, Ohio. This data was factor analyzed and compared with college student and alumni data. Reported differences indicated that moral value structure varied somewhat as a function of social class.

A cross-cultural comparison of the moral value structure of Korean and American college students was investigated by these same authors (14,16) in 1959. The invariance of moral value structure across cultures was the predominant finding, although some variation on a few dimensions was observed, apparently due to cultural differences.
In all of the studies concerned with moral value structure, an orthogonal dimension of exploitative-manipulative morality emerged, indicating that these types of moral judgments are not limited to certain cultures, socioeconomic conditions, level of education, or age.

It should be noted that all previous investigations in the area of moral values have been descriptive in nature. A search of the literature revealed no dimensional studies done under experimental (control) situations.

The Problem

The establishment of validity for any measurement of values has rarely been attempted. A dimensional approach to the measurement of values offered unique possibilities in this field in that certain areas of moral values could be validated separately.

The dimension of exploitative-manipulative morality which was extracted from the total structure of moral values was of primary interest to the investigator. This dimension, measuring the rightness or wrongness of exploiting or manipulating other people for one's own gain, was of primary concern when we live in a capitalistic competitive society. It was felt that perhaps the actual behavioral expression of this value orientation
could be best measured under conditions of risk, i.e., the individual would have to risk a personal loss to obtain a personal gain. This risk hypothesis was construed as best representing conditions in real life, where it seems most people, in exploiting or manipulating others to their advantage, do so at the risk of having the project fail, incurring a certain amount of guilt, or having these other people turn against them and consequently suffering certain disadvantages.

The problem, then, was to (1) try to measure the individual's value orientation toward exploitative-manipulative acts; (2) attempt to measure some actual behavioral criterion of exploitation-manipulation; and (3) to find if there was a significant relationship between the measured exploitative-manipulative value structure and the actual exploitative-manipulative criterial behavior.

In addition, the effects of socioeconomic variables on this predictor-criterion relationship and the relationships of the other moral value dimensions with this type of criterion would have to be explored if any possible theoretical system concerning exploitative-manipulative behavior was to be studied.
CHAPTER II

THE PILOT STUDY

A pilot study was conducted in the spring of 1960 to ascertain what predictor and criterion development was necessary to study the relationship of moral value structure to some simulated situations involving the unethical behavior of the people involved in the situation. Although the pilot study was exploratory in nature, certain tentative hypotheses were postulated and a research design was formulated.

The pilot study design selected, since it was exploratory, involved many different measures which could hopefully be used as predictors and a simulated situation where some sample measure of unethical behavior could be observed and recorded.

Since it is generally assumed that unethical behavior, by its very definition, is socially disapproved, and since ethical behavior is normatively defined in our culture (disregarding the causes or roots of these norms), it was felt that the emergence of measurable unethical behavior would only occur under conditions of personalized
gain for the individual. But since conditions in everyday life are rarely, if ever set up where the person has a situation for personalized gain without the situation also involving the risk of incurring personalized losses, it was felt that certain moral value dimensions would predict unethical behavior only under these conditions of personalized gain or loss and, conversely, would not predict under conditions of no personalized gain or loss. Hence, the study was designed to include conditions of risk and no risk.

Two groups were included in the study. The first group was placed under conditions of risk, i.e., conditions where the person involved was exposed to high personal gain opportunities, but to exploit these gain opportunities would involve the risk of incurring a degree of personal loss instead. This group is hereafter referred to as the "high risk group." The second group was placed under conditions of no risk, i.e., conditions where the person involved was not exposed to any conditions involving personal gain or loss. This group is hereafter referred to as the "low risk group." Thus, in terms of the research design, the first group would be the "experimental group" while the second group would be the "control group."
The Tentative Hypotheses

Since the study was exploratory in nature, some fairly general tentative hypotheses were postulated. One group of hypotheses, considered basic in the study, were concerned with the differences in prediction of unethical behavior under the conditions of "high" and "low" risk, using dimensions of moral value structure as predictors. Another group of hypotheses, considered secondary in the study, were concerned with the amount of variance of unethical behavior under conditions of risk which could be explained by moral value dimensions.

Since it was felt that factor E, or exploitative-manipulative moral values, would be the major discriminating moral value dimension, the primary hypothesis for the study was formulated around this dimension.

The three major tentative hypotheses, stated in the null form were:

1. The factor scores for factor E would not have a negative correlation with the measure of unethical behavior observed under conditions of risk significant at the .05 level of confidence.

2. The factor scores for factor E would have a positive correlation with the measure of unethical behavior observed under conditions of low risk significant at
The difference between the correlations of factor E scores with the measure of unethical behavior observed under conditions of high risk and low risk would not be significantly different at the .05 level of confidence.

These tentative hypotheses were based on an interpretation of the dimensional content and the way in which this content would probably be expressed behaviorally in our culture. Hence, factor E (Exploitative-Manipulative morality), defining a cluster of judgmental responses concerning the rightness or wrongness of exploiting and manipulating others for one's personal gain, would probably correlated negatively with the sample of unethical behavior since a high factor E score reflected that to exploit and manipulate others was wrong. Since the criterion task was set up so that the subject could manipulate the teacher and, in effect, exploit the other students (at least indirectly), the hypothesis concerning factor E's relationship with the criterion seemed well founded.

Similarly, it was felt that since the situation set up in the "low risk" group involved no personalized gains or losses, factor E would probably not correlate with the criterion in this group. Finally, to demonstrate that
the prediction of unethical behavior by means of exploitative-manipulative dimensional responses could only be accomplished in situations involving personalized gain opportunities with concurrent risk situations of loss, the final hypothesis was formulated.

Additional hypotheses were formulated for other moral value dimensions' relationships with the observed unethical behavior, but only under conditions of personalized gain or loss (the high risk group). These hypotheses are stated here in the null form:

1. Factor A, General Morality, would not correlate significantly in a negative direction with unethical behavior as observed under conditions of risk at the .10 level of confidence.

2. Factor B, Religious Morality, would not correlate significantly in a negative direction with unethical behavior as observed under conditions of risk at the .10 level of confidence.

3. Factor C, Family Morality, would not correlate significantly in a negative direction with unethical behavior as observed under conditions of risk at the .10 level of confidence.

4. Factor D, Puritanical Morality, would not correlate significantly in a negative direction with unethical behavior as observed under conditions of risk.
at the \( .10 \) level of confidence.

5. Factor F, Economic Morality, would not correlate significantly in a negative direction with unethical behavior as observed under conditions of risk at the \( .10 \) level of confidence.

Since Factor A represents a dimension of a generalized concept of moral behavior, and since the higher the derived factor score, the more condemnatory of unethical behavior, it would appear that Factor A scores would have a negative correlation with the criterion task, although there is really little reason why this correlation should necessarily explain any sizable proportion of the criterion variance due to its extremely generalized content. Hence the significance level was set with a \( p \) value of \( .10 \).

Factor B (Religious Morality), representing a dimension of rightness or wrongness concerning a supersocietal ethical system which transcends any personal empirically derived ethical system, is socially defined. This normative ethical system should correlate negatively with the criterion task, since the derived factor scores were arranged so that the higher the score, the more wrong it is to not behave in the fashion prescribed by this supersocietal ethical system. Again, since this dimension is so general in content, one does not expect its measure to explain any sizeable proportion
of the criterion variance, and the significance level was set with a p value of .10.

Factor C (Family Morality) represented a dimension of responses concerning the rightness or wrongness of actions of the family toward others or the actions of others toward the family. The higher the individual's factor score on this dimension, the more wrong were certain potential behaviors of their family. It was felt that perhaps this condemnation of certain potential family behaviors might reflect a strong commitment toward the family as a social unit. This commitment might tend to make a person more prone to unethical behavior in the criterion task, since he feels he must do well to meet his family's level of aspiration which, in most cases, would be that of the successful student. This, of course, would only be true if the student felt reasonably assured that he could gain as a student in the situation without incurring the risk of losing, e.g., getting caught and disgracing the family by being a poor student. Since the criterion task was in a group setting, lending a certain amount of social facilitation for his activities, it was felt that Factor C should have a negative correlation with the criterion. The significance level was set with a p value of .10.

Factor D (Puritanical Morality) reflects a person's
concern with the rightness or wrongness of behaviors which are considered desirable by many people in the society but which do not affect anyone in the society except the person originating the behavior. It was though that the derived factor scores would correlate negatively with the criterion task, since a person rigidly bound by these somewhat self-imposed standards of rightness would tend to be less prone to behave in an unethical fashion. Since the higher the factor score, the more the self-imposed righteousness, the correlation was hypothesized as negative in direction, with the significance level set with a p value of .10.

All other measures in the pilot study design were included strictly on an exploratory basis. The inclusion of the socioeconomic measures were included as control variables rather than predictive variables (see Appendix VI). Hence, the contamination of the relationship between the predictive variables and the criterion variable caused by the student's placement in the various socioeconomic classifications could be identified and controlled. A hypothesis for control, although unorthodox, could be tentatively postulated, however. Such a hypothesis would be stated in the null form: the socioeconomic variables would not contaminate the relationship between the predictor variables and the criterion variable.
The Experimental Procedure

Four classes of an introductory psychology course were used in the experiment. Two of these classes were designated as the experimental group, while the other two classes were designated as the control group. Both the experimental and control groups were administered a three-day testing program. The experiment was designed so that the conditions of risk were high in the experimental group, i.e., the personalized gain opportunities were high, but to gain one must also take certain risks. In the control group, the conditions were such that the subjects had little opportunity for personalized gain with no risk of losing. At the end of the three-day schedule, all classes were informed of the true nature of the experiment.

