

THE STRUCTURED-OBJECTIVE RORSCHACH TEST (SORT) OCCUPATIONAL PROFILE FOR STATE ACCOUNTANTS

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OPSOMMING

Die doel van hierdie studie was die daarstelling van 'n beroepsprofiel van staatsrekenmeesters se prestasie op die Gestruktureerd-Objektiewe Rorschachtoets (SORT) wat vir voorligting, keuring en plasing van personeel gebruik kan word. Die steekproef is saamgestel uit rekenmeesters en ouditeure van die finansiële afdelings in verskeie staatsinstansies wat geselekteer is vir die Senior Finansiële Bestuurskursus by die Universiteit van Stellenbosch. Aangesien alle deelnemers as suksesvol in hulle beroep beskou is en geen beduidende verskille in die profiele van verskillende ouderdomsgroepe en jaargroepe gevind is nie, kan die SORT profiel van die totale groep as 'n voorspeller gebruik word vir die bepaling en evaluering van die persoonlikheidsienskappe wat belangrik is in die beroep van staatsrekenmeester.

ABSTRACT

The objective of this study was to provide an occupational profile of performance on the Structured-Objective Rorschach Test (SORT) by state accountants for use in guidance, selection and placement of personnel. The sample comprised accountants and auditors from the financial sections in various state institutions who were selected for the Senior Financial Management Course at the University of Stellenbosch. As all participants were considered successful in their occupation and no significant differences were found between the profiles of various age and year groups, the SORT profile obtained for the total group can be used as a predictor to determine and evaluate the personality traits that are important in the profession of state accountant.

The Structured-Objective Rorschach Test (SORT) is derived from the Rorschach Test, a projective test used for the appraisal of personality and the prediction of future behaviour. The purpose of the Rorschach technique is to provide a relatively standardized situation in which behaviour can be observed. A generalization may then be made from behaviour in the test situation to behaviour outside the test situation (Klopfer, Ainsworth, Klopfer & Holt, 1954). The Rorschach responses are interpreted together with all that can readily be observed and recorded of the interpersonal interaction and the subject's reaction to the situation. According to Candland (1968) the Rorschach Test therefore provides information on the emotional attitudes that a person has towards environmental events.

A projective technique deals with a number of variables and attempts to describe the individual in terms of a dynamic pattern of interrelated variables. Furthermore it provides a relatively ambiguous stimulus situation and the subject can optimally reveal his/her individuality of functioning. In the case of the Rorschach each response is classified by means of symbols in terms of determinant, location and content. Interpretative hypotheses are attached to the scoring categories and the interpretation of the combination of ratios between the determinants, locations and contents leads to a dynamic picture of a functioning individual.

The two main features of the Rorschach Test, namely the stimulus material consisting of ten inkblots and a scoring system based on determinants, locations and contents, are preserved in the SORT. In the case of the SORT the subject is, however, provided with a limited number of stimulus responses which are not questioned. The emphasis in the interpretation falls on the quantitative aspect of the responses and the hypotheses regarding the qualitative or quantitative meaning of the Rorschach responses to a symbol therefore cannot be

summarily transferred to the SORT. Not all the Rorschach symbols are furthermore used in the scoring of the SORT and this test cannot be interpreted in the same detail as the Rorschach.

The SORT was designed by J.B. Stone (1958) to determine and evaluate the personality traits that are important in professions, so that the broad personality picture obtained in this way can be used in guidance, selection and placement (Louw, 1978). Stone (1958) stated that the SORT is neither intended for measuring occupational abilities and/or skills, nor as a clinical aid in diagnosing deviant behaviour. However in business and industry the role of personality is as important as intelligence, aptitude, skills and knowledge for success in a specific vocation. The SORT was therefore developed as a measuring instrument to quickly and objectively obtain a broad image of those personality traits that are important for vocational success (Louw, 1975).

In order to address the need of the human resources practitioner for successful prediction of supervisory or managerial performance, Spangenberg (1990) provided a matrix of psychometric instruments for measuring managerial competence at various levels in the organization. He utilized the SORT at the first-line, middle, senior and executive management levels in the organization. The reason he used the SORT in this manner was because of its ability to differentiate between vocational groups on the grounds of personality components based on the data collected for the calculation of norms.

