Research Paper

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A PSYCHOSOCIAL STUDY ON FACTOR ANALYTIC APPROACH AMONG INDUSTRY WORKERS

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ABSTRACT

Factor analysis is one of the most powerful statistics used in varied branches of Psychology . Human development and Research Institute , a pioneer organization had conducted a study among industry workers of a reputed industry in South24 Parganas. Case history along with 16PF were administered on them by randomization technique. Among 16 personality factors five potential factors were selected for the present study. The concept was derived from Raymond Cattell – who expanded on Spearman's idea of a two factors theory of intelligence. Twenty Workers from the selective Industry had been taken as clients . 16 PF Personality test was administered on them. Here , it is evident from results following five variables Reserved /Outgoing, Affected feelings – Emotional/Stable Sober/Happy Go Lucky, Expedient/Conscientious , Shy/Venturesome , percent of variance is greater in a Reserved/Outgoing and affected feelings – Emotional/Stable. Psychologically these traits form the personality structure which is corroborated with the theories of personality.

KEY WORDS: Factor Analysis, 16 PF , Industry Worker.

INTRODUCTION

Factor analysis is one of the most powerful statistics used in varied branches of Psychology. Human development and Research Institute , a pioneer organization had conducted a study among industry workers of a reputed industry in South24 Parganas. Case history along with 16PF were administered on them by randomization technique. Among 16 personality factors five potential factors were selected for the present study. The concept was derived from Raymond Cattell – who expanded on Spearman's idea of a two factors theory of intelligence.

Conceptual Factor Here a factor is a hypothetical construct to underlie the test scores. The factor loadings also called component loadings are the correlation coefficients between the cases (rows) and factors (columns).

In this study 'Principal Component Method' has been adopted and eigenvalue of a given factor (reserved /outgoing) measures , the variance in most of variables except emotional /stable which is accounted for by that factor. Communality here measures the percent of variance in a given variable explained by all factors.

METHODOLOGY

Sample: Twenty Workers from the selective Industry had been taken as clients .

Socio demographical Features :

The Workers are of 25 – 40 years age. Work status are permanent in natures. They are from middle Socioeconomic Status . Most of them are marred. Minimum work experience is of 2 years

Tools:

16 PF Personality test
Administration: Rapport was established with them so that they could respond easily and comfortably.
'The alternative. answers are provided for each of the question since the two alternative forced choice situation : forbidding any 'middle of the road compromise'.

Scoring : Scorning was done according to the norms described in manual. It was interpreted through factor analytic approach .

RESULTS

Sl.No	A Reserved/Outgoing	C Affected/Feelings - Emotional/Stable	F Sober/Happy-go-lucky	G Expedient/ Conscientious	H Shy/Venturesome
1	4	6	4	3	3
2	7	7	5	4	7
3	6	6	4	3	7
4	4	4	3	3	3
5	5	4	3	2	3
6	4	4	4	3	4
7	6	5	6	3	4
8	6	5	6	4	3
9	7	7	7	3	4
10	6	7	6	4	5
11	7	6	7	5	7
12	8	7	8	7	8
13	7	7	8	7	7
14	3	8	4	7	4
15	4	4	4	5	4
16	5	6	6	5	4
17	4	6	4	4	3
18	5	5	6	5	6
19	4	3	3	4	3
20	5	5	5	6	5

Factor Analysis

Correlation Matrix

		A	C	F	G	H
	A	1.000	.443	.806	.166	.721
	C	.443	1.000	.564	.463	.497
Correlation	F	.806	.564	1.000	.505	.622
	G	.166	.463	.505	1.000	.502
	H	.721	.497	.622	.502	1.000

Communalities

	Initial	Extraction
A	1.000	.677
C	1.000	.544
F	1.000	.804
G	1.000	.399
H	1.000	.727

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.151	63.021	63.021	3.151	63.021	63.021
2	.885	17.705	80.727			
3	.527	10.542	91.269			
4	.373	7.458	98.727			
5	.064	1.273	100.000			

Extraction Method: Principal Component Analysis.

Interpretation:

The extracted first centroid factor Outgoing/reserved and second centroid factor emotional stability/ emotional indicate that introversion – extraversion coupled with the nature of emotional stability determine the structure of personality. Cattell suggested can do this by means of a specification equation , of the form.

$R = S_1 \ T_1 + T_2 + T_3 \ \ldots\ldots\ldots\ldots +S_n \ Tn$

It mean that of a particular trait is highly relevant to a given response , the corresponding 'S" will be large , if the trait is totally irrelevant , the 'S' will be zero . If the trait detracts form or inhibits the response, the sign would be negation .

Here two extracts trait had an independent and additive affect on the response.

CONCLUSION

Here , it is evident from results following five variables Reserved /Outgoing, Affected feelings – Emotional/Stable Sober/Happy Go Lucky, Expedient/Conscientious , Shy/ Venturesome , percent of variance is greater in a Reserved/ Outgoing and affected feelings – Emotional/Stable. Psychologically these traits form the personality structure which is corroborated with the theories of personality .

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