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Two factor analyses were conducted on data obtained from measurements of the reasoning, moral judgment, and moral conduct of 75 retarded and 75 normal subjects ranging in age from 6 to 18 years. One factor analysis sought to determine relationships between the reasoning variables and standard measures of intelligence and achievement. A second factor analysis was performed to determine the relationships among moral conduct, moral judgment, and reasoning variables. Results of the first factor analysis indicated that Piagetian operativity, as determined by measures of conservation, does measure performance distinct from that measured by the Wechsler Scales and Wide Range Achievement Test. The second factor analysis revealed that in most instances skill in cognitive areas was not highly correlated with acts of moral conduct or with moral judgment. Nor were teacher ratings on moral character highly correlated with observed conduct or expressed views on morality. (WD)

THE FACTORIAL STRUCTURE OF REASONING, MORAL JUDGMENT, AND MORAL CONDUCT*

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INTRODUCTION

Although Piaget's developmental approach, which emphasizes stage rather than age, to the study of intelligence and moral judgment has been recognized as one of the major psychological contributions of the century (Brown, 1965). Inhelder recently noted that, "the relationships between different tasks and substructures apparently requiring the same mental structures is still far from adequately explored (Sigel & Hooper, 1968, p. vii)". Also there has been scant use of Piaget's approach to assess cognitive and moral development in retardates. Still less effort has been expended in trying to determine if the supposed relations between moral judgment and actual moral behavior do in fact exist. Data was available from a longitudinal study on the development of reasoning, moral judgment and moral conduct in normals and retardates which could be used to assess these relationships. Therefore, through the use of these data the present study sought to determine:

1. Relationships which exist among measures of reasoning, moral judgment, and moral conduct.
2. Relationships among the reasoning variables and standard measures of intelligence and achievement.

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METHOD

Sample:

The sample (N=150) was comprised of 75 mentally retarded male and female subjects, WISC or WAIS IQ 50-75, and 75 normal male and female subjects, WISC or WAIS IQ 90-110. The two sub-samples, retarded and normal, were further divided into cross-sectional samples of three age ranges; 6-10, 10-14, 14-18. Each age range was composed of an equal number of males and females. Normal subjects were randomly selected from school classrooms in the Philadelphia area, and mentally retarded subjects were randomly selected from special education classes in the Philadelphia area. Sub-samples (normals and retardates of specific age groups) were stratified in terms of social status as measured by Warner's Index of Social Characteristics.

Description of Variables:

Reasoning: Following Inhelder's approach (1968) to the diagnosis of reasoning in the retarded four groups of experiments previously used by her were chosen for the present study. These include:

1. Conservation Experiments
   - Conservation of Substance
   - Conservation of Weight
   - Conservation of Volume
   - Conservation of Length-Displaced Rods
   - Conservation of Length-Rod Sections
   - Conservation of Liquids
   - Dissolution of Sugar
   - Dissociation of Notions of Weight and Volume
   - One for One Exchange
   - Term to Term Correspondence

2. Experiments of Elementary Logic-Classification
   - Class Inclusion - Animals
   - Class Inclusion - Beads
   - Changing Criterion
   - Intersection of Classes
   - Relationships - Brothers & Sisters
   - Relationships - Right & Left

3. Assessments of the relations between operativity and symbolic imagery
   - Rotation of a Square
   - Rotation of Beads
   - Transfer from Two to Three Dimension
   - Coordination of Perspectives

4. Assessment of Formal Operations
   - Combination of Liquids

Moral Judgment: The four areas of moral judgment measured in the present study were:

1. Rules
   Statement of Rules for A Game of Bowling
   Application of Rules in Playing Bowling
   View Concerning Possibility of Changing Rules through Mutual Consent

2. Falsehoods
   Appraisal of Stories Concerning Lies: Intent Versus Consequences

3. Clumsiness and Stealing
   Reactions to Stories Involving Clumsiness and Stealing

4. Justice and Punishment
   Reaction to Stories Regarding:
      Punishment - Expiatory and Reciprocal
      Collective Responsibility
      Justice - Retributive or Reciprocal

Moral Conduct: Experiments were devised or adapted which assessed observed behavior (through use of a one-way viewing screen). Measurements were obtained on:

1. Self Control
   Did the subject take cigarettes or candy from a dish during a time when the examiner was out of the room?

