

ABSTRACT

DIMENSIONAL ANALYSIS OF DEFENSES

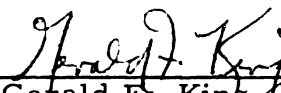
by Helen Westman

The DDB (Defensiveness About Driving Behavior) Inventory was constructed to assess defensive behavior in a stressful, real life situation, i. e., problem drivers awaiting interviews which could result in the loss of their driving permits. Previous research with the DDB Inventory suggested that a typology of defenses was a more productive approach than the general concept of defensiveness. Judges were able to classify reliably items from the Inventory into the following categories of defense: rationalization, projection, and denial. The present study represents a further dimensional analysis of the DDB Inventory using the method of factor analysis.

The defensive items of the Inventory, age, education, and vocabulary were intercorrelated, and the matrix of correlations was subjected to factor analysis (principal axes method). Both a quartimax and a varimax rotation was accomplished for a five-factor solution. An index of factorial similarity showed very close agreement for the two rotational methods.

The following interpretations were given to four of the five factors that were obtained: I. Rationalization, II. Projection, III. Denial-minimization, and IV. Lack of Sophistication. In general, there seemed to be good agreement between the items judged to reflect rationalization, projection, and denial and the items loading on the factors that were interpreted as Rationalization, Projection, and Denial-minimization.

Approved


Gerald F. King Major Professor
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DIMENSIONAL ANALYSIS OF DEFENSES

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I. INTRODUCTION

The DDB Inventory¹ (King, 1957) represents an attempt to measure defensive behavior in a stressful, real life situation. It was designed to be administered to problem drivers just prior to re-examination interviews which would determine their future driving privileges. The drivers were aware that the re-examination interviews could result in the loss of their driving permits, with such decisions being made in more than 50 per cent of the cases at the time of the research. That the situation would produce anxiety and concomitant defensive behavior was based on the importance of a driver's license in present everyday living. This assumption received strong support from repeated observations of the drivers in the waiting room prior to their interview appointments.

In research focused on anxiety and related phenomena, a typical feature of the methodology is the introduction of stress. An attempt is made to create anxiety by such means as depreciating the subject's performance, using insolvable problems, and the like. At least two problems arise in connection with stressful conditions that are "artificially" induced in the laboratory: (a) it is not always evident that the desired emotional state is experienced by the subjects, and (b) it is not clear to what extent the results can be generalized to everyday life. Embedded as it is in a stressful, real life situation, the DDB Inventory seems to provide a method for circumventing, at least to some degree, the aforementioned problems.

In initial studies with the DDB Inventory, significant positive correlations were obtained between global measures of defensiveness derived from this instrument and independent interview ratings of

¹Defensiveness About Driving Behavior Inventory.

defensiveness (King, 1957; Schiller, 1958). Support was thus obtained for the concurrent validity of the Inventory. Further explorations suggested that a typology of defense mechanisms was a more fruitful approach than the general concept of defensiveness (King and Schiller, 1960). In the latter research, the Inventory items were classified by judges in accordance with the following types of defenses: denial, projection, and rationalization. Separate defensive scores for denial, projection and rationalization were obtained in this manner. Confirming a hypothesis suggested by psychoanalytic theory, it was found that level of ego strength was significantly related to the relatively greater use of rationalization than either denial or projection.

The present study undertakes a further and more extensive dimensional analysis of the DDB Inventory. To be investigated is the typology of defenses that is yielded by factor analysis. In view of previous research with the DDB Inventory, it would be expected that the results will reveal, at least, factors corresponding to denial, projection, and rationalization.

II. METHOD

2.1 Subjects

The sample consisted of 164 male drivers, each of whom had a large number of traffic violations and/or were involved in traffic accidents. The subjects had been summoned to the Driver and Vehicle Services, Office of the Secretary of State (Michigan), for a re-examination interview. The ages of the subjects ranged from 16 to 62 years ($\underline{M}$ = 26.96, $\underline{SD}$ = 10.08), with level of education extending from 3 to 19 years ($\underline{M}$ = 11.45, $\underline{SD}$ = 2.27).