This background indicated that the SORT was an appropriate instrument for measuring personality traits at the senior management level of accountants in government service. The research was based on a request made by the Department of Accountancy and Auditing at the Faculty of Military Science at the University of Stellenbosch to the Department of Industrial Psychology at the same faculty. The request was aimed at providing the members of the Senior Financial Management Course with broad, yet scientific feedback on their personality-

task-follower-fit in the practice of their vocation. In other words determining the fit between the personality traits of the leader, the type and extent of the task he/she has to perform as well as the people working for him/her in terms of collective and individual personality traits.

The aim of this article is to present the results obtained on the SORT regarding the occupational profile of state accountants.

METHOD

Sample and procedure

The SORT was conducted over five years for four consecutive groups of state accountants and auditors. The broad individual profiles thus obtained gave rise to a hypothesis that the successful state accountant would present a typical vocational personality profile on the SORT.

The accountants and auditors who were tested with the SORT were selected for the Senior Financial Management Course from the financial sections of various state institutions, the greatest numbers being drawn from the South African Defence Force and the South African Police. All the state accountants and auditors in the research sample were employed as such by their departments. They were selected for advanced training and subsequent promotion based on their occupational achievements in the work environment. All the members who attended the advanced training course were therefore considered capable and successful state accountants. A detailed analysis of the sample is provided in Tables 1 and 2. From Table 1 it is clear that too few female respondents were available to make meaningful comparisons between the sexes. A comparison between the various ages and institutions likewise rendered too few respondents. Table 3 provides the breakdown of the four year groups after the respondents with missing values on SORT items were excluded. It also shows an age analysis of the four groups using two age groups, namely 26 to 39 years and 40 to 59 years. This distribution was used in the study.

**TABLE 1
SAMPLE DISTRIBUTION ANALYSIS**

Year	Gender		Department			Total
	Male	Female	SAP	SADF	Other	
1990	13	1	5	9	0	14
1991	15	2	3	11	3	17
1992	17	1	3	13	2	18
1994	14	2	4	10	2	16
Total	59	6	15	43	7	65

**TABLE 2
SAMPLE AGE ANALYSIS**

Year	Age groups							Total
	26-29	30-34	35-39	40-44	45-49	50-54	55-59	
1990	0	1	5	6	1	1	0	14
1991	0	3	6	3	3	1	1	17
1992	1	2	4	5	4	2	0	18
1994	1	4	8	3	0	0	0	16
Total	2	10	23	17	8	4	1	65

Testing with the SORT was done with each of the four groups at 07:30. Instructions as prescribed in the Manual for the SORT (Louw, 1975) were given in Afrikaans and English. Slides and a slide projector with a built-in screen were used and testing was conducted strictly according to the principles and instructions set out in the Manual for the SORT regarding distances and sizes.

**TABLE 3
RESEARCH SAMPLE DISTRIBUTION
(EXCLUDING MISSING VALUES)**

Year	Age groups		Total
	26-39	40-59	
1990	5	7	12
1991	7	9	16
1992	7	11	18
1994	13	3	16
Total	32	30	62

Measuring instrument

The original ten inkblots of the Rorschach Test are preserved in the SORT. For each blot 30 responses, arranged in ten groups of three, are given and the testee chooses one of three possible responses most representative of the blot. Similar to the Rorschach Test, scoring is done for area, determinants and content. Scores on 25 traits are then calculated. These traits are divided into four categories, namely Mental Functioning (Theoretical Tendency, Practical Tendency, Pedantic Tendency, Inductive Tendency, Deductive Tendency, Rigidity in Thought, Structuring and Concentration), Interests (Range of Interests and Interests in Human Relations), Responsiveness (Conventional and Individualistic) and Temperament (Persistence, Aggressiveness, Social Responsibility, Co-operation, Tact, Confidence, Consistency of Behaviour, Anxiety, Moodiness, Activity Potential, Impulsiveness, Flexibility and Conformity). Indications are also provided for Reduction of Intellectual Efficiency.