2. Honesty
   (a) Pen Return - When the subject discovered an attractive ball point pen did he attempt to find the owner or did he pocket it?
   (b) Money Return - The examiner unobtrusively slipped an extra dime into those used in an experiment. Did the subject claim the extra dime as his own?
   (c) Money Return - In another session the examiner dropped a nickel as he left the testing room. During the time the subject was alone did he take the money?
   (d) Envelope Return - The subject was given an addressed, sealed, stamped envelope which contained four coins and he was asked to mail it after school. Did the letter arrive intact?

3. Persistence and Truthfulness
   (a) Hour Glass - Instructions were to watch a three minute glass, and when the sand had drained out to quickly turn it over. During the time the examiner was out of the room the subject was expected to make five turns (15 minutes). Scores were obtained on persistence, truthfulness, and acknowledgement of delayed flipping.

(b) Desire for Favorable Report (Cheating) - Blank cards, a rubber stamp, and an ink pad were provided the subject as the examiner explained there was interest in seeing who could stamp the most cards in five minutes. Each card was to be stamped in all four corners of both sides; in addition the rubber stamp was to be applied to the ink pad prior to each stamping. As the examiner left the room he instructed the subject to observe the clock and start when the minute hand reached a specified point. Scores were obtained on observance of starting on time, correct counting of stamped cards, persistence, accuracy in stamping the four corners, and inking the rubber stamp prior to each application.

(c) Report of Mishap (Truthfulness)- During the time the subject was alone and engaged in the hour glass task an attractive young lady entered the room to get some papers; in getting them she overturned a vase and water spilled over other papers on the desk. As she left she entreated the subject not to tell anyone she had been in the room because she was not supposed to enter. When the examiner returned and asked who ruined the papers did the subject provide information of the mishap?

(d) Report of Mishap (Truthfulness)- On the second occasion, when the subject was alone and engaged in stamping cards, one of the staff entered and stated he was sent to the room to get a report. The report was placed under a tape recorder and in getting it the staff member tore another paper that was also under the recorder. When the examiner returned, noted the torn papers, and questioned the subject. Was the subject truthful concerning the mishap?

Scoring of Reasoning, Moral Judgment, and Moral Conduct Variables:

Reasoning: Two types of scores were used. All reasoning tasks were first awarded a dichotomous, pass-fail, score. Then the explanation advanced by the subject for his response was scored on a six or nine point scale.

Moral Judgment: All moral judgment items were scored dichotomously. Following this a three point system devised by Kohlberg (1968) was used to score three measures of moral judgment (Lying, Justice, and Clumsiness and Stealing). A four point scale was devised to measure moral judgment in terms of Collective Responsibility. Rules of the Game was scored on two three point scales. The first concerned knowledge of rules; the second section dealt with opinions concerning possible alteration of rules.

Moral Conduct: Because observed behavior in situtions devised to measure moral conduct was either honest or dishonest only dichotomous, pass-fail, scores were assigned to performance on these tasks.

Reliability of Scoring Techniques: In an effort to establish inter-rater reliability ratings were obtained from three judges, each were trained in the use of Piaget type assessments. The obtained correlations for both dichotomous and point scale scores on reasoning, moral judgment, and moral conduct tasks ranged from .77 to 1.00.

Standard Measures of Intelligence, Achievement, and Social Status:

1. Standard measures of intelligence were provided by appropriate forms of the Wechsler Scale.
2. Wide Range Achievement Test provided scores on achievement in reading, spelling, and arithmetic.
3. Social status was determined by use of Warner's Index of Social Characteristics.

Teacher Rating Scales: Each subject's teacher assigned him a conduct grade and rated him on honesty, truthfulness, and reliability.

PROCEDURE

Two separate factor analyses were accomplished. One, which involved point scale scores for the total group, sought to determine relationships between the reasoning variables and standard measures of intelligence and achievement. Because moral conduct tasks were assigned dichotomous, pass-fail, rather than point scale scores, the second factor analysis, an analysis of relationships among moral conduct, moral judgment, and reasoning variables, was derived from dichotomous scores.