The Sample

Students who had been enrolled in four classes of introductory psychology for about six weeks at The Ohio State University were used in the pilot study. Each class had around 40 to 45 students. Two of the classes were held at 10 A.M. and the other two at 12 A.M. Two instructors taught the four classes and were considered to be equal in teaching ability, academic background, and theoretical
orientation. The instructors felt there were no important differences among their classes in terms of scholastic aptitude, achievement, age, or year in school. The ages ranged from seventeen to twenty-six, with a median age of nineteen. Most students were in their second, third, or fourth year. Introductory psychology can fulfill a social science curriculum requirement in the College of Education and the College of Arts and Sciences. Consequently, the student enrollment in this course was not representative of all college students. Since the experimental procedure took place on three consecutive days, only those students who were present all three days could be used. This reduced the total sample by about one-half. Of these, only those students who overestimated their mastery of the subject matter were used. This further reduced the remaining sample by one-third. Thus, 46 students were used in the analysis of data.

The Moral Value Dimensions

The Moral Values Scale and a socioeconomic questionnaire were administered on the first day of the experimental schedule (See Appendixes I and II for copies of these measures) to both the experimental and control groups.
In the experimental group, the instructor introduced the investigator as a researcher from the Columbus Psychiatric Institute and Hospital who was engaged in a long-range project in the study of opinions of college students. The instructor then explained that this type of information had been collected annually on students at The Ohio State University since 1958 and that their class had been selected at random along with many other classes from other departments to participate in the study this year. The instructor added that he would not see the data at any time and that it was strictly confidential. The investigator then distributed the Moral Values Scale and socioeconomic questionnaires, answered any questions concerning the format of the measures and collected the scales and questionnaires as students finished. He then thanked the class for their cooperation in the study and left. The instructor then began with his regular lecture since the administration of these measures took only ten minutes.

In the control group, the same procedure was followed but with one alteration. The instructor gave exactly the same explanations, but the investigator did not participate. Again, every assurance was given by the instructor that their performance on these measures had nothing to do with their grades, that he would not see the data, and that it was strictly confidential. Since the scales were
not collected by the investigator but by the instructor, additional assurances were given that he would not look at their responses and would turn the information over to the sponsoring agency at the end of the class session. As added assurance, the scales were placed in a large envelope and sealed immediately after the collection of the data.

The Socioeconomic Control Variables

A socioeconomic questionnaire was also administered to the risk and control groups which was attached to the Moral Values Scale. This questionnaire (See Appendix II), marked "strictly confidential," asked the subjects their sex, year in school, curriculum choice, socialization residence, religious preference, church attendance, race, marital status, number of children, and parent's gross annual income.

This information was collected for control purposes. Since a subject's moral value structure could be influenced by inclusion in any of these socioeconomic classifications, it was felt that some sort of statistical control for these variables would be necessary if the relationship between moral value structure and the criterion was to be ascertained without merely measuring the relationship between composites or patterns of socioeconomic classification membership and the criterion.
The socioeconomic variables were thus collected as potential control variables. Since the socioeconomic questionnaires were attached to the Moral Values Scale, the subjects though it was part of the data collected with the Moral Values Scales on all occasions. Therefore, no special mention of this scale was made in the instructions.

**The Situational Risk Variables**

The experimental situation in effect measured performance under two situational conditions of risk. On the second day of the experimental schedule, in one group a situation was set up involving high risks; in the other group, the situation set up involved few, if any risks.

In the risk group, the instructor announced that he was going to try something new for the midterm examination. (The experiment was schedule to coincide with the period in the course usually associated with midterm examinations.) Instead of actually marking the right answer in a multiple-choice examination, he asked the class to mark a five-point scale of how certain they were of the right answer for each question. Thus, questions were listed along with four possible answers. Instead of marking the right answer, the student was asked to mark how certain he was of the right answer on a five-
point scale from "Don't Know" to "Certain" (Appendix III). The instructor then explained that he felt this type of information would be more valuable for him in that he could detect the weak areas of the students which would require review as well as detect the strong areas which could be skipped over in the future class sessions. He added, however, that their performance on this test would probably be used as their midterm test grade. The test was then administered to both classes designated as the "high risk group."

In the control group, the instructor announced that a representative of the McGraw-Hill Book Company would like to conduct a small project with the class. He then introduced the experimenter, who was the pseudo-representative of the book company. The control group had never seen the experimenter before. The experimenter then explained that his company was planning a new textbook in introductory psychology and that this class had been chosen at random, along with many other introductory psychology classes all over the country, to participate in a survey measuring the areas that students seemed to have most trouble with, as well as areas students seemed to master easily. It was explained how this information would be useful in the construction of an introductory textbook, and how this information was
collected on many psychology classes about six weeks after the course had started. The experimenter continued that to obtain the type of information the company needed, the students would not be asked to mark the right answer even though one of the four choices listed for each question would be correct. Instead, the student was asked to mark how certain he was of the right answer on the five-point scale to the right of each question. Every assurance was given to the students that this project had nothing to do with their grades in any fashion and that their instructor or anyone else in the department would never see any of the results. The same test which was administered to the experimental group was then given to the control group by the experimenter, collected, conspicuously sealed in a large envelope and the experimenter left. The instructor then began his regular lecture and discussed plans for the regular midterm examination.

Thus, in the experimental group, a situation was arranged where each student would have an opportunity to overestimate his amount of knowledge in return for the personalized gain of a higher midterm grade, but at the same time he would be incurring the risk of getting caught if an actual test of knowledge was to be given at some later date or if the instructor was to closely
question him in future classroom discussions. In the control group, any overestimation of knowledge would not personally benefit the student in any way. The situation was one in which there were no personalized gain or loss opportunities available.

The Criterion

On the third day of the experimental schedule, the certainty of knowledge test was again administered, except the subjects were asked to mark the correct answer instead of mark the certainty scale for each question.

In the experimental group, the instructor told the class that after looking over the results of the test given the day before, he felt he could not use their responses as a midterm grade. Therefore, he was going to ask them to take the same test again, but this time mark the correct answer. Again he informed them that their results on this test would constitute their midterm examination grade.

In the control group, the instructor again introduced the examiner as a representative of the McGraw-Hill Book Company. The examiner then explained to the class that the project he was conducting was actually twofold: (1) the company wanted to know what areas of psychology students felt most competent in; and (2) the company
also was interest in what areas of psychology students actually had the correct information committed to memory. Therefore, they were to take the same test, but this time marking the correct answer rather than marking the certainty scale. The students were again assured that their instructor would not see the results and that this test would in no way affect their grades in the course. The test was then administered by the experimenter, and after completion, collected and sealed in a large envelope before leaving the classroom.

The criterion used was a sample of unethical behavior which could be elicited in the academic setting, i.e., overestimation of knowledge. This experimenter felt this was a form of cheating behavior, except overestimation of knowledge was probably more appropriate to the academic situation in that is commonly takes place, and it was a form of actual exploitative-manipulative behavior. A student who severely overestimates his knowledge is manipulating the instructor into a position of favorable appraisal, and is exploiting the more honest student in that he would get a higher grade for, presumably, the same (or less) amount of study.

Therefore the difference between the estimated amount of knowledge and the actual amount of knowledge
was used as the criterion. Thus the student's actual amount of knowledge was controlled in the overestimation score. The certainty scale ranged from 1 ("Don't Know") to 5 ("Certain"). Each person was then given a total certainty score for the entire test given on the second day of the experiment. An actual knowledge score was then computed for each person by taking the sum of the correct answers on the test given the third day and multiplying by 5 and adding to this the sum of the wrong answers multiplied by 1 in order to correct for the 1 to 5 range of the certainty scale. Each person thus had an estimated knowledge score ranging from 20 to 100 and an actual knowledge score ranging from 20 to 100. This latter score subtracted from the former score yielded a score of "overestimation" for each person in both the control and experimental groups which constituted a criterion theoretically ranging from -30 to 80.

Results

The Prediction of the Criterion by Moral Value Dimensions

In 1958, 489 students in introductory sociology and psychology courses were administered the Moral Values Scale. In order to isolate the dimensionality of moral values, as sampled by this scale, a principal-axes
factor analysis (19, 20) was made of the responses on the IBM 704 electronic computer. This factor analysis yielded six orthogonal factors which were then rotated graphically toward psychological meaningfulness and simple structure. The rotated factors (Table 1) were then labeled according to the loading patterns on the dimensions. It was these dimensions of student moral values which were treated as potential predictor variables, as differentiated from using responses to given items per se as predictor variables.