**TABLE 4
DESCRIPTIVE STATISTICS FOR THE TOTAL GROUP
N = 62**

Traits	\bar{X}	s	Min.	Q1	Med.	Q3	Max.
Theoretical	53,47	8,27	40	48,00	53,00	57,00	73
Practical	51,92	8,72	32	46,50	52,00	58,50	73
Pedantic	46,03	8,70	27	40,00	45,00	52,00	69
Induction	54,21	7,46	35	48,75	55,00	59,00	70
Deduction	53,45	6,78	37	50,00	53,50	57,25	68
Rigidity	54,11	10,03	34	46,00	53,00	63,00	78
Structuring	51,94	9,30	31	46,00	53,00	58,00	77
Concentration	52,35	7,03	29	48,00	53,00	57,00	69
Range	51,61	6,58	36	47,75	52,00	55,25	67
Human Relations	50,65	9,89	20	43,00	52,00	59,00	69
Conventional	56,76	8,69	41	50,75	56,00	60,50	80
Individualistic	46,02	8,25	27	41,00	47,00	51,00	70
Persistence	54,11	10,03	34	46,00	53,00	63,00	78
Aggressiveness	53,40	5,75	36	50,75	54,00	57,00	65
Social Responsibility	54,98	7,29	37	51,00	55,00	59,25	73
Co-operation	52,34	5,98	38	49,00	53,00	57,00	69
Tact	50,74	5,49	33	46,75	52,00	54,00	60
Confidence	50,94	6,72	27	45,00	52,00	57,00	64
Consistency of Behaviour	49,45	5,52	38	45,00	50,00	53,25	62
Anxiety	50,48	8,66	32	43,00	50,00	56,00	72
Moodiness	47,74	4,74	37	45,00	48,00	50,00	63
Activity Potential	55,40	10,65	27	48,00	58,00	61,00	78
Impulsiveness	47,15	6,96	30	43,00	46,50	51,25	70
Flexibility	53,61	6,28	36	50,75	54,00	58,00	68
Conformity	55,08	7,75	35	50,00	54,00	59,25	76

Reduction in Efficiency	0	1
Low Generalization	57	5
Perfectionism	60	2
Poor Control	56	6
High Anxiety	56	6
Compulsivity	48	14

The SORT has been standardized in South Africa by the HSRC (Louw, 1975). The test can be administered to persons over the age of ten years who are able to read and understand Afrikaans or English well. It was not possible to calculate the test-retest reliability for the norm group. Reliability coefficients for the variables could be determined for smaller available groups only and varied between 0,22 and 0,77. These results are reported in the Manual for the SORT (Louw, 1975). The SORT is based on the Rorschach rationale and it can be assumed that as such it has content validity. Various studies confirmed the construct and criterion-related validity of the SORT (Louw, 1978).

RESULTS AND DISCUSSION

Descriptive statistics

The means, standard deviations, medians, minimum and maximum scores of the scaled scores (mean = 50) for the 25 traits of the SORT are presented in Table 4. These statistics were calculated for the total group.

The profile of the means of the scaled scores for the 25 traits for state accountants is presented as Figure 1. The performance of the norm group (Louw, 1975) should be considered when interpreting this profile.