Factor Analysis of Point Scale Scores on Reasoning and Psycho-Educational Measures

The 47 variables were intercorrelated over 148 subjects (two subjects were eliminated because of incomplete data). The intercorrelation matrix was reduced to an initial estimate of $R-U_1^2$ by taking as an initial estimate

of the communality, $\underline{h}_j^2$, of the jth variable the square of the largest correlation in the jth column of R. This initial reduced matrix was factored by the method of principal-axes until a criterion for small residual off-diagonal correlations in R was satisfied. Next, a second estimate of the communality of each variable j was obtained from the sum of squared loadings of j on the first, incomplete set of principal-axes. These estimates then yielded the second estimate of the reduced correlation matrix, $\underline{R-U_2^2}$. This second estimate of the reduced correlation matrix was subjected to a principal-axis solution until an adequate accounting of off-diagonal elements was made. Iteration continued in this manner until stable estimates of communalities were obtained.

Both orthogonal rotation and oblique transformation of the principal-axis solution were performed. Orthogonal rotations were performed to satisfy both the varimax and the equamax criteria. These two orthogonal solutions will not be discussed here. Oblique factor transformation was performed to satisfy Saunders' isopromax criterion. (Isopromax factor transformation is a modification of Hendrickson and White's (1964) Promax criterion.) The isopromax factor solution was chosen for interpretation in the work to follow.

Initial Solution: A total of eight factors were extracted from the 47 variables. These eight factors were transformed to an oblique solution by means of Saunders' isopromax method of analytic transformation. After transformation five factors had variances of 0.98 or greater. Because a factor with a variance less than that of any single variable hardly achieves the factor analytic goal of parsimony only these five factors were interpreted.

Interpretation of Factors from Reference Structure: An attempt was made to interpret the five factors with variances of .98 or greater by studying the reference structure corresponding to the derived isopromax solution. (The reference structure is a coordinate system in which the jth reference axis is the normal to the hyperplane of dimension m-1 found by

deleting the jth primary oblique factor. This method of deriving a set of reference axes--due to Thrustone--nearly insures simple structure in the final derived solution.) The elements of the reference structure are correlation coefficients of the variables with the reference axes. To conserve space, each factor will be investigated in turn with consideration of only those variables correlating greater than .25 in absolute value. The five factors are set forth in Table 1.

Insert Table 1

Intercorrelations of the Factors: The oblique solution positions the factors non-orthogonally. Because the pattern of intercorrelations of the above five factors is of interest in itself these intercorrelations are presented in Table 2.

Insert Table 2

Discussion of Factors: The five factors obtained from factor analysis of point scale scores for reasoning, intelligence and achievement variables are set forth in Table 1. Review of the matrix indicates that Piagetian operativity as determined by measures of conservation does indeed measure performance distinct from that measured by the Wechsler Scales and Wide Range Achievement Test. Factor 1 is defined by major loadings from 13 Wechsler and three Wide Range Achievement Test variables. Only one Piagetian measure is represented by a loading of .25 or above. Only two of the factor's inter-correlations with other factors were above .25; these were: .37 with Factor 2, a factor which also had loadings from CA as well as Rotation of Beads, and .25 with Factor 3, a factor defined by loadings from categorical sorting tasks.

Inspection of Factor 2, clearly an operational thought factor reveals positive loadings from both CA and MA which serve to indicate developmental influences. Loadings of .25 or above were obtained from 23 Piagetian tasks. The factor intercorrelated .38 with Factor 3, a factor defined by Piagetian measures of classificatory thought, and .39 with Factor 4, which was defined by Piagetian measures of spatial operations.

That a Geneva task involving hierarchical class inclusion defined a separate factor, Factor 3, provided basis for Piaget's distinction between certain aspects of classificatory skill, ability to conserve, and spatial orientation. The factor had intercorrelations of .38 and .39 with the other two factors representative of "thought in action." The fact that Factor 4 also had loadings from CA and MA serves to underscore the possible influence of maturation on the ability to anticipate the positions of objects as they are rotated in space.