In order to methodologically bridge the gap between factor analysis as a descriptive technique of data organization to an inferential technique of organizing and reducing the data into a system of meaningful dimensional predictive variables, a multiple correlational technique was developed. The rotated factor loadings of each dimension were treated as predictor-criterion correlations, of which the factor loadings are a "best estimate" and the intercorrelation matrix of the items was treated as the matrix of predictor-predictor correlations. The Wherry Test Selection Method (6) of multiple regression was then performed on each dimension to yield weighted selected items which would best predict the dimension for an individual and thus yield an individual factor score. In addition, these weighted item values were normalized.
<table>
<thead>
<tr>
<th>Item</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.08</td>
<td>.02</td>
<td>-26</td>
<td>48</td>
<td>-26</td>
<td>01</td>
<td>.4038</td>
</tr>
<tr>
<td>2</td>
<td>.37</td>
<td>-09</td>
<td>35</td>
<td>16</td>
<td>-06</td>
<td>46</td>
<td>.5519</td>
</tr>
<tr>
<td>3</td>
<td>.43</td>
<td>.29</td>
<td>-09</td>
<td>52</td>
<td>10</td>
<td>-05</td>
<td>.6210</td>
</tr>
<tr>
<td>4</td>
<td>.60</td>
<td>-22</td>
<td>23</td>
<td>-03</td>
<td>00</td>
<td>35</td>
<td>.5849</td>
</tr>
<tr>
<td>5</td>
<td>.58</td>
<td>.29</td>
<td>10</td>
<td>-23</td>
<td>-22</td>
<td>04</td>
<td>.5674</td>
</tr>
<tr>
<td>6</td>
<td>.29</td>
<td>05</td>
<td>00</td>
<td>-09</td>
<td>32</td>
<td>.4038</td>
<td>.6472</td>
</tr>
<tr>
<td>7</td>
<td>.44</td>
<td>-30</td>
<td>28</td>
<td>07</td>
<td>-03</td>
<td>09</td>
<td>.4855</td>
</tr>
<tr>
<td>8</td>
<td>.26</td>
<td>-06</td>
<td>42</td>
<td>36</td>
<td>00</td>
<td>-20</td>
<td>.4512</td>
</tr>
<tr>
<td>9</td>
<td>.47</td>
<td>-12</td>
<td>35</td>
<td>-04</td>
<td>00</td>
<td>-17</td>
<td>.5647</td>
</tr>
<tr>
<td>10</td>
<td>.60</td>
<td>-05</td>
<td>32</td>
<td>04</td>
<td>06</td>
<td>25</td>
<td>.5407</td>
</tr>
<tr>
<td>11</td>
<td>.37</td>
<td>-02</td>
<td>-18</td>
<td>25</td>
<td>-50</td>
<td>09</td>
<td>.5056</td>
</tr>
<tr>
<td>12</td>
<td>.53</td>
<td>-12</td>
<td>10</td>
<td>06</td>
<td>08</td>
<td>-21</td>
<td>.4654</td>
</tr>
<tr>
<td>13</td>
<td>.17</td>
<td>00</td>
<td>03</td>
<td>35</td>
<td>-06</td>
<td>03</td>
<td>.5221</td>
</tr>
<tr>
<td>14</td>
<td>.55</td>
<td>-13</td>
<td>-06</td>
<td>12</td>
<td>-23</td>
<td>-17</td>
<td>.4226</td>
</tr>
<tr>
<td>15</td>
<td>.64</td>
<td>-05</td>
<td>20</td>
<td>37</td>
<td>-11</td>
<td>07</td>
<td>.6124</td>
</tr>
<tr>
<td>16</td>
<td>.50</td>
<td>-16</td>
<td>00</td>
<td>-09</td>
<td>30</td>
<td>13</td>
<td>.5995</td>
</tr>
<tr>
<td>17</td>
<td>.68</td>
<td>-08</td>
<td>-09</td>
<td>10</td>
<td>02</td>
<td>02</td>
<td>.4902</td>
</tr>
<tr>
<td>18</td>
<td>.61</td>
<td>-08</td>
<td>12</td>
<td>-39</td>
<td>04</td>
<td>-07</td>
<td>.5621</td>
</tr>
<tr>
<td>19</td>
<td>.65</td>
<td>-12</td>
<td>16</td>
<td>-01</td>
<td>18</td>
<td>31</td>
<td>.6041</td>
</tr>
<tr>
<td>20</td>
<td>.57</td>
<td>-17</td>
<td>-14</td>
<td>-20</td>
<td>-19</td>
<td>-19</td>
<td>.5410</td>
</tr>
<tr>
<td>22</td>
<td>.51</td>
<td>-04</td>
<td>02</td>
<td>-09</td>
<td>-18</td>
<td>-31</td>
<td>.4727</td>
</tr>
<tr>
<td>23</td>
<td>.62</td>
<td>-24</td>
<td>-18</td>
<td>13</td>
<td>-16</td>
<td>-16</td>
<td>.5875</td>
</tr>
<tr>
<td>24</td>
<td>.75</td>
<td>-19</td>
<td>-01</td>
<td>-05</td>
<td>13</td>
<td>-03</td>
<td>.6719</td>
</tr>
<tr>
<td>25</td>
<td>.65</td>
<td>-34</td>
<td>-15</td>
<td>-15</td>
<td>-24</td>
<td>-06</td>
<td>.6448</td>
</tr>
<tr>
<td>26</td>
<td>.69</td>
<td>-10</td>
<td>-18</td>
<td>04</td>
<td>12</td>
<td>-03</td>
<td>.5933</td>
</tr>
<tr>
<td>27</td>
<td>.75</td>
<td>-13</td>
<td>-03</td>
<td>-01</td>
<td>15</td>
<td>-05</td>
<td>.6587</td>
</tr>
<tr>
<td>28</td>
<td>.60</td>
<td>-02</td>
<td>11</td>
<td>-04</td>
<td>28</td>
<td>23</td>
<td>.5054</td>
</tr>
<tr>
<td>29</td>
<td>.72</td>
<td>-04</td>
<td>-09</td>
<td>04</td>
<td>08</td>
<td>-22</td>
<td>.5854</td>
</tr>
<tr>
<td>30</td>
<td>.72</td>
<td>13</td>
<td>-09</td>
<td>23</td>
<td>18</td>
<td>-01</td>
<td>.6325</td>
</tr>
<tr>
<td>31</td>
<td>.67</td>
<td>-07</td>
<td>-35</td>
<td>35</td>
<td>-06</td>
<td>03</td>
<td>.7038</td>
</tr>
<tr>
<td>32</td>
<td>.12</td>
<td>41</td>
<td>51</td>
<td>12</td>
<td>14</td>
<td>-36</td>
<td>.6606</td>
</tr>
<tr>
<td>33</td>
<td>22</td>
<td>48</td>
<td>44</td>
<td>12</td>
<td>-20</td>
<td>-25</td>
<td>.6041</td>
</tr>
<tr>
<td>34</td>
<td>74</td>
<td>-16</td>
<td>-03</td>
<td>01</td>
<td>21</td>
<td>-07</td>
<td>.6662</td>
</tr>
<tr>
<td>35</td>
<td>50</td>
<td>-23</td>
<td>-20</td>
<td>-01</td>
<td>-18</td>
<td>-23</td>
<td>.5059</td>
</tr>
<tr>
<td>36</td>
<td>35</td>
<td>55</td>
<td>06</td>
<td>-02</td>
<td>04</td>
<td>09</td>
<td>.4540</td>
</tr>
<tr>
<td>37</td>
<td>67</td>
<td>-22</td>
<td>-09</td>
<td>-10</td>
<td>-26</td>
<td>07</td>
<td>.6192</td>
</tr>
<tr>
<td>38</td>
<td>62</td>
<td>-05</td>
<td>-09</td>
<td>-43</td>
<td>-13</td>
<td>01</td>
<td>.6226</td>
</tr>
<tr>
<td>39</td>
<td>59</td>
<td>48</td>
<td>05</td>
<td>-04</td>
<td>-25</td>
<td>-08</td>
<td>.6700</td>
</tr>
<tr>
<td>40</td>
<td>32</td>
<td>12</td>
<td>-08</td>
<td>-19</td>
<td>-11</td>
<td>29</td>
<td>.4301</td>
</tr>
<tr>
<td>Item</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>$h^2$</td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>-------</td>
</tr>
<tr>
<td>41</td>
<td>59</td>
<td>-17</td>
<td>03</td>
<td>-09</td>
<td>14</td>
<td>08</td>
<td>.4133</td>
</tr>
<tr>
<td>42</td>
<td>72</td>
<td>-20</td>
<td>-02</td>
<td>-02</td>
<td>12</td>
<td>-01</td>
<td>.5810</td>
</tr>
<tr>
<td>43</td>
<td>77</td>
<td>-06</td>
<td>02</td>
<td>-04</td>
<td>23</td>
<td>00</td>
<td>.6735</td>
</tr>
<tr>
<td>44</td>
<td>64</td>
<td>09</td>
<td>00</td>
<td>-16</td>
<td>28</td>
<td>04</td>
<td>.5267</td>
</tr>
<tr>
<td>45</td>
<td>66</td>
<td>02</td>
<td>07</td>
<td>08</td>
<td>32</td>
<td>13</td>
<td>.5887</td>
</tr>
<tr>
<td>46</td>
<td>29</td>
<td>-19</td>
<td>08</td>
<td>04</td>
<td>35</td>
<td>-07</td>
<td>.5201</td>
</tr>
<tr>
<td>47</td>
<td>64</td>
<td>00</td>
<td>07</td>
<td>-21</td>
<td>15</td>
<td>00</td>
<td>.4984</td>
</tr>
<tr>
<td>48</td>
<td>45</td>
<td>26</td>
<td>-14</td>
<td>06</td>
<td>28</td>
<td>-01</td>
<td>.4016</td>
</tr>
<tr>
<td>49</td>
<td>39</td>
<td>59</td>
<td>-04</td>
<td>-03</td>
<td>-14</td>
<td>25</td>
<td>.5937</td>
</tr>
<tr>
<td>50</td>
<td>33</td>
<td>36</td>
<td>-01</td>
<td>-04</td>
<td>-20</td>
<td>10</td>
<td>.3783</td>
</tr>
<tr>
<td>$E_a^2$</td>
<td>.3066</td>
<td>.0509</td>
<td>.0347</td>
<td>.0389</td>
<td>.0422</td>
<td>.0289</td>
<td>(.5506)</td>
</tr>
</tbody>
</table>
by a conversion to McCall's T-scores so that each person would, for each dimension, receive a comparative factor score with a group mean of 50 and standard deviation of 10.

This procedure yielded weighted selected items which maximally accounted for the variance of each orthogonal dimension. The selected items, the b weights, and the amount of dimensional variance explained by each factor are presented in Table 2.

The orthogonally derived dimensional factor scores were then correlated with the criterion for both the control and experimental groups. The factor scores were correlated with the other factor scores by using the total sample, since this increased the sample size considerably and since the factor score intercorrelations were found not to vary appreciably between the two groups. The resulting matrix is shown in Table 3.