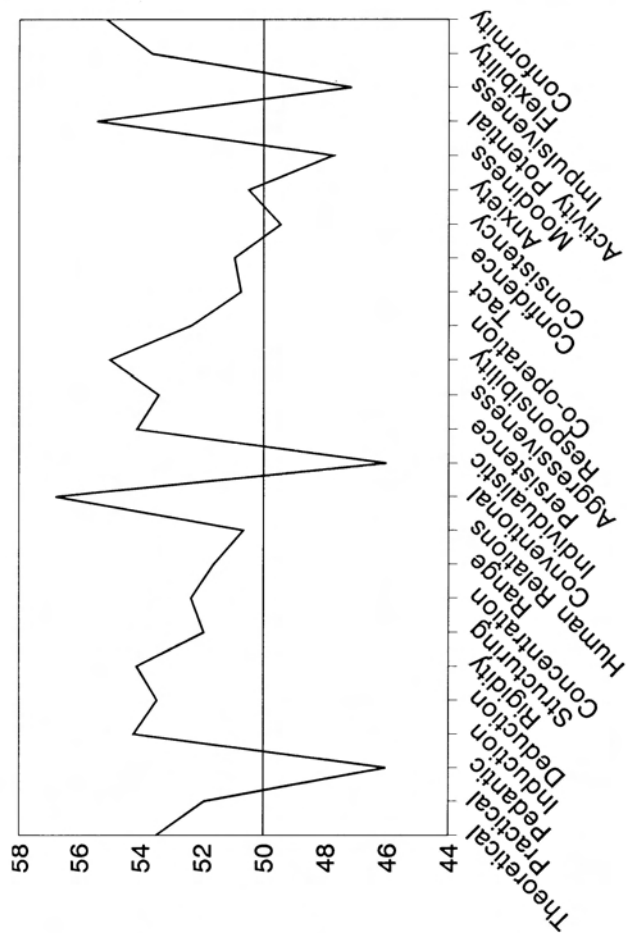


Figure 1: Sort profile of state accountants N = 62

When compared to the norm population the mean scores on Conventional, Flexibility and Conformity were above average. This indicated a tendency to conform to socially accepted codes and customs. These scores, however, also implied adequate ties with reality, the ability to be empathic as well as a balance between emotional control and emotional responsiveness, enabling individuals to act satisfactorily and effectively in a variety of situations (Klopfer & Davidson, 1962; Ogdon, 1969).

Although performance on the other traits was average, for some of the traits the mean scores were at the extremes of the average range. Low average: Pedantic, Individualistic, Con-

sistency of Behaviour, Moodiness and Impulsiveness. High average: Induction, Concentration, Range, Social Responsibility and Activity Potential.

The mental functioning of this occupational group can be described as balanced between thinking in broad general terms and being practical. They tend to use their theoretical ability to derive principles from specific situations but are also able to apply existing principles. They perceive reality accurately (also in interpersonal situations as already mentioned) and have the ability to concentrate. Twenty-three percent of the respondents indicated a reduction in intellectual efficiency due to compulsivity but the mean scores for the total group did not point to unwillingness to change or excessive perfectionism.

The range of interests and the interest in human relations were average. The tendency to respond in the same way others do, was confirmed by the low average performance on individualistic.

In terms of the social behaviour pattern, the respondents showed the necessary control over their emotions combined with the ability to respond empathically to environmental stimuli that is needed for satisfactory interpersonal relations, social adjustment and acceptance of social obligations. Conforming views and behaviour characterized this group. This pattern includes the following traits: Human Relations, Conventional, Social Responsibility, Co-operation, Tact, Moodiness and Conformity.

The ego functioning pattern of this group of accountants and auditors indicated stability with average performance on motivation, confidence and anxiety. They showed control over emotional energy but with flexibility in their emotional responsiveness. This pattern includes Range, Individualistic, Aggressiveness, Confidence, Consistency of Behaviour, Anxiety, Activity Potential, Impulsiveness and Flexibility.

Comparison of the profiles of subgroups

Multivariate analysis of variance (MANOVA) with multiple comparisons by means of univariate analyses of variance (ANOVAs) was used to compare the profiles of means of the scaled scores of the 25 traits for two age groups. The results of the MANOVA are presented in Table 5. The results indicate that at the 5% level there was no significant overall difference between the profile of means for the two groups. Table 6 shows the results of the ANOVAs with the profiles of means with age as the independent variable and scaled scores as the dependent variables. None of the traits showed a significant difference at the 5% level for the simultaneous comparison of 25 variables.

Although none of the differences in mean scores for the various traits were significant and both groups performed adequately regarding these traits, the following differences between the age groups in terms of description (average, above or below average) were noted. These descriptions were based on the data for the norm group. The younger age group tended to be more theoretical and prone to inductive thinking whereas the older group showed a deductive tendency. Although both groups were conventional, the younger group was even less individualistic than the respondents over 40 years of age. The older group was also mentally and emotionally more controlled than the younger group but still capable of appropriate interpersonal responses and adapting to situations.