2.2 Procedure

Prior to the re-examination interview, each subject was individually administered a battery of tests that included the WAIS vocabulary subtest and the DDB Inventory.

2.3 Defensive Measures

A special instrument was constructed to yield a quantitative measure of "defensiveness against accepting personal responsibility for one's traffic record" (King, 1957). In addition to consulting with examiners, the interview records of more than 300 problem drivers seen at the Driver and Vehicle Services were examined and culled for defensive statements. A total of twenty-eight such statements were assembled. There was considerable variability in the "defensive content," or in the obvious-subtle nature of the statements. The following is an example of a more obvious statement: "My record may look bad, but I really don't drive that way." An example of a more subtle defense was as follows: "Any one who drives as much as I do is almost certain to pick up traffic tickets."

The twenty-eight defensive statements were randomly combined with twelve non-defensive items to comprise the DDB Inventory. The defensive statements are presented in Table 1. There was 100 per cent agreement among three judges in classifying the forty statements as either defensive or non-defensive.

The DDB Inventory is a self-report scale in which the driver writes "0" if he disagrees with the statement, "1" if he agrees a little or to some extent, and "2" if he agrees very much with the statement.

The reliability of the defensive statements of the DDB Inventory, assessed by the split-half method using the Spearman-Brown correction, was .81. Concurrent validity ($r = .60$) was established between interview ratings of defensiveness and defensive measures of the DDB Inventory (King, 1957; Schiller, 1958).

2.4 Analysis of Data

Responses to the defensive items were classified as either "agree" or "disagree." With this dichotomy, phi coefficients were computed between all defensive items. To complete the correlation matrix, point biserial coefficients of correlation were computed between the defensive items and the reference variables (age, education, and vocabulary) and product-moment correlations between the reference variables. The resulting correlation matrix is presented in Table 2. The correlation matrix was subjected to a factor analysis using the principal axes method and Guttman's (1958) method of estimating communalities. Rotation to orthogonal simple structure was accomplished by the varimax (Kaiser, 1958) and quartimax (Neuhauser and Wrigley, 1954) methods. Five factors emerged from each method which satisfied the Kiel-Wrigley (1960) operational criterion, viz., a solution in which each rotated factor to be acceptable has to have at least two variables with highest loadings on the factor.

Table 1. --Defensive Items of the DDB Inventory

Item Number*	Defensive Statement
1	A person can be expected to violate traffic laws when he has serious problems on his mind.
2	I don't think my driving record is so bad, and I've never had any serious accidents.
4	I believe that since a good driver knows how to handle himself, it doesn't hurt to go over the speed limit once in a while.
5	I don't think I should have been called in because a lot of people have worse driving records.
7	Anyone who drives as much as I do is almost certain to pick up traffic tickets.
8	I consider myself a pretty good driver and feel that in some cases I can judge how fast to drive better than the traffic signs.
11	I think I have some pretty good excuses for my driving record.
12	I've been given tickets when I wasn't guilty, but it's either plead guilty or spend a lot of money on lawyers and lay off work.
13	I've noticed that the police are more apt to give tickets to certain types of cars.
14	I don't feel the few traffic tickets I have should cause such a fuss.
15	I think that paying fines is enough punishment for traffic violations.
16	I think that in some cases the police lay for certain drivers and give them tickets no matter how they drive.
19	I think that the police are often too strict in enforcing the traffic laws.
20	Almost everyone violates the traffic laws, and I was just unlucky enough to get caught.

*Numbers correspond to their appearance in the DDB Inventory.