Note was made that the separate Wechsler visual perceptual synthesis factor, Factor 5, had a low intercorrelation, .04, with Factor 1, which also was defined by loadings from Wechsler scales. Perceptual organization and/or performance as measured by Wechsler also had low intercorrelations with Piagetian measures; the highest intercorrelation; .19, was with factor 2, an operational thought factor.

Factor Analysis of Dichotomous Scores on Reasoning, Moral Judgment, and Moral Conduct Measures

In this analysis 86 variables were intercorrelated over 148 subjects. The procedure was the same as was reported for the previous factor analysis. Again both orthogonal rotation and oblique transformation of the principal-axis solution were performed.

Initial Solution: A total of 25 factors were extracted which accounted for approximately 85% of the correlation among the 86 variables. These 25 factors were transformed to an oblique solution by means of Saunders'

isopromax method. After transformation 15 factors had variances of 0.98 or greater. These 15 were interpreted.

Interpretation of Factors from Reference Structure: Interpretation of the 15 factors was achieved by reviewing the reference structure corresponding to the derived isopromax solution. As in the previous analysis, each factor will be investigated in turn with consideration given only those variables correlating greater than .25 in absolute value. Findings appear in Table 3.

Insert Table 3

Intercorrelations of the Factors: The pattern of intercorrelations of the fifteen factors derived from dichotomous scores is presented in Table 4.

Insert Table 4

Discussion of Factors: Review of patterns which emerged from analysis of dichotomous scores of reasoning, moral judgment, and moral conduct revealed that in most instances skill in cognitive areas was not highly correlated with acts of moral conduct or with moral judgment. Nor were teacher ratings on moral character highly correlated with observed conduct or expressed views on morality (but they did show relationships to intelligence and achievement). Intercorrelation between the teacher rating factor and Factor 6, a factor defined by aspects of responsible behavior were negative, and only moderate intercorrelations existed between the factor and Factor 7, indicative of turstworthiness, or Factor 9, indicative of self-regulatory ability and belief in reciprocity. However, subjects' expressed regard for probity was related to their observed probity on seven separate factors, i.e. if there was expressed concern for honesty or trustworthiness observed behavior reflected this concern.

Data did not consistently substantiate Hartshorne's and May's (1929) findings which suggest situational determinantes of honesty and trustworthiness. In the present study there were some indications of consistent moral behavior across situations. For example in Factor 7 truthfulness in one situation was related to honesty and trustworthiness in another. In Factor 8 dishonesty combined with untrutfulness in reporting self failure (but also with truthfulness in reporting damage caused by others.) Untruthfulness in two situations appeared on Factor 12; whereas honesty and truthfulness as noted in three different situations defined Factor 14.

Constancy in moral judgment was suggested when repeated expressions of concern for reciprocity defined Factor 4 and repeated concern for intention in judging moral wrongness combined on Factor 5 and Factor 6. Of interest was the combination of measures of expressed and observed irresponsibility that occurred on Factor 15.

Review of the factor matrix and the intercorrelation of factors indicated a separateness of cognition and morality; however, in most instances moral judgment measures were related to measures of moral conduct. The implications appeared to be that training and progress in moral judgment and moral conduct could occur even if concomitant progress was not possible in cognitive areas.

