CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter addresses the approach to the study. It deals with the research methodology relevant to this research. It provides an explanation of the research design, details regarding the sample, the variables to be examined, scales used, means and procedure of data collection and statistical tools used for data analysis.

3.2 RESEARCH DESIGN

The purpose of the research was to study the relationship between Personality and Job Attitudes (job satisfaction, job involvement and organisational commitment), work-family conflict (work to family conflict and family to work conflict) and occupational stress. The researcher also intended to explore the direct and indirect effects of various variables under study on each other and hence presenting a model of their interrelationships. The study further aimed at examining the gender differences on personality, job attitudes, work family conflict and occupational stress. In addition, the purpose was to compare the personality traits, job attitudes, work family conflict and occupational stress of professionals working in various airline companies included in the study. Review of literature has been examined to explore the relationship between variables and formulate the research hypothesis. Statistical analysis was conducted to understand the relationship among study variables in present context.
3.3 OBJECTIVES

To achieve the purpose of this research, the following objectives have been stated:

- To examine if any relationship exists between Personality and work attitudes namely job satisfaction, job involvement and organisational commitment & work family conflict of professionals working in Indian Aviation Industry.

- To investigate if there is any relationship between personality & occupational stress of professionals working in Indian Aviation Industry.

- To appraise if there are any differences in personalities, work attitudes, work family conflict and occupational stress of male and female Aviation working professionals.

- To compare personality traits, work attitudes, work-family conflict and occupational stress of professionals working in various airlines.

3.4 HYPOTHESES

To give effect to the research objectives, following hypotheses were formulated:

- H1 - There will be a significant relationship between personality and job satisfaction of professionals working in Indian Aviation Industry.

- H2 - There will be a significant relationship between personality and job involvement of professionals working in Indian Aviation Industry.

- H3 - There will be a significant relationship between personality and organisational commitment of professionals working in Indian Aviation Industry.

- H4 - There will be a significant relationship between personality and work family conflict of professionals working in Indian Aviation Industry.
• H5 - There will be a significant relationship between personality and occupational stress of professionals working in Indian Aviation Industry.

• H6 - There will be significant differences between mean scores of male and female Aviation working professionals on personality and its dimensions.

• H7 - There will be significant differences between mean scores of male and female Aviation working professionals on job satisfaction and its facets.

• H8 - There will be significant differences between mean scores of male and female Aviation working professionals on job involvement.

• H9 - There will be significant differences between mean scores of male and female Aviation working professionals on organisational commitment and its dimensions.

• H10 - There will be significant differences between mean scores of male and female Aviation working professionals on work family conflict and its dimensions.

• H11 - There will be significant differences between mean scores of male and female Aviation working professionals on occupational stress and its dimensions.

• H12 - There will be significant differences in personalities of professionals working in different airline companies.

• H13 - There will be significant differences in job satisfaction of professionals working in different airline companies.

• H14 - There will be significant differences in job involvement of professionals working in different airline companies.

• H15 - There will be significant differences in organisational commitment of professionals working in different airline companies.
• H16 - There will be significant differences in work family conflict experienced by professionals working in different airline companies.

• H17 - There will be significant differences in occupational stress experienced by professionals working in different airline companies.

3.5 POPULATION

Population for the study comprised of all professionals working in private and government owned scheduled commercial domestic Airlines of India including Airport Authority of India.

Aviation jobs can be broadly classified as follows:

(a) Aircrew - Aircrew professionals are those who operate an aircraft while in flight. The composition of the crew depends on the type of aircraft as well as the purpose of the flight. It includes pilot, co-pilot, first officer, airhostesses/ flying stewards/flight attendants, in-flight technicians/engineers.

(b) Ground crew - Ground crew basically involves airport jobs such as airport manager, air-traffic controllers, airport service agents, catering managers, airport authority, customer relationship manager, managers- cargo handling, security managers, duty managers, aircraft maintenance, engineers and technicians. It includes support staff servicing the aircraft and the airlines from the ground.

(c) Administrative jobs – It includes Aviation professionals working in various departments such as finance, accounts, marketing, sales, human resource, information technology and public relations.
3.6 SAMPLING DESIGN

3.6.1 Sampling element or unit of analysis

It refers to the unit from which information is collected and that provides the basis of analysis. In present study, it refers to individuals, more specifically, the professionals working in Indian Aviation Industry.

3.6.2 Sampling Technique

Non probability sampling also known as convenience sampling or purposive sampling was used to identify the sample. 300 questionnaires were distributed to professionals working in various Airline companies and public sector organisations at Amritsar, Chandigarh and Delhi as per their accessibility and availability. 254 Questionnaires served as sample of study others being not used on account of being incomplete or not received back.