Continued

Table 1. --(Continued)

Item Number	Defensive Statement
22	It's my opinion that the speed traps that they have today are unfair.
24	Highway safety is important, but I think the police should spend more time on other matters instead of spending so much time giving traffic tickets.
25	Sometimes I wouldn't be able to get certain things done if I didn't drive fast.
27	The way some people drive, you have to violate the law in order to avoid accidents.
28	Most of the time I obey the traffic signs, but some of them are not logical and don't make sense.
29	If the law was enforced like it should be, a lot more people would get tickets, not just a selected few.
30	My record may look bad, but I really don't drive that way.
31	It's been my experience that the police and courts often work together, so you don't stand a chance even when you're not guilty.
32	I've changed since my last ticket so my traffic record really doesn't apply to me.
33	I think that tickets are just one side of the story, and don't really indicate what kind of a driver you are.
35	I think the police should give some consideration to the person who uses his car to make a living.
37	The cars of today are built safely for high speeds, and many of the traffic laws need to be changed to fit modern times.
38	In the case of my record, I think it should be taken into consideration that I didn't know you could have your license taken away.
40	I'm not trying to build myself up, but more than one person whose judgment I respect has complimented me on my driving.

Table 2.--Matrix of Inter-Correlations for Defensive Items and Reference Variables.

	E**	V***	1	2	4	5	7	8	11	12	13	14	15	16	19	20	22	24	25	27	28	29	30	31	32	33	35	37	38	40
A*	-01	36	-04	-00	-00	09	-07	-06	06	10	-18	-01	-18	-09	-09	-06	15	14	-06	-08	07	-02	02	-04	10	04	-03	-07	08	02
E**		47	02	-05	-17	-30	-08	-06	-11	-27	-13	-15	-18	-17	-06	10	02	-02	-12	-06	-10	-06	01	-17	-06	12	-12	-07	-15	02
V***			-06	-18	-20	-23	-28	-14	-03	-08	-14	-28	-25	-12	-10	-12	-01	10	-18	-16	-06	-10	-05	-13	-06	04	-19	-08	-09	-07
1			10	10	16	26	09	08	-02	15	12	06	06	18	26		11	18	27	22	08	21	10	04	23	21	14	19	11	23
2				13	22	07	18	26	03	13	27	08	12	04	14		10	02	11	10	09	13	30	01	21	14	16	11	05	10
4					45	34	34	22	16	11	30	20	21	11	22		22	23	15	21	23	34	07	23	13	17	10	35	40	05
5						21	34	23	23	15	39	21	20	02	10		14	12	17	17	24	21	07	28	26	10	20	21	42	01
7							13	13	02	05	30	17	-03	19	23		18	08	25	16	11	17	14	08	16	08	19	21	30	22
8								16	16	17	19	17	28	13	15		15	30	09	14	30	08	06	21	16	05	06	44	28	14
11									36	22	13	10	32	22	04		19	07	19	26	07	24	32	22	13	24	18	11	23	32
12										18	27	14	40	18	10		26	17	15	18	04	10	14	34	20	09	15	23	11	16
13											12	25	44	27	09		03	-00	24	10	12	11	-02	19	07	17	21	10	-06	17
14												26	24	25	18		28	22	08	24	14	23	09	30	21	16	24	18	22	19
15													18	16	18		02	19	12	20	15	16	04	22	29	20	24	21	04	11
16														15	18		25	22	13	24	18	24	16	39	08	18	14	32	16	08
19															09		30	12	30	21	04	08	08	19	13	02	18	13	02	28
20																	28	30	12	32	06	25	10	20	31	30	11	22	04	29
22																		26	08	11	14	26	17	30	15	17	06	16	19	22
24																			16	12	10	04	10	24	07	24	18	14	14	16
25																				18	16	18	12	12	14	14	20	19	21	13
27																					12	27	08	12	20	12	18	20	16	24
28																						25	10	10	18	07	18	26	23	12
29																							04	28	17	19	20	21	29	15
30																								03	21	24	21	02	16	23
31																									18	10	14	26	23	02
32																										26	24	14	19	18
33																											18	15	01	29
35																												00	13	21
37																													08	15
38																														00
40																														

* Age

** Education

*** WAIS vocabulary score

III. RESULTS AND DISCUSSION

The correlation matrix presented in Table 1 demonstrated three noteworthy features: (1) the defensive statements are positively related, (2) the reference items are usually negatively correlated with the defensive items, and any positive ones are small, i.e., older, better educated, and more intelligent subjects answer positively to fewer defensive items, and (3) all correlations are small (none greater than .47).