TABLE 5
RESULTS OF THE MANOVA TO COMPARE THE
PROFILES OF MEANS OF THE 25 TRAITS FOR THE
TWO AGE GROUPS

Criteria	Wilks, Pillai and Hotelling-Lawley
F value	0,7467
Degrees of freedom	24 ; 37
p value	0,7721

TABLE 6
MEANS AND STANDARD DEVIATIONS OF THE
SCALED SCORES FOR THE 25 TRAITS AS WELL AS F
AND P VALUES OF ANOVAS WITH AGE AS INDE-
PENDENT VARIABLE AND SCALED SCORES AS
THE DEPENDENT VARIABLES (DF = 1; 60)

Traits	26 to 39 yrs N = 32		40 to 59 yrs N = 30		F value	p value
	\bar{X}	s	\bar{X}	s		
Theoretical	55,44	9,17	51,37	6,73	3,93	0,0521
Practical	50,06	9,19	53,90	7,86	3,10	0,0833
Pedantic	45,19	8,60	46,93	8,87	0,62	0,4345
Induction	54,59	8,58	53,80	6,17	0,17	0,6791
Deduction	51,88	6,65	55,13	6,63	3,73	0,0581
Rigidity	54,34	10,74	53,87	9,40	0,03	0,8534
Structuring	51,28	10,28	52,63	8,25	0,32	0,5715
Concentration	52,09	6,41	52,63	7,73	0,09	0,7654
Range	51,06	6,70	52,20	6,53	0,46	0,5012
Human Relations	48,97	10,36	52,43	9,21	1,93	0,1701
Conventional	57,50	8,99	55,97	8,43	0,48	0,4918
Individualistic	44,25	7,20	47,90	8,98	3,14	0,0817
Persistence	54,34	10,74	53,87	9,40	0,03	0,8534
Aggressiveness	52,44	5,92	54,43	5,46	1,89	0,1738
Social Responsibility	54,16	7,62	55,87	6,93	0,85	0,3600
Co-operation	52,16	6,16	52,53	5,88	0,06	0,8065
Tact	49,72	5,04	51,83	5,81	2,35	0,1306
Confidence	49,69	5,98	52,27	7,30	2,33	0,1320
Consistency of Behaviour	48,63	6,08	50,33	4,79	1,50	0,2260
Anxiety	52,06	8,42	48,80	8,72	2,24	0,1394
Moodiness	48,50	4,39	46,93	5,02	1,71	0,1954
Activity Potential	54,13	11,26	56,77	9,96	0,95	0,3332
Impulsiveness	47,34	6,36	46,93	7,65	0,05	0,8187
Flexibility	52,88	6,90	54,40	5,55	0,91	0,3434
Conformity	56,31	7,55	53,77	7,88	1,69	0,1988

Tables 7 and 8 indicate that there was also no significant overall difference between the profiles of means for the four year groups nor a significant difference for any of the traits at the 5% level for the simultaneous comparison of 25 variables.

TABLE 7
RESULTS OF THE MANOVA TO COMPARE THE
PROFILES OF MEANS OF THE 25 TRAITS FOR
THE FOUR YEAR GROUPS

Criteria	Wilks	Pillai	Hotelling-Lawley
F value	1,0357	1,0012	1,0754
Degrees of freedom	72; 105	72; 111	72; 101
p value	0,4304	0,4917	0,3650

The following differences in descriptions were noted. The 1990 group was more practical and prone to deductive thinking compared to the other groups. The 1991 group showed more control in mental functioning (rational control was also clear for the 1990 and 1994 groups but the mean score for the 1992 group was relatively lower), emotional energy and dealing with the emotional impact of the environment while responding well to the demands of the social environment. This resulted in a relatively higher score on Aggressiveness, Social Responsibility, Co-operation, Tact, Confidence, Consistency of Behaviour, Activity Potential, Flexibility and a lower mean score on Moodiness. The 1991 group was also less conventional than the other groups; the 1992 and 1994 groups in particular tended to accept social norms. The 1992 group also had a relatively wider range of interests and interests in human relations.

