



Research Article

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Study of Feasibility, Validity, Reliability, and Norm-Finding of Scale of Social Styles in Employees of Tehran Regional Electricity Company

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ABSTRACT

In this study, the feasibility, validity, reliability, and normality of social style scales are investigated among the employees of Regional Electricity Company of Tehran. In this exploratory study, a descriptive method was used. The sample size was 350 people (194 males and 156 females), which were selected using a random sampling method. The social style scale pointed based on a 4-point Likert scale containing 30 items. The reliability of the questionnaire was determined using Cronbach's alpha and no item was excluded from the questionnaire. To test the construct validity of the instrument, the principal component analysis (PCA) method was used. To test the structure of the scale of derived factors, the Bartlett test was used by means of tilt rotation and 6 factors were derived including driving, expressive, analytical, amiable, compassion, and lawful.

Key words: *Social Styles, Feasibility, Validity, Reliability, Normality.*

INTRODUCTION

The concept of social styles was formulated for the first time by Merrill and Reid (1981). [1] Social style can be defined as a sustainable and repeatable pattern of interpersonal relations.

Undeniable evidence has obtained proving to a notable contribution of inherited factors to human psychological characteristics, including personality traits. [2] Social style is a feature affecting the position beyond different situations and other personal effects, whether intrapersonal or interpersonal relations. People can be usually grouped in one of the 4 groups of social styles. [1] The patterns of interaction with others are modified as the person confronts new social processes. [3]

Lately, numerous investigations have been performed to determine different factors influencing people's behavior. [4] Each person has a dominant style, which can affect the method of working and interaction with others. None of the social styles is better or worse. No one can be considered in the frame of a style. The style is a situation and mode, in which the person feels relaxed. Hence, some behaviors relevant to the dominant social style of the person are fixed. [5]

People can be distributed in 4 groups of social styles based on two dimensions of assertiveness and responsiveness. The best method to identify personal social style is the feedback obtained about that person by others in a structured way. [6]

Social style is a pioneer style in universal and international behavior. It has been applied by thousands of organizations to improve leadership performance and the results of sales. Social style is powerful since people can understand it easily and it can be implemented easily. The test can make the behavior of people more effective than before.

The long-time study on success at the workplace has shown that people select one of the 4 social styles using the preferred method of behavior, thinking, and decision making. Understanding preferences enables people to specify the best method of communicating with others. [7]

Each style shows itself through the daily interactions of people. At each level, each style is exactly relevant to this issue that whether the person tends to persuade him/herself or show response to the social position of others or tends to show the emotions or certain control in group position. [8]

In the extraction of four social styles, factor analysis was used to specify two scales identified as responsiveness and assertiveness.

Merrill and Reid Social Style Questionnaire

The social style questionnaire was made in 1981 by Merrill and Reid. The scale contains 30 items and 4 scales pointed based on a 4-point Likert scale. The scales of the questionnaire are as follows:

- Analytical
- Expressive
- Amiable
- Driving

Standard norms

The standard norms express the distance of scores based on standard deviation on their own scale. To measure the standard norms, 3 stages should be passed:

- 1) Estimation of the mean value (\bar{x}) and standard deviation (s) of the scores
- 2) Converting the raw scores to mean scale and SD and calculating the standard scores (z)
- 3) Converting the standard scores to a contractual scale, which is identified as a good option in terms of distribution range and mean value

Z-scores have two main problems:

- 1) Z-score never changes the distribution and has just a new expression and a standard of scores. Hence, z-score is suitable just for the normal and near-normal curves and can't be applied for abnormal distributions. The reason for such defect is the existence of standard deviation in the denominator of the z-score. Standard depends on the frequency of the population and s can be changed as a result of the change in n .
- 2) The other problem with z-score that is solvable is its decimal value. The limitation can be met with applying coefficients. The sixth row of table 18 shows the standardized scores of social styles based on the z-scale. The coefficient increases z-score and decreases its decimal value to 1 ($10z+50$). The obtained score is called the T-score. Row 7 of Table 18 shows the standard values of the test based on T-scale. Row 2 shows the frequency, row 3 shows frequency percent of median function, row 4 shows cumulative frequency of upper boundary function, and row 5 shows percent rank.