The unrotated or principal axes solution is presented in Table 3, followed by the varimax solution in Table 4, and the quartimax solution in Table 5.

The first four rotated factors of the varimax solution accounted for 77 per cent of common variance, while a fifth factor accounted for a further 11.57 per cent of the variance. The five-factor quartimax solution accounted for 88.59 per cent of the common variance, with the fifth factor contributing 8.32 per cent.

3.1 Comparison of the Varimax and Quartimax Solutions

The five factors comprising the varimax solution are presented in Tables 6 through 10, together with the corresponding factors of the quartimax solution. From these five tables, it should be noted that the solutions of the two methods are in agreement in the sense that the statements loading on Factors I, II, III, IV, and V of the varimax solution are, for the most part, the same statements that load on the corresponding factors of the quartimax solution. The loadings on the statements present in corresponding factors of both solutions are very nearly equal in magnitude. Furthermore, statements not contained

Table 3. --Principal Axes Solution for Defensive Items.

Items*	I	II	III	IV	V	h ²
Age	-.04	.13	-.42	-.17	.25	.26
Education	-.27	.48	-.21	.02	-.23	.39
Vocabulary	-.34	.37	-.35	-.28	-.01	.41
1	.33	.24	.03	.25	-.06	.21
2	.29	.05	.03	.12	.15	.22
4	.56	-.23	-.29	.12	-.12	.55
5	.55	-.36	-.23	.07	.15	.55
7	.41	-.01	-.03	.41	.04	.34
8	.47	-.16	-.18	-.06	-.30	.49
11	.46	.15	.03	-.24	.32	.43
12	.44	-.05	.07	-.44	.16	.43
13	.35	-.01	.43	-.17	-.07	.39
14	.53	-.11	-.02	.05	.09	.48
15	.41	-.07	.24	.10	-.12	.31
16	.52	-.05	.15	-.46	-.13	.52
19	.36	.15	.24	-.04	.01	.24
20	.42	.32	-.03	.15	-.27	.36
22	.42	.21	-.20	-.17	.01	.32
24	.37	.12	-.14	.07	-.15	.26
25	.39	.02	.16	.13	.08	.29
27	.42	.14	.09	.08	-.06	.35
28	.35	-.08	-.16	.05	-.06	.23
29	.47	.05	-.11	.05	-.03	.40
30	.27	.24	-.02	.01	.32	.23
31	.49	-.14	-.02	-.32	-.11	.46
32	.42	.18	-.07	.14	.12	.36
33	.35	.39	-.01	.01	-.00	.27
35	.39	.05	.19	.11	.23	.24
37	.47	-.04	-.09	-.06	-.40	.44
38	.42	-.23	-.38	.10	.18	.41
40	.37	.04	.12	.07	.07	.30
Square-sum of loadings	5.22	1.39	1.19	1.12	.92	11.13

* Items are numbered in order of their appearance in the DDB Inventory.

Table 4. -- Varimax Factor Solution for Defensive Items.

Items*	I	II	III	IV	V	h ²
Age	13	-02	-10	-46	22	29
Education	-25	-20	29	-44	-17	40
Vocabulary	-22	-04	-01	-64	-04	46
1	12	-03	44	11	11	24
2	15	04	16	13	24	13
4	65	15	17	09	-03	48
5	65	16	-04	16	18	51
7	35	-13	32	26	16	34
8	46	29	19	04	-20	37
11	13	39	12	-02	46	39
12	14	58	-04	01	25	42
13	-09	44	15	35	05	35
14	39	22	16	20	20	31
15	16	21	23	36	00	26
16	14	70	10	08	01	53
19	-02	27	27	20	16	21
20	15	12	58	02	-04	38
22	24	30	28	-19	16	28
24	24	23	28	-08	-01	20
25	15	12	22	27	20	20
27	15	18	36	16	11	22
28	36	11	14	03	02	16
29	34	17	28	05	11	24
30	06	08	19	-05	43	23
31	30	52	06	05	-01	37
32	24	07	33	05	28	25
33	04	16	47	-08	20	27
35	12	12	18	27	35	26
37	34	32	31	06	-25	39
38	61	03	-01	-03	20	42
40	-03	14	48	04	28	33
Square-sum of loadings	2.66	2.23	2.16	1.52	1.29	9.86

* Items are numbered in order of their appearance in the DDB Inventory.