The lack of statistically significant differences between the age groups and between the four year groups indicated that the profile for the total group was representative of the profiles for the various subgroups. Some traits were, however, influenced

TABLE 8
MEANS AND STANDARD DEVIATIONS OF THE SCALED SCORES FOR THE 25 TRAITS AS WELL AS F AND P VALUES
OF ANOVAS WITH YEAR GROUP AS INDEPENDENT VARIABLE AND SCALED SCORES AS THE DEPENDENT
VARIABLES (DF = 3; 58)

Traits	1990 year group N = 12		1991 year group N = 16		1992 year group N = 18		1994 year group N = 16		F value	p value
	\bar{X}	s	\bar{X}	s	\bar{X}	s	\bar{X}	s		
Theoretical	50,67	5,97	52,38	8,94	55,50	8,46	54,38	8,82	0,98	0,4101
Practical	55,83	6,56	52,06	10,48	50,78	9,16	50,13	7,45	1,14	0,3390
Pedantic	45,00	9,86	47,63	9,43	44,72	7,68	46,69	8,66	0,39	0,7614
Induction	52,00	6,84	54,00	6,47	56,44	6,68	53,56	9,45	0,93	0,4320
Deduction	54,58	7,12	53,88	7,54	54,11	5,95	51,44	6,86	0,65	0,5877
Rigidity	54,92	8,75	51,75	10,46	55,22	10,56	54,63	10,46	0,40	0,7560
Structuring	52,50	8,40	54,06	9,44	48,56	8,03	53,19	10,83	1,19	0,3200
Concentration	53,17	8,40	53,88	6,99	49,50	6,74	53,44	5,90	1,45	0,2376
Range	51,33	6,83	50,88	6,21	52,83	7,63	51,19	5,91	0,29	0,8310
Human Relations	47,92	9,49	49,19	10,26	55,17	9,66	49,06	9,24	1,89	0,1414
Conventional	55,42	6,67	52,81	5,36	60,56	9,75	57,44	10,10	2,56	0,0638
Individualistic	46,50	5,39	50,25	6,50	42,44	9,65	45,44	8,53	2,80	0,0482
Persistence	54,92	8,75	51,75	10,46	55,22	10,56	54,63	10,46	0,40	0,7560
Aggressiveness	52,92	6,17	54,88	6,97	52,83	5,02	52,94	5,11	0,46	0,7114
Social Responsibility	54,17	7,65	56,56	6,30	55,17	5,53	53,81	9,69	0,43	0,7324
Co-operation	52,17	5,29	55,44	5,07	50,78	5,91	51,13	6,71	2,18	0,0999
Tact	50,42	5,42	54,06	3,73	48,89	5,88	49,75	5,56	3,12	0,0329
Confidence	50,25	6,24	53,75	5,46	50,28	7,56	49,38	6,97	1,35	0,2686
Consistency of Behaviour	49,25	5,08	52,00	6,19	47,33	4,39	49,44	5,69	2,14	0,1049
Anxiety	51,42	8,05	47,25	11,29	51,33	6,72	52,06	7,95	1,03	0,3873
Moodiness	47,75	6,27	45,56	3,90	49,44	4,64	48,00	3,76	2,02	0,1215
Activity Potential	53,83	10,43	56,06	10,99	57,89	8,70	53,13	12,63	0,67	0,5756
Impulsiveness	46,33	8,44	45,69	6,94	49,94	6,68	46,06	5,71	1,42	0,2470
Flexibility	52,83	5,01	55,50	5,42	54,06	5,20	51,81	8,60	1,01	0,3938
Conformity	54,17	5,42	51,06	5,47	58,78	8,78	55,63	8,42	3,19	0,0302

by group membership. The distribution in Table 3 indicates that the differences between the year groups could not be accounted for by differences between the age groups and *vice versa*. Unfortunately biographical information that might have explained the differences between the year groups was not available.

CONCLUSION

The slight differences between the age and year groups compared in this study imply that some SORT traits were less stable for specific groups within the occupational group. These differences were, however, not statistically significant and the profile for the total group can be taken as a true reflection of this group's performance.

The occupational group that constituted the research sample was very specific in terms of occupation (state accountants and auditors) and managerial level (middle management preparing for senior management positions). As all participants were considered successful in their occupation, the profile obtained can be utilized as a predictor to determine and evaluate the personality traits that are important in the profession of state accountant. This information can be used in guidance, selection and placement of personnel.

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