For example, in front of the row number (79) in row 5, 51.28 can be observed. The value shows that 51.28% of sample individuals have gained a score of 79 and lower. Using the $x-x$ formulation dividing in s , z-score is obtained in row 6. In addition, the SD of 0.032 can be observed in front of number 79. For easier expression of the decimal number of z , the coefficient $10z+50$ is used and its standard value is presented in row 7. Standardized value against 79 in T scale is equal to 50.

Table 1. Different norms of measurement scale of social styles for males.

T-score	z-score	Percent rank	Cumulative percent	Frequency percent	Frequency	Raw number
20	-3.010	.13	1.0	1.0	2	37
21	-2.865	.21	1.5	0.5	1	39
22	-2.793	.26	2.1	.5	1	40
23	-2.720	.33	2.6	.5	1	41
24	-2.575	.50	4.1	1.5	3	43
29	-2.141	1.61	4.6	.5	1	49
32	-1.778	3.76	6.2	1.5	3	54
34	-1.561	5.92	6.7	.5	1	57
36	-1.416	7.83	9.3	2.6	5	59
37	-1.271	10.17	10.8	1.5	3	61

38	-1.199	11.52	11.3	.5	1	62
39	-1.126	12.99	11.9	.5	1	63
41	-.909	18.15	16.5	4.6	9	66
42	-.837	20.12	19.6	3.1	6	67
43	-.692	24.44	20.1	.5	1	69
44	-.619	26.77	21.1	1.0	2	70
45	-.474	31.74	27.3	6.2	12	72
46	-.402	34.36	27.8	.5	1	73
47	-.330	37.07	30.4	2.6	5	74
47	-.257	39.83	33.5	3.1	6	75
48	-.185	42.65	34.5	1.0	2	76
49	-.112	45.51	38.7	4.1	8	77
50	-.040	48.39	45.4	6.7	13	78
50	.032	51.28	47.9	2.6	5	79
51	.104	54.16	56.7	8.8	17	80
52	.177	57.02	58.2	1.5	3	81
52	.249	59.85	61.9	3.6	7	82
53	.321	62.62	62.4	.5	1	83
54	.394	65.33	71.6	9.3	18	84
55	.466	67.97	72.7	1.0	2	85
56	.611	72.96	77.3	4.6	9	87
57	.684	75.30	77.8	.5	1	88
58	.756	77.53	86.1	8.2	16	89
60	.973	83.49	86.6	.5	1	92
61	1.046	85.23	87.6	1.0	2	93
63	1.263	89.68	95.4	7.7	15	96
63	1.336	90.92	95.9	.5	1	97
66	1.553	93.98	96.4	.5	1	100
66	1.625	94.80	96.9	.5	1	101
69	1.915	97.23	97.4	.5	1	105
70	1.988	97.66	97.9	.5	1	106
72	2.132	98.35	99.0	1.0	2	108
72	2.422	99.23	99.5	.5	1	112
73	2.639	99.59	100.0	.5	1	115

Table 2. Different norms of measurement scale of social styles for females.

T-score	z-score	Percent rank	Cumulative percent	Frequency percent	Frequency	Raw number
20	-3.06	.11	4.5	4.5	7	33
30	-1.96	2.47	5.1	.6	1	47
33	-1.730	4.18	5.8	.6	1	50
40	-1.022	15.32	7.7	1.9	3	59
41	-.944	17.26	8.3	.6	1	60
41	-.865	19.34	9.0	.6	1	61
42	-.786	21.57	12.8	3.8	6	62