In the experimental group, Factors E and F significantly predicted the criterion at the .05 level of confidence. In the control group, Factors B and C significantly predicted the criterion at the .05 and .01 level of confidence respectively. As was to be expected, the orthogonally derived scores did not intercorrelate significantly.
<table>
<thead>
<tr>
<th>Selected Items</th>
<th>Beta Weights</th>
<th>T-Score Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A (General)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>.23</td>
<td>1.16</td>
</tr>
<tr>
<td>37</td>
<td>.15</td>
<td>.57</td>
</tr>
<tr>
<td>29</td>
<td>.18</td>
<td>.81</td>
</tr>
<tr>
<td>19</td>
<td>.19</td>
<td>1.26</td>
</tr>
<tr>
<td>27</td>
<td>.21</td>
<td>.89</td>
</tr>
<tr>
<td>25</td>
<td>.20</td>
<td>.75</td>
</tr>
<tr>
<td>17</td>
<td>.16</td>
<td>.72</td>
</tr>
<tr>
<td>Amount of Dimensional Variance Explained - 90.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor B (Religious)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>.55</td>
<td>1.75</td>
</tr>
<tr>
<td>24</td>
<td>-.39</td>
<td>-1.69</td>
</tr>
<tr>
<td>49</td>
<td>.37</td>
<td>1.05</td>
</tr>
<tr>
<td>35</td>
<td>-.55</td>
<td>-2.11</td>
</tr>
<tr>
<td>20</td>
<td>.42</td>
<td>1.76</td>
</tr>
<tr>
<td>33</td>
<td>.28</td>
<td>.98</td>
</tr>
<tr>
<td>Amount of Dimensional Variance Explained - 96.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor C (Family)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>.30</td>
<td>1.07</td>
</tr>
<tr>
<td>31</td>
<td>-.39</td>
<td>-1.39</td>
</tr>
<tr>
<td>2</td>
<td>.20</td>
<td>1.79</td>
</tr>
<tr>
<td>8</td>
<td>.25</td>
<td>.82</td>
</tr>
<tr>
<td>9</td>
<td>.23</td>
<td>1.07</td>
</tr>
<tr>
<td>7</td>
<td>.21</td>
<td>.98</td>
</tr>
<tr>
<td>20</td>
<td>-.15</td>
<td>-.63</td>
</tr>
<tr>
<td>33</td>
<td>.21</td>
<td>.74</td>
</tr>
<tr>
<td>1</td>
<td>-.16</td>
<td>-.73</td>
</tr>
<tr>
<td>10</td>
<td>.16</td>
<td>.96</td>
</tr>
<tr>
<td>26</td>
<td>-.18</td>
<td>-.68</td>
</tr>
<tr>
<td>4</td>
<td>.16</td>
<td>.92</td>
</tr>
<tr>
<td>21</td>
<td>-.15</td>
<td>-.60</td>
</tr>
<tr>
<td>Amount of Dimensional Variance Explained - 91.6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 2 (Continued)

<table>
<thead>
<tr>
<th>Selected Items</th>
<th>Beta Weights</th>
<th>T-Score Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor D</strong> (Puritanical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>.58</td>
<td>2.06</td>
</tr>
<tr>
<td>18</td>
<td>-.11</td>
<td>.58</td>
</tr>
<tr>
<td>44</td>
<td>-.26</td>
<td>-1.38</td>
</tr>
<tr>
<td>13</td>
<td>.18</td>
<td>.62</td>
</tr>
<tr>
<td>19</td>
<td>-.26</td>
<td>-1.72</td>
</tr>
<tr>
<td>23</td>
<td>.27</td>
<td>1.07</td>
</tr>
<tr>
<td>11</td>
<td>.22</td>
<td>1.02</td>
</tr>
<tr>
<td>47</td>
<td>-.26</td>
<td>1.21</td>
</tr>
<tr>
<td>37</td>
<td>-.18</td>
<td>-.69</td>
</tr>
<tr>
<td>35</td>
<td>-.19</td>
<td>-.73</td>
</tr>
<tr>
<td>1</td>
<td>.16</td>
<td>.73</td>
</tr>
<tr>
<td>7</td>
<td>-.11</td>
<td>-.51</td>
</tr>
<tr>
<td>5</td>
<td>-.12</td>
<td>-.52</td>
</tr>
<tr>
<td><strong>Amount of Dimensional Variance Explained</strong></td>
<td>73.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Factor E</strong> (Exploitative-Manipulative)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-.39</td>
<td>-1.47</td>
</tr>
<tr>
<td>45</td>
<td>.20</td>
<td>1.16</td>
</tr>
<tr>
<td>11</td>
<td>-.37</td>
<td>-1.53</td>
</tr>
<tr>
<td>46</td>
<td>.20</td>
<td>.84</td>
</tr>
<tr>
<td>16</td>
<td>.29</td>
<td>1.46</td>
</tr>
<tr>
<td>5</td>
<td>-.29</td>
<td>-1.20</td>
</tr>
<tr>
<td>26</td>
<td>.32</td>
<td>1.33</td>
</tr>
<tr>
<td>37</td>
<td>-.38</td>
<td>-1.46</td>
</tr>
<tr>
<td>44</td>
<td>.28</td>
<td>1.48</td>
</tr>
<tr>
<td><strong>Amount of Dimensional Variance Explained</strong></td>
<td>91.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Factor F</strong> (Economic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.37</td>
<td>3.30</td>
</tr>
<tr>
<td>32</td>
<td>-.37</td>
<td>-1.32</td>
</tr>
<tr>
<td>22</td>
<td>-.28</td>
<td>-1.13</td>
</tr>
<tr>
<td>49</td>
<td>.29</td>
<td>.83</td>
</tr>
<tr>
<td>35</td>
<td>-.22</td>
<td>-.85</td>
</tr>
<tr>
<td>19</td>
<td>.21</td>
<td>1.39</td>
</tr>
<tr>
<td>12</td>
<td>-.20</td>
<td>-.90</td>
</tr>
<tr>
<td>40</td>
<td>.19</td>
<td>.63</td>
</tr>
<tr>
<td>21</td>
<td>-.19</td>
<td>-.75</td>
</tr>
<tr>
<td>4</td>
<td>.18</td>
<td>1.04</td>
</tr>
<tr>
<td><strong>Amount of Dimensional Variance Explained</strong></td>
<td>77.0%</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 3
CORRELATION MATRIX OF MORAL VALUE PREDICTIVE DIMENSIONS AND THE CRITERION

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>CRITERION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>---</td>
<td>.17</td>
<td>.01</td>
<td>.02</td>
<td>.03</td>
<td>.28</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Group</td>
</tr>
<tr>
<td>Factor B</td>
<td>.17</td>
<td>---</td>
<td>.04</td>
<td>.19</td>
<td>.06</td>
<td>.27</td>
<td>.38*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.17</td>
</tr>
<tr>
<td>Factor C</td>
<td>.01</td>
<td>.04</td>
<td>---</td>
<td>.14</td>
<td>.09</td>
<td>.23</td>
<td>-.47**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.12</td>
</tr>
<tr>
<td>Factor D</td>
<td>.02</td>
<td>.19</td>
<td>.14</td>
<td>---</td>
<td>.20</td>
<td>.16</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.34</td>
</tr>
<tr>
<td>Factor E</td>
<td>.03</td>
<td>.06</td>
<td>.09</td>
<td>.20</td>
<td>---</td>
<td>.22</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.35*</td>
</tr>
<tr>
<td>Factor F</td>
<td>-.23</td>
<td>-.27</td>
<td>-.23</td>
<td>.16</td>
<td>.22</td>
<td>---</td>
<td>-.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.40*</td>
</tr>
</tbody>
</table>

* Indicates significance at the .05 level of confidence (one-tail).

** Indicates significance at the .01 level of confidence (one-tail).
### TABLE 4

**SIGNIFICANCE OF DIFFERENCE OF THE CRITERION CORRELATIONS FOR THE CONTROL AND EXPERIMENTAL GROUPS**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Difference (zr)</th>
<th>sqdiff.</th>
<th>z</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>.36</td>
<td>.32</td>
<td>1.13</td>
<td>n.s.</td>
</tr>
<tr>
<td>Factor B</td>
<td>.22</td>
<td>.32</td>
<td>.69</td>
<td>n.s.</td>
</tr>
<tr>
<td>Factor C</td>
<td>.60</td>
<td>.32</td>
<td>1.88</td>
<td>.030</td>
</tr>
<tr>
<td>Factor D</td>
<td>.08</td>
<td>.32</td>
<td>.25</td>
<td>n.s.</td>
</tr>
<tr>
<td>Factor E</td>
<td>.51</td>
<td>.32</td>
<td>1.59</td>
<td>.055</td>
</tr>
<tr>
<td>Factor F</td>
<td>.39</td>
<td>.32</td>
<td>1.22</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

*One-tail test since directionality was hypothesized*
The Effect of the Situational Risk Variables on Prediction

In order to ascertain the effects of the risk situations on prediction the significance of difference between the criterion correlations for the experimental and control groups was determined following a procedure suggested by R. A. Fisher (21). Since the pilot study was considered exploratory, the level of confidence was set at .10. Comparisons of the criterion correlations for each dimension are reported in Table 4.

As can be seen in Table 4, only Factors C (Family) and E (Exploitative-Manipulative) had a significant difference in the criterion correlations for the experimental and control groups.

Conclusions

Three major null hypotheses were refuted at the .05 level of confidence. The study demonstrated that

1. the factor scores for Factor E correlated negatively with the criterion under conditions of personalized risk. This correlation was significant at the .05 level of confidence.

2. the factor scores for Factor E did not correlated significantly with the criterion under conditions of no personalized risk.
3. the difference between the correlations of the Factor E scores and the criterion under conditions of personalized risk and no personalized risk was significant at the .055 level of confidence.

The first two findings clearly refuted the null hypotheses that "the factor scores for Factor E would not have a negative correlation with the measure of unethical behavior observed under conditions of risk significant at the .05 level of confidence" and "the factor score for Factor E would have a positive correlation with the measure of unethical behavior observed under the conditions of no risk significant at the .05 level of confidence."

The third finding also refuted the null hypothesis that "the difference between the correlations of Factor E scores with the measures of unethical behavior observed under conditions of no risk would not be significantly different." The difference observed was significant at the .055 level. Hence, the three major null hypotheses were all refuted.

The additional null hypotheses formulated for moral value dimensional relationships with the criterion under conditions of personalized risk were, for the most part, not refuted.

Other than Factor E, only Factor F correlated significantly with the criterion in the personalized
risk group (at the .01 level of confidence). Thus, Economic Morality, the judgments of right or wrong concerning economic practices in our culture, has a definite relationship with the criterion of overestimation of knowledge.