3.6.3 Sampling Frame

Sample was selected from the following list of scheduled domestic commercial airline companies in India

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Company/ Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air India</td>
</tr>
<tr>
<td>2</td>
<td>Air India Express</td>
</tr>
<tr>
<td>3</td>
<td>Airport Authority of India *</td>
</tr>
<tr>
<td>4</td>
<td>Go Air</td>
</tr>
<tr>
<td>5</td>
<td>Indigo</td>
</tr>
<tr>
<td>6</td>
<td>Jagson Airlines</td>
</tr>
<tr>
<td>7</td>
<td>Jet Airways</td>
</tr>
<tr>
<td>8</td>
<td>Jetlite</td>
</tr>
<tr>
<td>9</td>
<td>Kingfisher Airlines**</td>
</tr>
<tr>
<td>10</td>
<td>Spicejet</td>
</tr>
</tbody>
</table>

* A public sector undertaking
**Shut down its operations in Oct 2012 owing to continued financial crisis and suspension of its flight certificate by DGCA. It was operational at the time of data collection by the researcher.
3.6.4 Sample size and distribution

A total of 254 professionals formed the sample of study. Company wise and crew wise distribution of respondents have been shown below:

Table 3.2: Aviation Companies and Organisations included in the Sample

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Organisation</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air India</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Airport authority of India*</td>
<td>84</td>
</tr>
<tr>
<td>3</td>
<td>Go air</td>
<td>34</td>
</tr>
<tr>
<td>4</td>
<td>Go indigo</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Jet airways</td>
<td>36</td>
</tr>
<tr>
<td>6</td>
<td>Jet lite</td>
<td>16</td>
</tr>
<tr>
<td>7</td>
<td>Kingfisher**</td>
<td>30</td>
</tr>
<tr>
<td>8</td>
<td>Spicejet</td>
<td>26</td>
</tr>
</tbody>
</table>

* A public sector undertaking

** Shut down its operations in Oct 2012 owing to continued financial crisis and suspension of its flight certificate by DGCA. It was operational at the time of data collection by the researcher.

3.7 RESEARCH INSTRUMENTS

Data was collected by means of a structured questionnaire consisting of six sections and a demographic data form. Six scales were used to elicit the requisite information related to personality, job attitudes, work family conflict and occupational stress. The questionnaire was accompanied by a covering letter that introduced the research and ensured that respondents were knowledgeable about the purpose of the research. The questionnaire has been provided in Appendix A and the tools used are described below.

3.7.1 The Big Five Inventory (John, Donahue, and Kentle (1991))

The Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five dimensions. It is a brief multidimensional personality inventory consisting of short phrases with accessible vocabulary. The scale consisted of 44 items designed to assess big five personality traits namely Extraversion (8 items),
agreeableness (9 items), conscientiousness (9 items), neuroticism (8 items) and openness to experience (10 items). The first personality trait extraversion is characterized by an energetic approach towards the social and material world including traits such as sociability, activity, assertiveness, positive emotionality, gregariousness and enthusiasm. It refers to the extent to which a person is outgoing, talkative, expressive, companionable, chatty, confident and determined and is associated with behaviours such as being spontaneous, communicative, energetic, positive, and enthusiastic. Eight items in the BFI were used to measure Extraversion (Item no.1,6,11,16,21,26,31,36). Agreeableness is characterized by communal orientation towards others. Agreeableness includes traits such as altruism, tenderness, trust, modesty, courtesy, flexibility, amiability, cooperativeness, forgiveness, soft-heartedness and tolerance. Agreeableness refers to the extent to which a person is friendly, courteous, good-natured, helpful, warm, gentle, polite, supportive, merciful, kind, sympathetic, affectionate and open-minded. Nine items in BFI were used to measure Agreeableness trait (Items no. 2,7,12,17,22,27,32,37,42.). Conscientiousness describes socially prescribed impulse control that facilitates task and goal directed behaviour such as thinking before acting, delaying gratification, following norms and rules, planning and prioritizing tasks. It includes traits such as being organized, responsible, practical, cautious, careful, punctual, systematic, dependable and reliable. Conscientiousness is measured by items no. 3,8,13,18,23,28,33,38,43. Neuroticism contrasts emotional stability and even temperedness with negative emotionality such as feeling nervous, anxious, sad and tended. It is associated with behaviours such as being depressed, moody, fearful, emotional, impulsive, unstable, angry, embarrassed, emotional, worried, and insecure. 8 items in BFI were used to measure Neuroticism (Item No. 4,9,14,19,24,29,34,39). The fifth personality trait Openness to experience
describes the breadth, depth, originality and complexity of an individual’s mental and
experiential life. It is characterized by traits such as being imaginative, curious,
artistic, intelligent, original, inventive, resourceful, witty and wise, creative,
unconventional, open to new ideas and broadminded. 10 items from BFI were used to
measure Openness to experience (Items no. 5,10,15,20,25,30,35,40,41,44). The
respondents were asked to rate to what extent these statements apply to them on a
five point likert scale ranging from strongly disagree to strongly agree. Examples of
the items include “I am someone who is talkative” and “I am someone who is relaxed
and handles stress well.” The scoring was done as 1,2,3,4,5 (1=strongly disagree,
2=disagree a little, 3=neither agree, nor disagree, 4=agree a little, 5=strongly agree).
Items no. 2,6,8,9,12,18,21,23,24,27,31,34,35,37,41,43 were reverse scored and
scoring was done as 1=strongly agree,2=agree a little,3=neither agree nor
disagree,4=disagree a little,5=strongly disagree. The cronbach's alpha reliability for
the scale has been reported to be .83 and test-retest reliabilities have range from .80 to
.90, with a mean of .85.