Table 5. --Quartimax Factor Solution for Defensive Items.

Items*	I	II	III	IV	V	h ²
Age	11	-01	-05	-46	25	29
Education	-27	-21	22	-44	-22	40
Vocabulary	-25	-04	-04	-63	-00	46
1	15	-04	45	08	-05	24
2	18	05	23	11	16	13
4	67	11	11	05	-12	48
5	67	14	-01	13	15	51
7	38	-14	34	23	04	34
8	47	24	08	01	-29	37
11	18	42	25	-04	34	39
12	18	59	04	-01	18	42
13	-04	45	18	34	-06	35
14	43	21	20	17	10	31
15	20	20	23	34	-11	26
16	19	69	09	06	-10	53
19	03	28	32	18	03	21
20	19	08	52	-03	-25	38
22	27	28	28	-23	03	28
24	26	21	24	-11	-13	20
25	19	13	28	25	09	20
27	19	17	37	13	-05	22
28	37	09	11	00	-05	16
29	37	16	28	01	-01	24
30	10	11	31	-06	34	23
31	33	50	03	03	-09	37
32	27	07	39	02	14	25
33	08	16	48	-11	03	27
35	16	15	29	25	24	26
37	37	27	19	02	-38	39
38	62	01	01	-06	18	42
40	02	15	55	02	10	33
Square-sum of loadings	3.05	2.14	2.34	1.41	.93	9.86

* Items are numbered in order of their appearance in the DDB Inventory.

Table 6. --Factor I (Rationalization).

Item	Loading	
	V*	Q**
4. I believe that since a good driver knows how to handle himself, it doesn't hurt to go over the speed limit once in a while.	65	67
5. I don't think I should have been called in because a lot of people have worse driving records.	65	67
7. Anyone who drives as much as I do is almost certain to pick up traffic tickets.	35	38
8. I consider myself a pretty good driver and feel that in some cases I can judge how fast to drive better than the traffic signs.	46	47
14. I don't feel the few traffic tickets I have should cause such a fuss.	39	43
28. Most of the time I obey the traffic signs, but some of them are not logical and don't make sense.	36	37
29. If the law was enforced like it should be, a lot more people would get tickets, not just a selected few.	34	37
31. It's been my experience that the police and courts often work together, so you don't stand a chance even when you're not guilty.	30	33
37. The cars of today are built safely for high speeds, and many of the traffic laws need to be changed to fit modern times.	34	37
38. In the case of my record, I think it should be taken into consideration that I didn't know you could have your license taken away.	61	62

* Varimax solution

** Quartimax solution

Table 7.--Factor II (Projection).

Item	Loading	
	V*	Q**
11. I think I have some pretty good excuses for my driving record.	39	42
12. I've been given tickets when I wasn't guilty, but it's either plead guilty or spend a lot of money on lawyers and lay off work.	58	59
13. I've noticed that the police are more apt to give tickets to certain types of cars.	44	44
16. I think that in some cases the police lay for certain drivers and give them tickets no matter how they drive.	70	69
31. It's been my experience that the police and courts often work together, so you don't stand a chance even when you're not guilty.	52	50
37. The cars of today are built safely for high speeds, and many of the traffic laws need to be changed to fit modern times.	32	--

* Varimax solution

** Quartimax solution

Table 8. --Factor III (Denial-minimization).

Item	Loading	
	V*	Q**
1. A person can be expected to violate traffic laws when he has serious problems on his mind.	44	45
7. Anyone who drives as much as I do is almost certain to pick up traffic tickets.	32	34
19. I think that the police are often too strict in enforcing the traffic laws.	--	32
20. Almost everyone violates the traffic laws, and I was just unlucky enough to get caught.	58	52
27. The way some people drive, you have to violate the law in order to avoid accidents.	32	37
30. My record may look bad, but I really don't drive that way.	--	31
32. I've changed since my last ticket so my traffic record really doesn't apply to me.	32	39
33. I think that tickets are just one side of the story, and don't really indicate what kind of a driver you are.	45	48
37. The cars of today are built safely for high speeds, and many of the traffic laws need to be changed to fit modern times.	31	--
40. I am not trying to build myself up, but more than one person whose judgment I respect has complimented me on my driving.	48	54

* Varimax solution

** Quartimax solution

Table 9. --Factor IV (Lack of Sophistication).