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TABLE 1

FACTOR STRUCTURE OF POINT SCALE SCORES FOR TOTAL GROUP
ON 47 REASONING AND PSYCHO-EDUCATIONAL MEASURES

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 1: General intelligence and school achievement combined to define a learning potential factor.		
Variance: 7.62		
Pattern Generating Coefficient: 1.13		
Wechsler Information	.61	0.13
Wechsler Comprehension	.51	
Wechsler Arithmetic	.75	
Wechsler Similarities	.53	
Wechsler Vocabulary	.62	
Wechsler Digit Span	.54	
Wechsler Picture Completion	.46	
Wechsler Picture Arrangement	.50	
Wechsler Block Design	.54	
Wechsler Object Assembly	.45	
Wechsler Coding	.62	
Wechsler Verbal IQ	.70	
Wechsler Performance IQ	.68	
Wechsler Total IQ	.73	
Wide Range Achievement - Spelling	.80	
Wide Range Achievement - Math	.82	
Wide Range Achievement - Reading	.70	
Chronological Age	-.46	
Rotation of Beads	.27	
Factor 2: Operational thought capable of conservation, categorical manipulation, combinatory logic, spatial organization and object orientation defined the factor.		
Variance: 6.12		
Pattern Generating Coefficient: 1.20		
Chronological Age	.41	0.13
Mental Age	.38	
Conservation of Substance	.65	
One for One Exchange	.59	
Dissolution of Sugar - Weight	.41	
Dissolution of Sugar - Substance	.53	
Conservation of Weight	.72	
Term to Term Correspondence	.64	
Class Inclusion - Animals (3)	.38	
Class Inclusion - Animals (4)	.32	
Conservation of Volume-Clay	.62	
Rotation Beads	.39	

TABLE 1 -- Continued

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 2 (continued):		
Conservation of Length	.56	
Rod Sections	.76	
Changing Criterion	.43	
Conservation of Liquid	.70	
Class Inclusion - Beads	.42	
Dissociation of Weight and Volume	.26	
Rotation of Squares	.31	
Rotation of Squares - Draws	.27	
Transfer from Two-Three Dimension	.41	
Changing Perspectives - Mobile	.24	
Changing Perspectives - Stationary	.38	
Chemistry	.33	
Factor 3: Categorical sorting involving verbal mediation and hierarchical grouping combined to suggest classificatory skills.		
Variance: 1.29		
Pattern Generating Coefficient: 1.17		
Class Inclusion - Animals (3)	.46	0.08
Class Inclusion - Animals (4)	.54	
Class Inclusion - Animals (5a)	.40	
Class Inclusion - Animals (5b)	.42	
Factor 4: Prediction of relations between objects perceived from different point of view combined with age to indicate the influence of maturation on spatial operations.		
Variance: 1.02		
Pattern Generating Coefficient: 1.26		
Chronological Age	.42	0.08
Mental Age	.38	
Rotation of Squares	.39	
Rotation of Squares	.47	
Factor 5: Loadings from Wechsler sub-tests defined a performance factor.		
Variance: 1.01		
Pattern Generating Coefficient: 1.06		
Wechsler Picture Completion	.31	0.07
Wechsler Picture Arrangement	.34	
Wechsler Object Assembly	.47	
Wechsler Performance IQ	.47	

TABLE 2

INTERCORRELATION OF FIVE OBLIQUE FACTORS FROM THE FACTOR ANALYSIS OF POINT SCALE SCORES FOR 47 REASONING AND PSYCHO-EDUCATIONAL MEASURES

Factor	1	2	3	4	5
1.		.369	.264	.225	.039
2.			.381	.386	.188
3.				.390	.039
4.					.064
5.					

TABLE 3

FACTOR ANALYSIS OF DICHOTOMOUS SCORES ON REASONING, MORAL JUDGMENT, AND MORAL CONDUCT MEASURES

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 1: General cognitive performance was indicated by major loadings from Piagetian measures of reasoning, Wechsler sub-tests and Wide Range Achievement scores.		
Variance: 14.383		
Pattern Generating Coefficient: 1.277		
Conservation of Substance	.698	0.09
One for ONe Exchange	.456	
Dissolution of Sugar	.469	
Conservation of Weight	.682	
Term to Term Correspondence	.488	
	.340	
Class Inclusion - Animals (3)	.415	
Class Inclusion - Animals (4)	.414	
Conservation of Volume	.509	
Rotation of Beads	.507	
Conservation of Length	.540	
Relationships-Brothers & Sisters	.648	
Relationships-Right & Left	.611	
Rod Sections	.561	
Changing Criterion	.676	
Conservation of Liquid	.618	
Class Inclusion-Beads	.645	
Dissociation of Weight and Volume	.530	
Intersection of Classes	.390	
Rotation of Squares	.453	
Changing Perspectives-Mobile	.574	
Changing Perspectives-Stationary	.686	
Chemistry	.431	
Wechsler Information	.627	
Wechsler Arithmetic	.601	
Wechsler Comprehension	.609	
Wechsler Similarities	.583	
Wechsler Vocabulary	.620	
Wechsler Digit Span	.606	
Wechsler Picture Completion	.426	
Wechsler Picture Arrangement	.628	
Wechsler Block Design	.464	
Wechsler Object Assembly	.592	
Wechsler Coding	.581	
Wechsler Verbal IQ	.726	
Wechsler Performance IQ	.715	
Wechsler Full Scale IQ	.761	