In summary, the major hypotheses seemed to be well supported. The largest problem encountered in the pilot study was with the criterion. The test of knowledge administered the students was far too easy and many students had perfect knowledge scores which prevented any measure of overestimation. Furthermore, even though many students did not obtain perfect knowledge scores, they did obtain very high scores, thereby sharply reducing many possibilities for the measurement of overestimation. The problem can best be understood by reviewing the tremendous loss of subjects due to an inadequate criterion measure. Four introductory courses in psychology were used in the pilot study; two for the control group; two for the experimental group. Hence, a total of over 150 students were involved. Since the students had to be in the class three consecutive days to obtain the criterion and moral value measures, only about 60 students remained useable in both groups. Of these, 20 overestimated their knowledge in the experimental group, and 24 overestimated in the control group. On
the basis of this experience, two changes seemed imperative in any further study: (1) The testing procedures should be shortened to two consecutive days (2) The overestimation test should be constructed on a much more difficult level.
CHAPTER III

THE MAJOR STUDY

Designed around the findings of the pilot study done six months previously, the major experimental study was undertaken in the autumn of 1960. The pilot study, although based on a small sample, seemed to prove that the risk hypotheses were sound and that Factor E (exploitation-manipulation) would predict the sample of unethical behavior selected as a criterion, but only under conditions of risk. Therefore, Factor E's relationship with the criterion under conditions of risk seemed to be established and the major study could be construed as a replication (or cross-validation) study.

Since the pilot study was for the main part highly successful, the major study was designed to

1) increase the sample size;

2) cross-validate the orthogonally derived factor scores and their relationships with the criterion;

3) replicate the experimental conditions using another sample;
4) employ subjects' time more efficiently, eliminating those measures the pilot study demonstrated were relatively useless.

The Hypotheses

The hypotheses formulated were quite similar to those of the pilot study, except certain null hypotheses were dropped since they were not significantly refuted at the specified level of confidence in the pilot study. Again, the major hypotheses, considered basic in the study, were concerned with the differences in predictions of a sample of unethical behavior under the specified conditions of "high" and "low" risk using the exploitative-manipulative dimension of moral value structure as the major predictor. Stated in the null form, these are the hypotheses:

1) The factor scores for Factor E would not have a negative correlation with the measure of unethical behavior observed under conditions of risk significant at the .05 level of confidence.

2) The factor scores for Factor E would have a positive correlation with the measure of unethical behavior observed under conditions of no risk significant at the .05 level of confidence.

3) The difference between the correlations of
Factor E scores with the measure of unethical behavior observed under conditions of risk and no risk would not be significantly different at the .05 level of confidence.

Following the results of the pilot study concerning the predictability of each separate dimension on the criterion and the amount of overlap among these dimensional predictors, additional hypotheses were made concerning combined moral value dimensionality. Since the orthogonally derived dimensional factor scores tend to correlated low with one another, a total prediction using several of the dimensions tends to be quite high due to the lack of excessive overlap. Hence, these combined moral values (all dimensions combined) could be hypothesized under the situational risk conditions.

The additional hypotheses concerned with factorial structure predictability, stated in the null form, were:

1) The multiple correlation of four of the moral value dimensions (Factors A, C, E, and F) with the criterion under conditions of risk will not be significant at the .05 level of confidence.

2) The difference between the multiple correlation of four of the moral value dimensions (Factors A, C, E, and F) with the criterion under conditions of risk and the multiple correlation of these four moral value dimensions with the criterion under conditions of no risk will
not be significant at the .05 level of confidence.

These two additional hypotheses were based on the findings of the pilot study which strongly suggested that four of the six moral value dimensions could explain in part a unique portion of the criterion variance. These four were: Factor A (general morality); Factor C (family morality); Factor E (exploitative-manipulative morality); and Factor F (economic morality). Also suggested was that the criterion variance among all dimensions could best be explained under conditions of risk probably due to the nature of the criterion task.

The Experimental Procedure

As in the pilot study, four classes of an introductory psychology course were used in the major study. Two of these classes were designated as the experimental group, while the other two classes were designated as the control group. Both the experimental and control groups were administered a two-day testing schedule rather than a three-day schedule as in the pilot study since the testing procedure was changed somewhat. The conditions of risk for the experimental and control groups were as close to the conditions imposed in the pilot study as possible. In the experimental group, the personalized gain opportunities were high, but to gain one must also take
certain risks; in the control group, the subjects had little opportunity for personalized gain with no risks of losing. Two days after completion of the testing schedule, all classes were informed of the true nature of the experiment.

The Sample

As in the pilot study, students enrolled in four classes of introductory psychology for about six weeks at the Ohio State University were used in the major study. All conditions of the classes used were considered to be equal to those used in the pilot study, since the hour of the class, week in the academic quarter, size of classes, and background of the instructors was held constant. The instructors felt there were no important differences among their classes in terms of scholastic aptitude, achievement, age, or year in school. Most other sample characteristics, such as median age, year in school, and curriculum choice matched the pilot study sample.

The major study was conducted in the fall quarter of 1960 and the pilot study in the spring quarter of 1960. The instructors were not the same, but were considered similar to the instructors used in the pilot study in terms of teaching ability, academic background and theoretical orientation. Only those students who
overestimated their mastery of the subject matter were used, but since the estimation of knowledge test and subsequent achievement test was made considerably more difficult than the test used in the pilot study, only a few students underestimated their knowledge as opposed to one third in the pilot study sample. Furthermore, since the complete testing schedule was two days rather than three, only a small proportion of the sample was thrown out due to absence on one of the two days. Consequently 66 useable subjects were in the experimental group sample, and 59 useable subjects were in the control group sample, giving a total sample of 125 students.

The Moral Value Dimensions

The Moral Values Scale and a short student socioeconomic questionnaire were administered the first day of the experimental schedule to both the experimental and control groups. (See Appendixes I and IV for copies of these measures).

Exactly the same procedure employed in the pilot study was used in collecting the moral values data on both the experimental and control groups.

The Socioeconomic Control Variables

Since the pilot study clearly demonstrated that socioeconomic variables had no significant influence on
the relationship between the moral value dimensional predictors and the criterion (See Appendix VI), the socioeconomic variables were utilized in the major study simply to provide an adequate description of the sample. The investigator was then able to ascertain if the pilot study and major study samples were similar in socioeconomic background despite the difference in academic quarters. The socioeconomic variables measured included sex, year in school, curriculum choice, socialization residence, religious preference, church attendance, race, marital status, number of children and parent's gross annual income. (See Appendix IV).

The Situational Risk Variables

As in the pilot study, the major study was designed to measure performance under two situational conditions of risk. Toward the end of the class period on the first day of the experimental schedule, a situation was set up involving high risks in one group and few, if any risks in the other group.

In both groups, exactly the same procedure was used as in the pilot study. Again, in the high risk group, the students were led to believe that the results of the "estimation of knowledge" test would constitute their midterm examination grade. In the control (no risk)
group, the experimenter administered the "estimation of knowledge" test, again using the guise of a McGraw-Hill Book Company researcher.

The only difference between the pilot study and the major study concerning the situational risks was that: (1) the situations were imposed during the first day of the experimental schedule rather than the second since it was felt the moral values questionnaire and the estimation of knowledge test could be administered the same day if different people, apparently unrelated in any way, gave each measure; and (2) the estimation of knowledge test was much more difficult, designed so that almost all students would actually be able to know less than half of the answers, thus insuring an adequate "upward range" for overestimation of knowledge. (See Appendix V for copy of the revised "Estimation of Knowledge Test"). All other conditions remained exactly the same as in the pilot study. In the experimental group, a situation was arranged where each student would have the opportunity to overestimate his amount of knowledge in return for the personalized gain of a higher midterm grade, but in so doing would be incurring the risk of getting caught. In the control group, any overestimation of knowledge would not personally benefit the student in any way in that the situation offered no personalized gain or loss opportunities.
The Criterion

On the second day of the experimental schedule, the estimation of knowledge test was again administered, except the subjects were asked to mark the correct answer instead of marking the certainty scale for each question. The instructions given were exactly the same as those given in the pilot study. Again, the difference between the estimated amount of knowledge and the actual amount of knowledge was used as the criterion. The scoring procedure was the same as that used in the pilot study.

Results

The Prediction of the Criterion by Moral Value Dimensions

Orthogonally derived dimensional factor scores were obtained for each subject in the study on four of the six moral value factors following the technique previously described. These four were Factors A (general), C (family), E (exploitative-manipulative), and F (economic), the factors showing significant differentiation in predicting the criterion under conditions of high risk and no risk. Although Factors B (religious) and D (puritanical) correlated rather well with the criterion in the pilot study, the correlations were generally similar for both conditions of risk and thus did not discriminate.
effectively between the two risk situations.

These four factor scores were then correlated with the criterion for both the control and experimental groups. An inter-factor correlation matrix was also computed for the separate groups. The resulting matrices are shown in Tables 5 and 6.

No single factor in either the experimental or control group significantly predicted the criterion at the .05 level of confidence.