43	-.708	23.94	14.7	1.9	3	63
44	-.629	26.44	24.4	9.6	15	64
44	-.551	29.08	28.8	4.5	7	65
45	-.472	31.83	34.0	5.1	8	66
46	-.393	34.68	34.6	.6	1	67
47	-.315	37.62	37.8	3.2	5	68
48	-.236	40.64	42.3	4.5	7	69
49	-.079	46.83	44.9	2.6	4	71
50	-.001	49.96	48.1	3.2	5	72
51	.077	53.09	49.4	1.3	2	73
52	.156	56.21	55.1	5.8	9	74
52	.234	59.28	57.7	2.6	4	75
53	.313	62.30	58.3	.6	1	76
54	.391	65.25	62.2	3.8	6	77
55	.470	68.10	63.5	1.3	2	78
55	.549	70.85	67.3	3.8	6	79
56	.627	73.49	74.4	7.1	11	80
57	.706	76.00	83.3	9.0	14	81
59	.784	78.37	87.8	4.5	7	82
59	.942	82.69	90.4	2.6	4	84
60	1.020	84.63	91.0	.6	1	85
61	1.099	86.42	91.7	.6	1	86
62	1.177	88.06	94.9	3.2	5	87
64	1.413	92.13	98.1	3.2	5	90
66	1.649	95.05	98.7	.6	1	93
76	2.592	99.52	99.4	.6	1	105
80	3.142	99.92	100.0	.6	1	112

CONCLUSION

The discussion and analysis of the results of the study were done with the aim of the analysis of feasibility, validity, reliability, and normality of social style questionnaire in employees of Regional Electricity Company of Tehran. After the implementation of Merrill and Reid social style questionnaires on 50 male and female personnel, inadequate items were excluded and finally, the social style questionnaire was analyzed statistically. In the next step, to answer the question “is the studied instrument reliable enough?”, the results obtained from test implemented on 350 personnel showed that all questions have high correlation with total test value and no item among 30 items was excluded. As a result, the reliability of the test was found to be 0.878, which shows high reliability. To test the construct validity and answering the question “what factors are used to saturate the social style list?”; principal component (PC) analysis was used.

Before the implementation of factor analysis, the sufficiency of sampling was measured using KMO measure and H0 was rejected based on the accuracy of the consistency matrix in the population using Bartlett’s Test of Sphericity. It was proved that the KMO value for the correlation matrix obtained from the implementation of measurement scale of social styles in studied group is equal to 0.744 and the statistical measurement of the Bartlett Test of Sphericity is equal to 7288.843, which is significant even beyond the p-value of 0.001. Therefore, based on both criteria, it could be found that implementation of factor analysis can be explained based on correlation matrix obtained in studied group and the practical results show that the scale is saturated by 6 factors. In order to simplify derived factors, tilt rotation was used and the results after interpretation of factors are as follows:

Factor 1: includes items 13, 26, 16, 18, 9, 21, and 15. It is named as an expression factor and presents the emotional mood and can be considered as an intervention factor. It shares ideas, desires, and enthusiasm. It is motivational, inspiring, and encouraging.

Factor 2: includes items 24, 27, 10, 2, 11, 7, and 6 and is named analytical factor. The variable presents the concentration on facts and reasons. It acts at the time that the result is clear. It is useful and applicable for immediate actions.

Factor 3: it includes items 14, 5, 25, 4, 8, and 12 and is named amiable factor. The variable presents cooperation with others to obtain agreement. It presents support and can make communication with reliance and reliability.

Factor 4: includes items 28, 3, 29, and 17 and is named as a driving factor. The variable presents the personality of the concentrator on results. It gains responsibility and control. It makes rapid decisions and likes challenges.

Factor 5: This factor encompasses items 22, 30, and 20 and is named as a compassion factor. The variable presents a kind and amiable heart. Most of the time, the factor prefers the needs of others.

Factor 6: It includes items 19, 23, and 1 and is named as a lawful factor. The variable shows the ordered and regulated personality. The factor prefers the working framework more than content.

To find the norm of social style list, the raw number of each factor was firstly measured separately based on gender for the trials and then for all participants. To compare the performance of two groups of males and females in the social style measurement scale, mean values of two groups in each factor and in total scale were obtained, and to determine the significance of mean differences, t-test was implemented. There was a significant difference between two groups in terms of the measurement scale of social styles ($t= 4.564$, $p=0.000$). Moreover, a significant difference was observed between two groups in terms of all factors, except for factors 2 and 4. Therefore, a significant difference was observed between two groups of males and females in terms of the measurement scale of social style. As there is a significant difference between two groups, this study has estimated the norm for both groups.

According to the mentioned factors, it could be concluded that the social style questionnaire covers generally constructive factors of social styles based on studied theories and literature. Hence, the results obtained from implementing that and determining social style measures can be sufficiently reliable.

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