TABLE 3 -- Continued

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 1 (continued):		
WRAT Spelling	.527	
WRAT Arithmetic	.566	
WRAT Reading	.579	
Chronological Age	.623	
Lying (1b)	.361	
Collective Responsibility (1a)	-.263	
Rules of Game - Observes Rules	.332	
Cheating (3) - Persistence	.298	
Factor 2: Major loadings from both chronological and mental age combined to suggest maturational influences. Negative loadings from intelligence and achievement tests are attributed to the nature of the sample, a combination of retardates and normals. Variance: 3.856 Pattern Generating Coefficient: 1.358		
Wechsler Information	-.289	0.08
Wechsler Arithmetic	-.385	
Wechsler Vocabulary	-.319	
Wechsler Picture Completion	-.335	
Wechsler Picture Arrangement	-.284	
Wechsler Block Design	-.319	
Wechsler Coding	-.330	
Wechsler Performance IQ	-.381	
Wechsler Full Scale IQ	-.302	
WRAT Spelling	-.401	
WRAT Arithmetic	-.465	
WRAT Reading	-.328	
Mental Age	.822	
Chronological Age	.463	
Lying (3b)	.334	
Money Return (1)	.283	
Cheating (4) - Accuracy	.268	
Factor 3: Teacher's rating of moral conduct defined a factor separate from measures of observed conduct. Variance: 2.654 Pattern Generating Coefficient: 1.284		
Teacher Rating - Conduct	.667	0.05
Teacher Rating - Honesty	.864	
Teacher Rating - Truthfulness	.836	
Teacher Rating - Reliability	.584	

TABLE 3 -- Continued

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 4: Awareness or reciprocity and mutual respect was evidenced in loadings from moral judgment measures.		
Variance: 2.250		
Pattern Generating Coefficient: 1.134		
Punishment (1a)	.341	0.04
Punishment (1b)	-.461	
Punishment (2a)	.784	
Punishment (2b)	-.765	
Punishment (2c)	.668	
Factor 5: Judgment based on intention rather than consequences of an act loaded with observed constancy and truthfulness to suggest integrity and persistence.		
Variance: 2.027		
Pattern Generating Coefficient: 1.497		
Lying (4a)	-.270	0.08
Clumsiness and Stealing (1a)	.674	
Clumsiness and Stealing (2a)	.413	
Clumsiness and Stealing (3a)	.496	
Clumsiness and Stealing (5a)	.307	
Cheating (2)	.410	
Hour Glass (1) - Truthfulness	.264	
Hour Glass (2) - Persistence	.314	
Hour Glass (3) - Acknowledges Delayed Flipping	.261	
Factor 6: Responsibility of judgment and action was noted as opinions concerning accountability combined with proper discharge of duty.		
Variance: 1.807		
Pattern Generating Coefficient: 1.425		
Collective Responsibility (2a)	.278	0.07
Collective Responsibility (3a)	.558	
Report of Mishap (2)	-.298	
Hour Glass (1) - Truthfulness	.550	
Hour Glass (2) - Persistence	.468	
Hour Glass (3) - Acknowledges Delayed Flipping	.632	
Factor 7: Trustworthiness was demonstrated by action and indicated by verbal opinion and teacher's ratings. The loading from mixed dominance is noted but not explained.		
Variance: 1.588		
Pattern Generating Coefficient: 1.378		
Laterality	-.387	0.07