A multiple correlation was then computed for both groups maximally combining all factors in predicting the criterion. The unshrunken multiple \( R^2 \)s for both groups are also reported in Tables 5 and 6. None of the predictor-criterion correlations were significantly different from .00 at the .05 level of confidence. F-tests of the two multiple \( R^2 \)s were ran to determine if they were significantly different from .00, using the formula,

\[
F_{R0.12 - M} \text{ greater than } 0 = \frac{R_{0.12}^2 - M}{1 - R_{0.12}^2 - m} \cdot \frac{N-m-1}{m}.
\]

The \( F \) values for the experimental and control groups were 2.424 with 3 and 62 degrees of freedom and 1.129 with 3 and 55 degrees of freedom respectively. Neither of these \( F \) values were significant at the .05 level of confidence.
TABLE 5

CORRELATION MATRIX OF MORAL VALUE PREDICTIVE DIMENSIONS AND THE CRITERION UNDER CONDITIONS OF HIGH RISK

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>A</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>---</td>
<td>.013</td>
<td>.005</td>
<td>-.154</td>
<td>.137</td>
</tr>
<tr>
<td>Factor C</td>
<td>.013</td>
<td>---</td>
<td>-.179</td>
<td>.202</td>
<td>-.094</td>
</tr>
<tr>
<td>Factor E</td>
<td>.005</td>
<td>-.179</td>
<td>---</td>
<td>-.117</td>
<td>-.194</td>
</tr>
<tr>
<td>Factor F</td>
<td>-.154</td>
<td>.202</td>
<td>-.117</td>
<td>---</td>
<td>.150</td>
</tr>
</tbody>
</table>

RCRITERION,A,C,E,F = .324

TABLE 6

CORRELATION MATRIX OF MORAL VALUE PREDICTIVE DIMENSIONS AND THE CRITERION UNDER CONDITIONS OF LOW RISK

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>A</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>---</td>
<td>.182</td>
<td>-.010</td>
<td>-.179</td>
<td>.093</td>
</tr>
<tr>
<td>Factor C</td>
<td>.182</td>
<td>---</td>
<td>-.045</td>
<td>-.063</td>
<td>-.140</td>
</tr>
<tr>
<td>Factor E</td>
<td>-.010</td>
<td>-.045</td>
<td>---</td>
<td>-.225</td>
<td>.146</td>
</tr>
<tr>
<td>Factor F</td>
<td>-.179</td>
<td>-.063</td>
<td>-.225</td>
<td>---</td>
<td>.030</td>
</tr>
</tbody>
</table>

RCRITERION,A,C,E,F = .241
The Effects of the Situational Risk Variables on Prediction

The significance of difference between the Factor E-criterion correlations for the experimental and control groups was then computed in order to ascertain if the conditions of high and low risk had any effects on the Factor E-criterion relationship. The experimental group's correlation was -.194; the control group's .146. The difference between the two correlations was significant at the .05 level of confidence. None of the other single factors had any significant differences in predicting the criterion under the two conditions.

Next, an F test of the difference between the two multiple correlations with the criterion was computed. The F value obtained was 25.96 with 58 and 1 degrees of freedom. The F value, representing the difference between the multiple correlations obtained under the experimental and control conditions using moral value dimensions as predictors, was significant at the .001 level of confidence.

Conclusions

The major study was far more successful in demonstrating the effects of the situational risk variables than in demonstrating an explanation of the
variance of unethical behavior by means of moral value dimensions.

For the second time, it was clearly shown that a dimension of moral value structure, exploitation-manipulation, predicts behavior in any magnitude only under conditions of high personalized gain situations where the gain is obtained only by incurring certain personalized risks. Furthermore, the difference between these correlations was once again significant at the .05 level showing that the relationship between exploitative-manipulative morality and unethical behavior is quite different under conditions of high and low risk.

In explaining the variance associated with this sample of unethical behavior under conditions of high risk, the moral value dimensional predictors were rather disappointing. Only Factor E explained any significant proportion of the variance (3.76%). The four measured factors combined (general morality, family morality, exploitative-manipulative morality, and economic morality) explained only 10.5 per cent of the criterion variance under conditions of high risk. Only 5.8 per cent of the criterion variance was explained by the four factors combined under conditions of low risk, however, and the difference between these explained variances is significant at the .001 level.
Thus, it seems to be demonstrated that moral values explain far more of the variance of unethical behavior under conditions of high personalized gain with the chance of loss than under conditions of no gain and no loss.

In terms of the specific hypotheses set up at the beginning of the major study, the first null hypothesis, stating the Factor E would not have a negative correlation with the measure of unethical behavior observed under conditions of risk was refuted at the .06 level of confidence (one-tail) indicating a predicted trend and rather conclusive in terms of the significant pilot study findings. The second specific null hypothesis, stating that Factor E would have a positive correlation with the measure of unethical behavior observed under conditions of no risk significant at the .05 level of confidence, was clearly supported. The observed correlation between Factor E and the criterion under the control (low risk) conditions was far from significant. This seems to demonstrate that exploitative-manipulative moral values have little relationship with unethical behavior in situations where personalized gains and losses are not present, especially in view of the fact that this was a replication of the results of the pilot study. The third specific null hypothesis, stating
that the difference between the correlations of Factor E scores with the measure of unethical behavior observed under conditions of risk and no risk would not be significantly different at the .05 level of confidence, was refuted at the specified level. Again, this replicated the results of the pilot study and clearly indicated that the relationship of the value constellation representing Factor E with this sample of unethical behavior exists only under conditions of high risk. In terms of the experimental design, the difference between the experimental group and the control group was significant at the .05 level of confidence.

The two additional hypotheses were concerned with the multiple correlation of Factors A, C, E, and F with the criterion under the experimental and control situations. These particular factors were chosen on the basis of the pilot study findings, where these factors tended to best correlate with the criterion. The first hypothesis concerned with multiple relationships stated in the null form that the multiple correlation of four of the moral value dimensions (Factors A, C, E, and F) with the criterion under conditions of risk would not be significant at the .05 level of confidence. This null hypothesis could not be refuted. The F test of the multiple R obtained was significant at the .10 level
only. This is strongly suggestive of a trend, but not sufficient to refute the null hypothesis postulated. The second null hypothesis concerned with multiple relationships stated in the null form that the difference between the multiple correlation of four of the moral value dimensions (Factors A, C, E, and F) with the criterion under conditions of high risk and the multiple correlation of these same moral value dimensions with the criterion under conditions of low risk will not be significant at the .05 level of confidence. The F test ran to test the difference between the two multiple R's was significant at the .001 level of confidence, which refutes the stated null hypothesis. Hence, it seems to be clearly demonstrated that several moral value dimensions in combination will significantly differentiate between the two risk conditions.

In general, exploitative-manipulative moral values seem to relate to unethical behavior only under conditions of perceived personal gain. Since situations involving personal gains rarely exist without some concomitant risks of loss, the situation measured involved high academic gain with risks of exposure and punishment. As such, the relationship of Factor E to unethical behavior holds.

Where values concerning general morality, family morality, and economic morality are measured in addition
to exploitative-manipulative moral values, 10.5 per cent of the criterion variance under conditions of high risk can be explained in terms of these predictor-criterion co-variations.

Since findings in the pilot study were for the most part replicated, it would seem that further research shouldn't be spent in replication efforts, but in expanding the criterion range so that more generalities could be drawn. The author is at present engaged in a series of studies measuring moral value dimensions and their relationships with several, quite different behavioral samples of unethical behavior. Exploitative-manipulative moral value orientation has received the most attention, as suggested by this study. In particular, exploitative-manipulative morality is being measured in an attempt to relate it to many samples of unethical behavior under conditions of gain-risk. If the relationships found in this study can be maintained across several actual behavioral criteria, it would seem entirely probable that certain theories concerning exploitative-manipulative value orientations and certain aspects of behavior could be postulated with some sound empirical foundations.
CHAPTER IV

SUMMARY

Moral codes have governed man's behavior since the
dawn of history. Any sort of systematic analysis of these
value systems had not been attempted until relatively
recent times, however. In the past few years, several
investigations have studied the factorial invariance of
moral prohibitions on samples of American college students,
alumni, blue-collar workers, and Korean University students.
These investigations showed that (1) among college students,
severity of moral judgments has changed considerably over
three decades; (2) six dimensions of moral values seem
to be invariant across samples, yielding orthogonal
factors labeled (a) general morality, (b) religious moral-
ity, (c) family morality, (d) puritanical morality,
(e) exploitative-manipulative morality, and (f) economic
morality; (3) severity of moral judgments tend to vary
as a function of social class.

This investigation was primarily concerned with the
relationships of exploitative-manipulative morality
(factorially defined) with a sample of unethical behavior.
under conditions of risk, namely overestimation of knowledge on a midterm examination in an introductory psychology course under experimental and control conditions. The relationships of all other moral value dimensions with this sample of unethical behavior were also studied. In addition, the effects of various socioeconomic variables upon the moral value factors, the criterion of unethical behavior, and the relationship between moral value structure and the criterion were explored.

Two studies were conducted. The first study, designed as an exploratory pilot study, was conducted on a three-day schedule and involved four introductory psychology classes at The Ohio State University. Two of the classes were designated as the control group; the remaining two, the experimental group. The schedule for the control group, designed to impose conditions of no risk, involved (1) the administration of a moral values and socioeconomic questionnaire by the instructor on the first day, (2) the administration of a "certainty of knowledge" test covering course material on the second day by a pseudo-representative of a famous book publisher (actually the investigator) and (3) the readministration of the "certainty of knowledge" test on the third day where each testee had to actually mark the
correct answer rather than indicate his certainty of the correct answer, again administered by a pseudo-representative of a famous book publisher (and again actually the investigator).

The schedule for the experimental group, designed to impose conditions of high risk, involved (1) the administration of a moral values and socioeconomic questionnaire by the investigator, a representative of a values research project, on the first day; (2) the administration of a "certainty of knowledge" test covering course material on the second day by the instructor, presumably as a new type of midterm examination; and (3) the readministration of the "certainty of knowledge" test on the third day where each testee had to actually mark the correct answer rather than indicate his certainty of the correct answer, again administered by the instructor and presented as a retake of the midterm examination.

The total useable sample for the first study consisted of 24 students in the control group and 20 students in the experimental group.

Moral value factor scores were derived for each subject which best estimated the subject's position on each of the six previously derived orthogonal dimensions of the moral value questionnaire. The criterion was defined as the amount or overestimation of knowledge, i.e., the amount
of difference between the indicated certainty of the correct answers and the actual knowledge of the correct answer.

Factor E (exploitative-manipulative) scores were then correlated with the criterion separately for the high risk (experimental) group and the low risk (control) group. Factor E scores correlated significantly with the criterion at the .05 level of confidence only under conditions of high risk, thus supporting the major hypothesis of the study. The difference between the correlations of Factor E with the criterion within the control and experimental groups was significant at the .01 level of confidence, supporting the second hypothesis of the study.

All other factor scores were correlated with the criterion separately for the control and experimental groups. Factors A (general morality), C (family morality), and F (economic morality) were found to contribute significantly to an explanation of the criterion variance under conditions of high risk and to contribute in a differentiation of moral value predictor-criterion relationships under the two conditions of risk.

