Chapter 3

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Method

3.1 Introduction

In the last chapter, a review of the past literature relevant to this study was taken. This chapter describes in detail the methodology used for the current research. The sample is described and the tools are explained along with their psychometric properties. The procedure used for data collection is mentioned. The statistical techniques used to analyze the results in order to test the formulated hypotheses are discussed.

3.2 Hypotheses

Based on the review of the relevant literature, following hypotheses were formulated. Hypotheses 1 and 2 relate job position to personality factors. A hypothesis 3 states the relation between job position and job satisfaction. And hypotheses 4 to 8 are correlational hypotheses relating various personality factors to job satisfaction.

1. Officers in the higher job position will be lower on Neuroticism than officers in the lower job position.
2. Officers in the higher job position will be higher on Conscientiousness than officers in the lower job position.
3. Officers in the higher job position will score higher on job satisfaction in general as well as on
all the facets of job satisfaction, than officers in
the lower job position.
4. Neuroticism will be negatively correlated with job
satisfaction in general as well as all the facets of
job satisfaction.
5. Extraversion will be positively correlated with job
satisfaction in general as well as all the facets of
job satisfaction.
6. Openness will be positively correlated with job
satisfaction in general as well as all the facets of
job satisfaction.
7. Agreeableness will be positively correlated with job
satisfaction in general as well as all the facets of
job satisfaction.
8. Conscientiousness will be positively correlated with
job satisfaction in general as well as all the
facets of job satisfaction.
9. Personality factors in combination with job position
will predict job satisfaction in general as well as
all the facets of job satisfaction.

3.3 Sample

The participants consisted of 283 men. The age range
was 22 to 58 years, which is normally the age band of
people working in the organized sector. The average age
was 34.88 years. The minimum educational qualification
was graduation. Economically, all participants belonged
to the middle class. All the participants were employees working in organized corporate sector in manufacturing industry. These were officers in the middle management. Amongst this middle management cadre, three job positions were identified in the hierarchy and were classified and labeled as Low, Middle and High. The distribution of the sample across these job positions is as following. There were 90 officers in the Low job position, 86 in the Middle and 107 in the High job position.

Usually, any large manufacturing organization has a tall bureaucratic hierarchy. The sheer size and diversity of functions in a manufacturing plant makes it essential to have various departments and their respective leadership and hierarchy. Officers in the higher job position had more authority and power over the officers in lower job positions.

The participants in this study belonged to the middle management. But in the middle management too, there is hierarchy. The officers in the Middle job position were the ones who lead small teams of officers in the Low job position and in turn reported to officers in the High job position. This complete middle management is the bridge between the top executives and the supervisors on the shop floor, constituting the major part of the white caller population of any industry.
3.4 Tools

3.4.1 Neo Five-Factor Inventory (NEO-FFI)

The Neo Five-Factor Inventory (NEO-FFI) was constructed by Costa and McCrae (1992). It is a personality test which is based on the five-factor model of personality. This model was derived from years of research using factor analytical techniques. Today, the NEO-FFI is the most widely used test based on five-factor model of personality. In industrial research too, the five-factor model is the most researched and validated one.

3.4.1.1 Description

The test basically uses the trait approach to personality. The five basic domains of personality can give us the comprehensive picture of one’s personality. Following are these five domains or dimensions of personality:

Neuroticism: This factor basically measures one’s negative emotionality or emotional instability. Negative emotionality consists of various forms. This broad domain consists of anxiety, anger hostility, depression, self-consciousness, impulsiveness and vulnerability to stress. Thus, it is the general tendency to feel the negative affect, which may also include fear, guilt, sadness, embarrassment etc.
Extraversion: This dimension measures an individual's position on the introversion - extraversion continuum. The major ingredients of extraversion are warmth, gregariousness, assertiveness, activity, excitement - seeking and positive emotions. Thus, one can note that extraversion is more than just being sociable and outgoing. The other important characteristics associated with extraversion can be named as being optimistic, talkative, energetic and cheerful.

Openness: This domain is about the openness to experience. In some other similar models this factor is also labeled as Intellect. The major components of this factor are fantasy, aesthetics, feelings, actions, ideas and values. One can note that this dimension of personality is associated with creativity, being unconventional, novel etc.

Agreeableness: Agreeableness is related to interpersonal tendencies. The domain consists of trust, straightforwardness, altruism, compliance, modesty and tender-mindedness. One can see that agreeableness is opposite of being aggressive, dominant, skeptical and critical.

Conscientiousness: Conscientiousness consists of competence, order, dutifulness, achievement striving and self - discipline. This dimension is related to self-control and positive processes of planning and
organizing. It also reflects strong will, determination, punctuality and reliability.