TABLE 3 -- Continued

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 7 (continued):		
Teacher Rating - Reliability	.302	
Lying (1b)	-.327	
Punishment (1b)	.261	
Collective Responsibility (2a)	.350	
Hour Glass (3) - Acknowledges Delayed Flipping	.329	
Envelope Return	.521	
Factor 8: Expressed and observed irresponsibility combined with willingness to inform on others to define the factor.		
Variance: 1.475		
Pattern Generating Coefficient: 1.304		
Intersection of Classes	.318	0.08
Collective Responsibility (1a)	-.453	
Report of Mishap (1)	.345	
Report of Mishap (2)	.273	
Cheating (4) - Accuracy in Stamping	-.424	
Envelope Return	-.297	
Factor 9: Loadings from verbalized belief in reciprocity and demonstrated ability to self monitor defined the factor.		
Variance: 1.420		
Pattern Generating Coefficient: 1.445		
Punishment (1a)	.414	0.09
Collective Responsibility (3a)	.325	
Rules of Game - Verbalizes	.281	
Cheating (2) - Counts Correctly	-.262	
Cheating (4) - Accuracy in Stamping	.264	
Factor 10: Judgments which regarded mutual trust, rather than overt punitiveness, as a contributor to desirable conduct furnished major loadings.		
Variance: 1.154		
Pattern Generating Coefficient: 1.351		
Lying (3b)	.602	0.06
Justice (1c)	.471	
Factor 11: Two measures of expressed regard for personal responsibility defined the factor.		
Variance: 1.243		
Pattern Generating Coefficient: 1.23		
Transfer from Two-Three Dimension	-.343	0.07
Lying (3b)	.308	
Collective Responsibility (1a)	.383	

TABLE 3 -- Continued

Salient Variables	r_{j1}	Mean Absolute Value of Non-Salient Variables
Factor 12: Expressed disbelief in the probity of punishing a group for the misdeeds of one member combined with repeated untruthfulness in reporting errors of self and others. Variance: 1.161 Pattern Generating Coefficient: 1.373		
Lying (2a)	-.251	0.06
Collective Responsibility (2a)	.487	
Report of Mishap (1)	-.271	
Report of Mishap (2)	-.318	
Cheating (1) - Starts on Time	.296	
Cheating (4) - Accuracy in Stamping	-.317	
Factor 13: Inability to state rules combined with expressed belief in the unchangeability of rules. Variance: 1.081 Pattern Generating Coefficient: 1.550		
Rules of Game - Verbalizes	-.293	0.08
Rules of Game - Alterable	-.432	
Factor 14: Honesty in handling unclaimed property combined with truthfulness in reporting mishaps of others to suggest integrity. Variance: 1.067 Pattern Generating Coefficients: 1.391		
Class Inclusion - Animals (5)	-.299	0.07
Money Return (2)	.348	
Report of Mishap (1)	.373	
Report of Mishap (2)	.356	
Factor 15: Lack of regard for responsibility loaded with irresponsible handling of unclaimed objects. Variance: 0.976 Pattern Generating Coefficient: 1.266		
Transfer from Two to Three Dimension	.364	0.07
Collective Responsibility (2a)	-.388	
Honesty - Pen Return	-.314	

TABLE 4

INTERCORRELATIONS OF 15 OBLIQUE FACTORS FROM THE FACTOR ANALYSIS OF 86 COGNITIVE, MORAL JUDGMENT, AND MORAL CONDUCT VARIABLES *
(N=148)

Factor	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	138	-008	-078	-008	289	003	079	-031	101	-035	-134	-195	170	-020
2.		377	-091	325	-223	219	343	355	222	139	141	075	186	213
3.			-055	262	-344	363	280	333	131	180	-045	314	-009	142
4.				-068	-086	044	-057	-064	-081	117	-180	-052	-351	-134
5.					-419	162	314	562	327	150	220	038	260	273
6.						-346	-217	-453	-140	-246	-174	-242	008	-173
7.							248	303	097	106	-242	221	-076	001
8.								315	224	161	103	-089	-061	318
9.									291	071	140	292	263	270
10.										-238	101	-096	069	107
11.											-072	120	-085	155
12.												-033	348	427
13.													158	009
14.														221
15.														

* Decimal Points Omitted