Socioeconomic variables were found to have little influence on the relationship of moral value dimensional predictors and the criterion, although they did help
explain some of the criterion variance. Hence, further measurement of the socioeconomic variables would seem to be unnecessary in terms of experimental control as long as a similar measure of unethical behavior and a similar sample were employed.

The study was replicated six months later, again using four classes of an introductory psychology course at The Ohio State University as subjects. The only difference from the pilot study was that the items on the certainty of knowledge test were made more difficult.

The sample for this replication study consisted of 59 students in the control group and 66 students in the experimental group. Again, factor scores for each of the moral value dimensions were computed. Each factor score was correlated with the criterion score of overestimation. The correlation of Factor E with the criterion under conditions of high risk was significant at the .06 level, clearly supporting the findings of the pilot study. The actual correlation (-.194), although significant at the .06 level of confidence only, in view of the pilot study findings strongly suggest the partial predictability of unethical behavior by means of measures of values concerned with exploitation-manipulation. The other major hypothesis, concerned with the relationship of exploitative-manipulative factor scores with the
criterion only under conditions of high risk, was refuted in that the difference between the Factor E-criterion correlations of the experimental and control groups was significant at the .05 level. This finding replicated the pilot study results.

Finally, the multiple correlation of Factors A, C, E, and F with the criterion was computed for both the control and experimental groups. The multiple correlation for both groups was not significantly different from zero. The difference between the multiple correlations for the control and experimental groups was significant at the .001 level of confidence, however.

In general, most of the hypotheses concerning the relationship of a constellation of values concerned with exploitation-manipulation and unethical behavior under conditions of risk seem to have been substantiated especially in view of the results of the replication study. It seems clear that

1) values concerned with the rightness or wrongness of exploitative-manipulative acts will co-vary with a form of unethical behavior only under conditions of risk, i.e., conditions where a personalized gain is visible in return for certain action, but only at the risk of incurring certain personalized losses;

2) various socioeconomic variables univariately or multivariately seem to have little effect upon the co-variation of exploitative-manipulative values and some forms of unethical behavior;
3) various other moral value constellations seem to have little covariation with the form of unethical behavior measured;

4) moral value dimensions, singly or in combination, will explain only a portion of the variance associated with the form of unethical behavior measured, as could be expected.
APPENDIXES
VALUE QUESTIONNAIRE

This questionnaire presents 50 acts or situations which you are to evaluate in terms of "rightness" or "wrongness" ranging from 1 to 10. Encircle the 1 if the item seems least wrong or not wrong at all, and the 10 if the item is judged most wrong or "wrongest" possible. Use the in-between numbers for in-between degrees of "rightness", the higher the number, the more wrong it becomes.

<table>
<thead>
<tr>
<th>Married:</th>
<th>Single:</th>
<th>Divorced:</th>
<th>Widowed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Children:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Killing a person in defense of one's own life: 1 2 3 4 5 6 7 8 9 10
2. Kidnaping and holding a child for ransom: 1 2 3 4 5 6 7 8 9 10
3. Having sex relations while unmarried: 1 2 3 4 5 6 7 8 9 10
4. Forging a check: 1 2 3 4 5 6 7 8 9 10
5. Habitually failing to keep promises: 1 2 3 4 5 6 7 8 9 10
6. Girls smoking cigarettes: 1 2 3 4 5 6 7 8 9 10
7. An industry maintaining working conditions for its workers known to be detrimental to their health: 1 2 3 4 5 6 7 8 9 10
8. A doctor allowing a badly deformed baby to die when he could save its life but not cure its deformity: 1 2 3 4 5 6 7 8 9 10
9. A legislator, for a financial consideration, using his influence to secure the passage of a law known to be contrary to public interest: 1 2 3 4 5 6 7 8 9 10
10. Testifying falsely in court when under oath: 1 2 3 4 5 6 7 8 9 10
11. Betting on horse races: 1 2 3 4 5 6 7 8 9 10
12. A nation dealing unjustly with a weaker nation over which it has power: 1 2 3 4 5 6 7 8 9 10
13. A jury freeing a father who has killed a man for rape against his young daughter: 1 2 3 4 5 6 7 8 9 10
14. Living beyond one's means in order to possess luxuries enjoyed by friends and associates: 1 2 3 4 5 6 7 8 9 10
15. Bootlegging under prohibition law: 1 2 3 4 5 6 7 8 9 10
16. Having illicit sex relations after marriage: 1 2 3 4 5 6 7 8 9 10
17. Driving an automobile while drunk but without accident: 1 2 3 4 5 6 7 8 9 10
18. A prosperous industry paying workers less than a living wage: 1 2 3 4 5 6 7 8 9 10
19. Holding up and robbing a person: 1 2 3 4 5 6 7 8 9 10
20. Not giving to charity when able: 1 2 3 4 5 6 7 8 9 10
21. Not taking the trouble to vote at primaries and elections: 1 2 3 4 5 6 7 8 9 10
22. A strong commercial concern selling below cost to crowd out a weaker competitor: 1 2 3 4 5 6 7 8 9 10
23. Falsifying about a child's age to secure reduced fare: 1 2 3 4 5 6 7 8 9 10
24. A student who is allowed to grade his own paper reporting a higher grade than the one earned: 1 2 3 4 5 6 7 8 9 10
25. Not giving to support religion when able: 1 2 3 4 5 6 7 8 9 10
26. Keeping over-change given by a clerk in mistake: 1 2 3 4 5 6 7 8 9 10
27. Copying from another's paper in a school examination: 1 2 3 4 5 6 7 8 9 10
28. Speeding away after one's car knocks down a pedestrian: 1 2 3 4 5 6 7 8 9 10
29. Charging interest above a fair rate when lending money: 1 2 3 4 5 6 7 8 9 10
30. Falsifying a federal income tax return: 1 2 3 4 5 6 7 8 9 10
31. Buying bootleg liquor under prohibition law: 1 2 3 4 5 6 7 8 9 10
32. Married persons using birth-control devices: 1 2 3 4 5 6 7 8 9 10
33. Seeking divorce because of incompatibility when both parties agree to separate (assuming no children): 1 2 3 4 5 6 7 8 9 10
34. Depositing more than one ballot in an election in order to aid a favorite candidate: 1 2 3 4 5 6 7 8 9 10
35. Living on inherited wealth without attempting to render service to others: 1 2 3 4 5 6 7 8 9 10
36. Taking one's own life (assuming no near relatives or dependents): 1 2 3 4 5 6 7 8 9 10
37. Using profane or blasphemous speech: 1 2 3 4 5 6 7 8 9 10
38. Being habitually cross or disagreeable to members of one's own family: 1 2 3 4 5 6 7 8 9 10
39. Seeking amusement on Sunday instead of going to church: 1 2 3 4 5 6 7 8 9 10
40. Refusing to bear arms in a war one believes to be unjust: 1 2 3 4 5 6 7 8 9 10
41. Advertising a medicine to cure a disease known to be incurable by such a remedy: 1 2 3 4 5 6 7 8 9 10
42. Misrepresenting the value of an investment in order to induce credulous persons to invest: 1 2 3 4 5 6 7 8 9 10
43. Taking money for one's vote in an election: 1 2 3 4 5 6 7 8 9 10
44. Newspapers treating crime news so as to make hoodlums and gangsters appear heroic: 1 2 3 4 5 6 7 8 9 10
45. A man having a vacant building he cannot rent sets it on fire to collect Insurance: 1 2 3 4 5 6 7 8 9 10
46. Nations at war using poison gas on the homes and cities of its enemy behind the lines: 1 2 3 4 5 6 7 8 9 10
47. Slipping out secretly and going among people when one's home is under quarantine for a contagious disease: 1 2 3 4 5 6 7 8 9 10
48. A man deserting a girl whom he has got into trouble without himself taking responsibility: 1 2 3 4 5 6 7 8 9 10
49. Disbelieving in God: 1 2 3 4 5 6 7 8 9 10
50. A man not marrying a girl he loves because he is markedly his inferior socially and in education: 1 2 3 4 5 6 7 8 9 10
APPENDIX II
PILOT STUDY SOCIOECONOMIC QUESTIONNAIRE

Strictly Confidentia!

Directions: Please answer the following questions.

1. Sex: M______ F______

2. Year in school___________________________

3. Curriculum choice_______________________

4. Were you raised (check one)?
   on a farm______
   in a village_______
   in a town________
   in a city_______

5. What is your religion (check one)?
   Protestant________
   Catholic__________
   Jewish___________
   Other_____________

6. How often do you go to church (or synagogue)?
   once a week________
   once a month________
   once a year________
   never________________

7. What is your race?
   White___________
   Negro___________
   Other____________

8. Marital status:
   Single___________
   Married___________
   Divorced or separated________

   If married, how many children?________
APPENDIX II (Continued)

9. What do you estimate your parent's annual gross income?

Under $3,000
$3,000 - $5,000
$5,000 - $7,000
$7,000 - $9,000
$9,000 - $12,000
Over $12,000

10. What do you estimate your personal annual gross income?

Under $1,000
$1,000 - $2,000
$2,000 - $3,000
$3,000 - $4,000
Over $4,000

11. Parental Education

<table>
<thead>
<tr>
<th>Father</th>
<th>Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elem. school</td>
<td>Elem. school</td>
</tr>
<tr>
<td>High school</td>
<td>High school</td>
</tr>
<tr>
<td>College or</td>
<td>College or</td>
</tr>
<tr>
<td>Business school</td>
<td>Business school</td>
</tr>
<tr>
<td>Grad. or Prof. school</td>
<td>Grad. or Prof. school</td>
</tr>
</tbody>
</table>
APPENDIX III

PILOT STUDY "ESTIMATION OF KNOWLEDGE" TEST

Name ___________________________  
Class ___________________________  
Hour: (Circle) ____________________
   9 AM    11 AM

PRE-TEST OF GENERAL INFORMATION

DIRECTIONS: Below are twenty questions covering many topics in general psychology. Below each question are four possible answers.