NEO-FFI has 60 items in the form of statements. Each statement can be responded on a Likert scale on which responses range from 'strongly disagree' to 'strongly agree'. The test is not timed and usually takes 15 - 20 minutes to complete. There are 12 items for each factor.

3.4.1.2 Scoring

The response of 'strongly disagree' gets a 0 and as we move from disagree to strongly agree, the respective response gets one of the scores from 1 to 4 in the increasing order. This process is reversed for negatively stated items. Thus maximum possible score for a factor can be 4 X 12 (items/factor), i.e. 48, whereas minimum possible score is 0. The total score for each factor was calculated by adding the scores of relevant items. Thus, finally in all, five scores for five factors were obtained.

3.4.1.3 Reliability

The internal consistency of the NEO-FFI as calculated using coefficient alpha was .86 for Neuroticism, .77 for Extraversion, .73 for Openness, .68 for Agreeableness and .81 for Conscientiousness. (N = 1539).
3.4.1.4 Validity

NEO-FFI is a shorter form of NEO PI-R. Various studies have already shown validity and reliability of NEO PI-R scale (Costa and McCrae, 1992). The correlations between NEO-FFI and the domain scales of NEO PI-R were .92 for Neuroticism, .90 for Extraversion, .91 for Openness, .77 for Agreeableness and .87 for Conscientiousness.

The cross-observer validity for NEO-FFI was established for the observer rating scales. The correlations between Form R NEO-FFI and self reports on full domain scales ranged from .24 to .67, p < .05.

The convergent and discriminant validity of NEO-FFI was established by various studies. The correlations with other measures of the five-factor model ranged from .56 to .62 whereas the divergent correlations did not exceed .20.

4.2 Job Descriptive Index (JDI)

JDI (Balzer et al, 2000) is the most widely used tool for measuring job satisfaction (DeMeuse, 1985; Zedeck, 1987). Additionally, there is substantial amount of research done using JDI.

3.4.2.1 Description

As reported earlier, there are various theories of job satisfaction. The major consideration in JDI is the approach that job satisfaction constitutes of
satisfaction or dissatisfaction with different aspects of job. It is possible that an employee is satisfied with one facet and not with the other. There is no agreement in researchers about exactly how many such valid facets exist. Though, a lot of studies indicate that the important different aspects of job in relation to job satisfaction are work itself, pay, promotions, supervision, and co-workers (Cross, 1973; Smith et al., 1969). It is possible to come up with a larger number of facets, but it was found reasonable by the authors of the JDI to have five broad and basic domains of job satisfaction. The description of each of these five facets is given below.

**Work on Present Job**

This facet is about the work itself. Work may have several attributes which are related to job satisfaction. Work could be interesting, enriching from the knowledge point of view, challenging and so on.

**Pay**

This facet addresses the attitude about pay, whether one is satisfied with it or not. The important issues regarding pay are the difference between actual and the expected pay, the expected pay being dependent upon factors like the amount of effort put in, the kind of pay others get in the same organization as well as similar positions in other organizations.
Opportunities for Promotions

This facet deals with employee's perception of the promotion policies of the organization. The related facts are the chances of promotion and its implications and importance.

Supervisor

This facet deals with employee's attitude towards his or her supervisor, (generally called as the boss). Supervisors could be unsympathetic or understanding, with several interpersonal patterns of behavior with their subordinates, which could have an impact on employee's job satisfaction.

People on Present Job

This is basically about the coworkers. The interaction with other people at work could be work related or informal. Both may have an effect on one's satisfaction with one's fellow employees.

Thus, JDI has a multidimensional view of job satisfaction and the respondents may differ in their satisfaction with these different facets.

JDI has all the 72 items in the form of adjectives. Respondent can mark either 'Y' for Yes, 'N' for No or '?' for Can't say, for each item. There are five subscales, one for each facet described above. Each subscale has 18
items except for Pay and Promotions facets, which have 9 items each. About half the number of items are worded favorably (e.g. good) and remaining unfavorably (e.g. boring).

3.4.2.2 Scoring

All the favorable items, when responded with Y get 3 points, an N gets 0, whereas ? gets 1 point. This is reversed for unfavorable items, in which an N gets 3 points, Y gets 0 and ? gets 1 point again. In the both kinds of items, ? gets 1 point. The scores of the items belonging to each subscale are added to get the total score on the respective facet. Thus the minimum score on each factor is 0 and maximum is 54 (except for the Pay and Promotion subscales, which have 9 items. For these subscales, the maximum score is 27). Higher score indicated higher satisfaction.

An important consideration about the scores would be the fact that it is not appropriate to add up the scores of all the facets in order to get a total score. The factors are not weighed equally and in adding them a mistake is committed of giving an equal importance to different factors which constitute job satisfaction.