Item	Loading	
	V*	Q**
13. I've noticed that the police are apt to give tickets to certain types of cars.	35	34
15. I think that paying fines is enough punishment for traffic violations.	36	34
A. Age	-46	-46
E. Education	-44	-44
V. WAIS vocabulary score	-64	-63

Table 10. --Factor V.

Item	Loading	
	V*	Q**
11. I think I have some pretty good excuses for my driving record.	46	34
30. My record may look bad, but I really don't drive that way.	43	34
35. I think the police should give some consideration to the person who uses his car to make a living.	35	--
37. The cars of today are built safely for high speeds, and many of the traffic laws need to be changed to fit modern times.	--	-38

* Varimax solution

** Quartimax solution

in a given factor of one solution, but present in a corresponding factor of the other solution, have loadings of relatively low magnitudes in the latter solution, i. e., loadings of magnitudes only slightly in excess of the chosen cut-off of 0.30.

3.2 Index of Factorial Similarity for the Two Solutions

Another comparison of the solutions of the two methods (varimax and quartimax) is obtained statistically by computing an index of factorial similarity (Wrigley and Neuhaus, 1955) for the corresponding five factors of the two solutions. The results of this computation are presented in Table 11.

Table 11. --Index of Factorial Similarity Between Varimax and Quartimax Solutions.

Factor	Index
I	974
II	996
III	993
IV	996
V	828

Inspection of the indices in Table 11 indicates very close agreement between the five factors of the varimax and quartimax solutions.

3.3 Discussion and Interpretation of the Five Factors

In this section, each of the five factors is discussed and interpreted.

Factor I Rationalization (see Table 6)

This factor consists of statements (items 4, 8, 28, and 37) which indicate the subject perceives himself to be a "good driver," is self-confident of his ability to make decisions, and feels he is an able judge of traffic conditions. He is a good driver among bad drivers (item 5), and a good driver should be allowed a certain amount of freedom in interpreting the traffic laws. A number of other "excuses" (items 7, 14, 29, and 38) also have significant loadings. The diversity of the items suggests that the factor is a complex one, but what seems to emerge is defensive behavior that is compatible with a broad concept of rationalization.

This factor contains two items (items 29, 31) which indicate projection rather than rationalization. However, an inspection of Table 6 reveals that the loadings on these two items are relatively low.

Factor I thus emphasized the process of intellectualization in which the driver justifies his traffic record with a variety of excuses. In using this defensive behavior, the driver relies upon a very favorable picture of the self and extreme confidence in his ability to make decisions, i. e., to know what is "right."

Factor II Projection (see Table 7)

This factor consists of statements (items 13, 16, and 31) which indicate the subject is projecting the blame and responsibility for his poor traffic record onto the police and/or courts. The feeling tone is persecutory in nature, with an added ramification of being unduly victimized (item 12).

Factor II coincides with the psychoanalytic notion of projection. Freud (1953) first defined projection as the "ego thrusting forth onto the external world whatever gives rise to pain internally." It appears that

the problem driver is projecting the blame for his poor traffic record onto the police and/or courts, thereby avoiding personal responsibility for his behavior.

Factor III Denial-minimization (see Table 8)

This factor consists of statements which tend to deny personal responsibility for one's driving record (items 1, 20, and 30) while at the same time minimizing the importance and validity of one's record (items 32, 33, and 40). Anna Freud (1937) has indicated that denial can be used only as long "as it can exist side by side with the capacity for reality testing without disturbing it." The problem driver recognizes the fact that traffic laws are violated, but simply denies his own responsibility. He feels "almost everyone violates the traffic law, " and he was just "unlucky enough to get caught."