DO NOT MARK THE RIGHT ANSWER

Merely indicate the amount of certainty you have regarding the correct answer on the scale located at the right of each question. If you are certain you know the correct answer, mark 5. If you are almost certain you know the correct answer, mark 4. If you are fairly certain, mark 3. If you are fairly sure you don't know, mark 2. If you don't know the correct answer at all, mark 1.

DON'T KNOW ----------- CERTAIN

1. The statistical "mean" refers to the:
   a) average case  
   b) most frequent case  
   c) sub-groups of a large population  
   d) the case with equal number of cases on either side

2. One of Sigmund Freud's stages of psycho-sexual development is:
   a) the Oedipus complex  
   b) parataxic homeostasis  
   c) anal  
   d) repression
APPENDIX III (Continued)

PILOT STUDY "ESTIMATION OF KNOWLEDGE" TEST

DON'T KNOW -- CERTAIN

3. The eye is a:
   a) receptor
   b) perceiver
   c) inhibitor
   d) synapse

4. The human's hearing range is from:
   a) 20-20,000 cycles per second
   b) 0-40,000 cycles per second
   c) 10,000-30,000 cycles per second
   d) 6,000-8,000 cycles per second

5. A most frequent statistical measure of variance is:
   a) the mode
   b) the mean
   c) the standard deviation
   d) chi square

6. Paranoid schizophrenia refers to:
   a) a personality theory
   b) a type of mental illness
   c) a learning theory
   d) psychopathic behavior

7. "Cramming" for exams is an example of:
   a) spaced learning
   b) proactive inhibition
   c) massed learning
   d) inhibitory excitation

8. Wilhelm Wundt was the first person to:
   a) develop selection tests
   b) study the development of children
   c) advocate a behaviorist approach
   d) establish a psychological laboratory
9. The relationship between body types and temperament was studied by:
   a) Watson
   b) Sheldon
   c) Cattell
   d) Hull

10. "Intellectualization" refers to:
    a) overlearning
    b) retroactive inhibition
    c) a defense mechanism of the ego
    d) our inherited intelligence

11. "Correlation" is a term referring to:
    a) a measure of central tendency
    b) the difference between two or more groups
    c) the variance of a single variable
    d) the relationship between two or more variables

12. The difference between "normal" and "abnormal" behavior is:
    a) defined by brain size
    b) defined by the attainment of certain physiological stages
    c) socially and culturally defined
    d) defined solely by intelligence tests

13. "Ego" and "Id" are constructs from:
    a) instrumental conditioning
    b) psychophysiology
    c) classical conditioning
    d) psychoanalytic theory
APPENDIX III (Continued)

PILOT STUDY "ESTIMATION OF KNOWLEDGE" TEST

DON'T KNOW --- CERTAIN

14. Psychology is most nearly
g) the biological sciences 1 2 3 4 5
g) the physical sciences
]c) philosophy
d) the social sciences
APPENDIX IV
REVISED SOCIOECONOMIC QUESTIONNAIRE

Instructions: Please answer the following questions. All information will be confidential.

1. Age__________________
2. Year in school____________
3. Curriculum choice____________
4. Married? Yes_____ No_______
   Please check:
   5. Were you raised_____ on a farm
      ____ in a village
      ____ in a town
      ____ in a city
6. What is your religion?
      ____ Protestant
      ____ Catholic
      ____ Jewish
      ____ Other
7. How often do you go to church (or synagogue)?
      ____ Once a week
      ____ Once a month
      ____ Once a year
      ____ Never
8. What is your race?
      ____ White
      ____ Negro
      ____ Other
APPENDIX V

REVISED "ESTIMATION OF KNOWLEDGE" TEST

Name ____________________________

PRE-TEST OF GENERAL INFORMATION

DIRECTIONS: Below are 30 questions covering many topics in general psychology. Below each question are four possible answers.

DO NOT MARK THE RIGHT ANSWER

Merely indicate the amount of certainty you have regarding the correct answer on the scale located at the right of each question. If you are certain you know the correct answer, mark 5. If you are almost certain you know the correct answer, mark 4. If you are fairly certain, mark 3. If you are fairly sure you don't know, mark 2. If you don't know the correct answer at all, mark 1.

1. The eye is a: 1 2 3 4 5
   a) perceiver
   b) receptor
   c) inhibitor
   d) propriactor

2. The most frequent statistical measure of variability is: 1 2 3 4 5
   a) the mode
   b) the critical ratio
   c) the standard deviation
   d) the average deviation

3. Paranoid schizophrenia refers to: 1 2 3 4 5
   a) a psychiatric diagnostic classification
   b) psychopathic behavior
   c) hostile, aggressive behavior
   d) a physiological disorder
4. The relationship between body types and temperament was studied by:
   a) Watson
   b) Wundt
   c) Hull
   d) Sheldon

5. "Correlation" is a term referring to:
   a) the difference between two or more groups
   b) the variance of a single variable
   c) a co-variation estimate
   d) the estimated variance within a variable

6. Statistical learning theory is closely linked with:
   a) Hull
   b) Guthrie
   c) Estes
   d) Tolman

7. "Social learning theory" is related to the work of:
   a) Hull and Beach
   b) McGeough and Irion
   c) Lindquist and Bechtoldt
   d) Dollard and Miller

8. Which of the following is NOT a scaling system:
   a) ratio
   b) ordinal
   c) interval
   d) canonical

9. "Intellectualization" refers to:
   a) overlearning
   b) retroactive inhibition
   c) a defense mechanism of the ego
   d) our inherited intelligence
10. The difference between "normal" and "abnormal" behavior is defined:
   a) by brain size
   b) by the attainment of certain physiological stages
   c) socially and culturally
   d) by intelligence testing

11. "Ego" and "Id" are constructs from:
   a) psychophysiology
   b) psychoanalytic theory
   c) behaviorism
   d) cultural anthropology

12. Drs. Binet and Wechsler are mainly noted for their work on:
   a) personality traits
   b) a typology of mental illnesses
   c) learning processes
   d) intelligence tests

13. MMPI stands for:
   a) a statistic measuring variance
   b) an intelligence measure
   c) a personality test
   d) a prominent research institute

14. "Role theory" is most often associated with:
   a) experimental psychology
   b) social psychology
   c) clinical psychology
   d) psychophysiology

15. "Need-achievement" is a construct proposed by:
   a) Frenkel-Brunswick
   b) Neal Miller
   c) H. Murray
   d) Erich Fromm
16. One of Sigmund Freud's stages of psycho-sexual development is:
   a) the Oedipus Complex
   b) parataxic homeostasis
   c) anal
   d) regression

17. The human's hearing range is from:
   a) 20-20,000 cycles per second
   b) 0-40,000 cycles per second
   c) 10,000-30,000 cycles per second
   d) 6,000-8,000 cycles per second

18. Holding one variable constant while measuring another variable's effect is an example of:
   a) retroactive inhibition
   b) instrumental conditioning
   c) experimental control
   d) probability theory

19. Munsterberg is known as:
   a) the center of Gestaltism
   b) the chief disciple of Freud
   c) the father of industrial psychology
   d) founder of the first psychological clinic

20. Which of the following statements best describe the relationship between hypotheses, theories, and laws?
   a) hypotheses become theories and laws through experimental verification
   b) hypotheses, theories, and laws are clearly different theoretical propositions which must remain separate to avoid confusion
   c) hypotheses and theories are almost the same, but laws are quite different from these two
APPENDIX V (Continued)

d) laws relate to experimen-
tal fact, whereas hypothe-
ses and theories are related mostly to opinions

21. Results in modern psychology are acceptable only if they cannot have been caused by chance:
a) under any circumstances
b) more than 10 times in 100
c) more than 5 times in 100
d) more than 25 times in 100

22. Which of the following characterizes a child's learning to open the latch of a gate?
a) eliminates response of shaking gate
b) correct movement occurs more promptly
c) lifting latch and pushing gate are coordinated in time
d) a, b, and c are all correct

23. An infant applying the word "da-da" to all men is giving evidence of:
a) discrimination
b) primary stimulus generalization
c) secondary stimulus generalization
d) response generalization

24. To find relations between levels of motivation and performance during learning, we are least likely to use:
a) a Skinner Box
b) instrumental conditioning
c) classical conditioning
d) discrimination apparatus

25. The type of curve most frequently encountered in learning is:
a) S-shaped
b) U-shaped
c) positively accelerated
d) negatively accelerated
26. The omission of details in the reproduction of a drawing from memory is often called: 1 2 3 4 5
   a) sharpening  
   b) flattening  
   c) generalizing  
   d) leveling  

27. Which of the following is considered a primary drive state? 1 2 3 4 5
   a) fatigue  
   b) competition  
   c) protection of young  
   d) fear  

28. The most essential characteristic of motivated behavior is its: 1 2 3 4 5
   a) reflect nature  
   b) primary dependence upon external stimulation  
   c) persistency  
   d) lack of variability  

29. The preference for polished rice among people in the East Indies illustrates the: 1 2 3 4 5
   a) dependence of food preference upon physiological need  
   b) lack of relationship between food preference and physiological need  
   c) development of specific appetites related to food deficiencies  
   d) both a and c are correct  

30. Where do we reach a point of diminishing returns in overlearning? 1 2 3 4 5
   a) never  
   b) between 50 and 100 percent overlearning  
   c) between 100 and 150 percent overlearning  
   d) between 0 and 50 percent overlearning  

DON'T KNOW ------- CERTAIN
LIST OF REFERENCES


I, Harve Else Rawson, was born in Webb City, Missouri, July 25, 1934. I received my secondary-school education in the public schools of Webb City, Missouri, and my undergraduate training at Antioch College, which granted me the Bachelor of Arts degree in 1957. I entered The Ohio State University in the fall of 1957, receiving my Master of Arts degree in 1959. I continued by studies at The Ohio State University and worked as a Graduate Assistant and Research Assistant in the Department of Psychology, and as a Research Technician in the Department of Psychiatry while completing the requirements for the degree Doctor of Philosophy.