3.4.2.3 Reliability

Reliability of JDI was tested using a sample of approximately 1600 cases. The alpha coefficients for each subscale are given in the following Table 3.1, which
range from .86 to .91, pointing to a sound reliability of the measure.

Table 3.1. Coefficient Alpha ($\alpha$) Values for the JDI Subscales.

<table>
<thead>
<tr>
<th>JDI Subscale</th>
<th>$\alpha$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>0.90</td>
<td>1623</td>
</tr>
<tr>
<td>Pay</td>
<td>0.86</td>
<td>1603</td>
</tr>
<tr>
<td>Promotion</td>
<td>0.87</td>
<td>1611</td>
</tr>
<tr>
<td>Supervision</td>
<td>0.91</td>
<td>1613</td>
</tr>
<tr>
<td>Co-workers</td>
<td>0.91</td>
<td>1615</td>
</tr>
</tbody>
</table>

3.4.2.4 Validity

The validity of JDI was studied under a program which was conducted for a period of five years in which several job situations and samples were studied (Smith et al 1969). The factor analysis and the cluster analysis indicated high discriminant and convergent validity. A number of studies have also indicated correlations of JDI with important situational, personal and behavioral variables indicating individual as well as organizational differences. Thus, the validity of JDI is established in a variety of settings.

3.4.3 Job in General (JIG)

An individual, apart from variation in the satisfaction on different facets, also has an overall attitude about the job. This can be seen as an overall measure of job satisfaction or in other words, a global
measure of job satisfaction. JDI doesn’t give this score, hence, Balzer et al (2000) constructed JIG keeping this in mind. Besides this, there were also some other valid concerns which made it necessary to have a separate measure of overall job satisfaction. Many important aspects of job may not be covered under any of the broad facets and yet be important for measuring job satisfaction (e.g. training etc.). Such different aspects of job, again could have relative importance depending upon the individual, his/her job position and several other factors. In order to tap all these aspects which do contribute to one’s overall job satisfaction, but which are not reflected by one’s facet scores, JIG was developed. JIG assesses individual’s long-term evaluation of job and also incorporates interactions of individual and situational factors affecting global job satisfaction. JIG was constructed using the principals of Item Response Theory (IRT).

3.4.3.1 Description

Although, JIG differs from the JDI in the approach and the content, the structure used is the same. It had 18 items, all in form of adjectives to which a similar response option is provided as in JDI.

3.4.3.2 Scoring

The scoring of JIG is same as that of JDI. All the favorable items, when responded with Y get 3 points, an N
gets 0, whereas ? gets 1 point. This is reversed for unfavorable items, in which an N gets 3 points, Y gets 0 and ? gets 1 point again. In the both kinds of items, ? gets 1 point. The minimum score for Satisfaction in General is 0 and maximum is 54. Higher score indicated higher satisfaction.

3.4.3.3 Reliability

Several samples having N greater than 100 (Total N = 3566), showed the coefficient alpha reliability estimate greater than .90, thus establishing the reliability of JIG.

3.4.3.4 Validity

JIG showed correlations ranging from .66 to .80 with other global measures of job satisfaction like the measure by Brayfield and Rothe (1951), the rating scale with pre-scaled adjectives as anchors (Ironson & Smith, 1981), the "Faces" scale (Kunin, 1955). Thus, the convergent validity was established. The construct validity was demonstrated by the high correlations of JIG with other global measures like intention to leave, life satisfaction, identification with the work organization, and trust in management (N = 670).

3.5 Procedure

Initially the participants were informed about the data collection exercise. They were assured that the data was being collected solely for the research purposes.
Additionally, it was made clear that the questionnaires didn't measure any abilities. Confidentiality was assured and they were promised a feedback based on their responses. In this way, rapport was established and any apprehension on the participants' part was cleared.

Administration of questionnaires was done in groups of 15 to 25. Instructions from the respective test manuals were clearly read out, doubts if any, were cleared. Guidelines in the manual were carefully followed.

3.6 Data Analysis

Data was entered in computer. Datasheet containing participants basic information and the scores of all the questionnaires was prepared and crosschecked for any data entry errors.

The data was analyzed using SPSS 11.0 (Statistical Package for Social Sciences, 11th Version).

First, the basic descriptive statistics were obtained. Consequently, the data was analyzed using statistical techniques of correlation, regression and General Linear Model - Multivariate Analysis of Variance (GLM - MANOVA) along with the contrast analyses. (The details of statistical procedures are included in the next chapter with the results of these tests.)
3.7 Summary

In this chapter, the detailed method, which was applied to conduct this study, was discussed. The hypotheses were stated and consequently the sample, tools and procedure were described. The method of the data analysis was described at the end of the chapter.