Factor IV Lack of Sophistication (see Table 9)

This factor consists of negative loadings for age, education, and vocabulary and positive loadings for two defensive items which suggest an obvious, unreflective type of rationalization. Factor IV is not a psychoanalytic defense mechanism per se, but Fenichel (1945) has indicated that various types of rationalization probably exist. The kind of rationalization employed in this factor appears to reflect immaturity, naivete, or lack of sophistication.

Factor V

Only three statements load on this factor and a meaningful interpretation is not apparent.

3.4 Comparison of Factors I, II, and III (Rationalization, Projection, and Denial-minimization) with the Results of the King and Schiller Study.

In this section, the statements contained in Factors I, II, and III which have been classified Rationalization, Projection, and Denial-minimization, respectively, and the statements judged as best reflecting rationalization, projection, and denial in the King and Schiller (1960) study are arranged in Table 12. In this table each item is identified by its number as it appears in the DDB Inventory. In addition, the loadings of items in a given factor are presented in the form of ordered pairs. The first number of the ordered pair gives the loading of the varimax solution and the second number gives the loading of the quartimax solution.

3.4.1 Factor I (Rationalization)

From Table 12, it is seen that all but two items (items 1 and 25) which were judged rationalization in the King and Schiller study are present in Factor I. Item 1 is contained in Factor III (Denial-Minimization) with a relatively high loading, whereas item 25 has a loading of less than the cut-off value in all five factors. In addition to these items, Factor I also contains two items (items 19 and 31) which were judged projection. However, the loadings of these two items are relatively low. Three additional items (items 5, 14, and 28) not classified in the King and Schiller study also load on Factor I.

With the exception of three items (items 1, 29, and 31), the classification of rationalization in the King and Schiller study is in close agreement with a sub-set of items in Factor I.

3.4.2 Factor II (Projection)

Inspection of Table 12 reveals that all but one item (item 29), which were judged projection in the King and Schiller study are present in

Table 12. --Comparison of Items Judged Rationalization, Projection, and Denial and Factor I (Rationalization), Factor II (Projection), and Factor III (Denial-minimization).

Items of King and Schiller Study		Items and Loadings of Thesis Solution		
		Factors		
		I Rationalization	II Projection	III Denial-minimization
Rational.	1			1 (44, 45)
	4	4 (65, 67)		
	7	7 (35, 38)		7 (32, 34)
	8	8 (46, 47)		
	25			
	37	37 (34, 37)	37 (32, --)	37 (31, --)
	38	38 (61, 62)		
Proj.	13		13 (44, 44)	
	16		16 (70, 69)	
	29	29 (34, 37)		
	31	31 (30, 33)	31 (52, 50)	
Denial	2			
	30			30 (--, 31)
	32			32 (32, 39)
	33			33 (45, 48)
	34			
		5 (65, 57)	11 (39, 42)	
			12 (58, 59)	
		14 (39, 43)		19 (--, 32)
				20 (58, 52)
				27 (32, 37)
		28 (36, 37)		40 (48, 54)

Factor II. Item 29 is contained in Factor I (Rationalization) with a relatively low loading. Two additional items (items 11 and 12) not classified in the King and Schiller study also load on Factor II.

With the exception of one item (item 29), the classification of projection in the King and Schiller study is in close agreement with a subset of items in Factor II.

3.4.3 Factor III (Denial-minimization)

From the last column of Table 12, it is seen that all but two items (items 2 and 34) which were judged denial in the King and Schiller study are present in Factor III. Both of these items (items 2 and 34) have loadings of less than the cut-off value in all given factors. In addition to these items, Factor III also contains two items (items 1 and 7) which were judged rationalization. Four additional items (items 19, 20, 27, and 40) not classified in the King and Schiller study also load on Factor III.

Of the five items (items 2, 30, 32, 33, and 34) judged denial in the King and Schiller study, three items (items 30, 32, and 33) are contained in Factor III. Item 30 has a very low loading on this factor.

3.4.4 Conclusions

In general, the classifications in the King and Schiller study compare favorably with sub-sets of items in the corresponding factors of this thesis. However, the factors contain a larger number of statements than the corresponding classifications of judged statements.

Inasmuch as (1) some items loaded on more than one factor and (2) other items which loaded on a particular factor were difficult to interpret, it follows that many of the items are not factorially pure. The results suggest that a problem driver who relies principally on one type of defense also tends (to a lesser degree) to use other defenses. Shaffer (1954) has stressed the fact that defenses vary in complexity and that one

mode of defense is rarely, if ever, relied upon solely at the exclusion of all other modes of defense. He suggests speaking of a "defensive aspect" of a behavior rather than calling it a defense.

IV. SUMMARY

The purpose of this study was to undertake a dimensional analysis of the DDB Inventory. Earlier explorations with the DDB Inventory suggested that a typology of defense mechanisms was a more fruitful approach than the general concept of defensiveness (King and Schiller, 1960).

Accordingly, the DDB Inventory and the WAIS vocabulary subtest were administered to 164 male drivers, all of whom had a high number of violations and/or a high number of accidents. A matrix of correlations between the defensive statements of the DDB Inventory and the reference variables (age, education, and WAIS vocabulary score) was subjected to a factor analysis. A varimax rotation and a quartimax rotation were made for five factors, respectively. The two solutions were compared and found in close agreement. Of these five factors, four were interpretable. The factors were designated as:

- I. Rationalization
- II. Projection
- III. Denial-minimization
- IV. Lack of Sophistication

Factor I (Rationalization) had high loadings on items which indicated use of intellectualization as an attempt to justify driving behavior. This defensive behavior seemed to stem from an overly favorable self-evaluation and undue confidence in the ability to make decisions about traffic conditions.

Factor II (Projection) had high loadings on items which indicated the blame for a poor traffic record was projected onto the police and/or courts.

Factor III (Denial-minimization) had high loadings on items which indicated heavy reliance on the defensive aspects of denying personal responsibility regarding traffic laws and minimizing the importance of these laws.

Factor IV (Lack of Sophistication) had high loadings on items which indicated a naive, unsophisticated kind of rationalization which is typical of the young, the less educated, and the less intelligent.

The first three factors seemed to correspond generally to the psychoanalytic defense mechanisms of rationalization, projection, and denial. Sub-sets of items in Factor I (Rationalization), Factor II (Projection), and Factor III (Denial-minimization) agreed favorably with the items judged rationalization, projection, and denial in a previous study (King and Schiller, 1960). However, a few items loaded on more than one factor and other items which loaded on a particular factor resulted in some difficulties for interpretation.

REFERENCES

- Fenichel, O. The psychoanalytic theory of neurosis. New York: W. W. Norton & Company, Inc., 1945.
- Freud, A. The ego and the mechanisms of defense. London: Hogarth, 1937.
- Freud, S. Collected papers. London: Hogarth, 1953, 4, 78.
- Guttman, L. An estimate of communalities that is imagewise consistent and structure-free. Res. Rep. 20 Contract AF 41(657)-76, May, 1958.
- Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. Psychometrika, 1958, 23, 187-200.
- Kiel, D. F., and Wrigley, C. Effects upon the factorial solution of rotating varying numbers of factors. Paper read at the annual meetings of the American Psychological Association, Sept., 1960.
- King, G. F. A scale for measuring "defensiveness" in problem drivers. Highway Traffic Safety Center Library, Michigan State University, 1957.
- King, G. F., and Schiller, M. Ego strength and type of defensive behavior. J. consult. Psychol., 1960, 24, 215-217.
- Neuhaus, J. O., and Wrigley, C. The quartimax method: an analytic approach to orthogonal simple structure. Brit. J. stat. Psychol., 1954, 7, 81-91.
- Schaffer, R. Psychoanalytic interpretation in Rorschach testing. New York: Grune & Stratton, 1954.
- Schiller, M. Ego-strength, manifest anxiety, and defensiveness. Unpublished master's thesis, Michigan State University, 1958.
- Wrigley, C., and Neuhaus, J. O. The matching of two sets of factors. Paper read at the annual meetings of the American Psychological Association, Sept., 1955.

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