3.7.2 Job Descriptive Index (JDI) (Smith, Kendall and Hulin, 1969)

The Job Descriptive Index constructed by Smith Kendall and Hulin in 1969
measures job satisfaction on five dimensions viz. Work, Supervision, Co-workers,
Pay and Promotion. Job Descriptive Index is an instrument that is used to assess job
satisfaction more than any other inventory (Kinicki et al., 2002). The facets of the job
satisfaction are derived from the definition of job satisfaction put forth by Smith,
Kendall and Hulin (1969). Smith et al. (1969) defined job satisfaction as feelings or
affective responses to facets of the situation. The five facets of job satisfaction are
work on present job, present pay opportunities of promotion, supervision and people
(co-workers). The work on present job scale measures employee’s satisfaction with
the work itself for example whether the job satisfies a need to increase knowledge or to use a variety of skills. The people/co-workers scale measures employees’ satisfaction with their fellow employees. The present pay addresses the employee’s attitudes towards pay and the perceived differences between actual and expected pay. The opportunities for promotion scale reflect employee’s satisfaction with company’s promotion policy. The supervision scale reflects employee’s satisfaction with their supervisors. The instrument consists of a series of descriptive adjectives or phrases relevant to each of these job dimensions. The respondent is asked to describe several aspects of his job responding through score of one for minimum agreement and to five which is a score for maximum agreement, with an intervening range of two, three and four. The total job satisfaction score is the total of obtained scores on each of five dimensions keeping in consideration reverse scored items. The higher the score for each dimension, the greater is the satisfaction with each dimension. Spector (1997) states that it may be the most developed and validated job satisfaction measure. The literature in general supports its reliability and applicability to different demographic groups (Golembiewski and Raeger (1978). Smith et al. (1969) and Imparato (1972) found internal consistency reliabilities (Spearman – Brown) to range from .80 (work) to .90 (promotion). On Indian sample, Joseph (1978) reported split half reliability of this inventory as follows: Work-.90, Supervision.93, Co-workers.94, Pay .77, Promotion .80, Total job satisfaction.85. Among others, this has been tested in India by Pestonjee (1973), and Singh, R. (1995).

3.7.3 Job Involvement Scale (Kanungo 1982)

Job involvement was assessed with a 10-item scale devised by Kanungo (1982). Job Involvement is defined as the extent to which an individual identifies
psychologically with his/her job (Lodahl and Kejner, 1965). Kanungo (1982) defines Job involvement as “a belief descriptive of the present job and tends to be a function of how much the job can satisfy one’s present needs”. Job involvement has been defined as an individual’s psychological identification or commitment to his / her job (Kanungo, 1982a). It is the extent to which an individual is generally interested in, identifies with, and is pre-occupied with one’s work in comparison to other aspects of one’s life. The scale measures how subjects feel towards their present job. Kanungo (1982a, 1982b) reported this to be a uni-dimensional variable yielding a cronbach alpha coefficient of 0.81. Kanungo (1982b) reports the questionnaire to have reasonably high levels of internal consistency, test-retest reliability and validity. The response scale categories on a 6-point scale varied between “strongly agree” to “strongly disagree”. Examples of items include “I live, eat and breathe my job.” and “the most important things that happen to me involve my job.” The scoring was done as 1=strongly disagree, 2=disagree, 3=mildly disagree, 4=mildly agree, 5=agree, 6=strongly agree. Item no. 2 and 7 were reverse scored. The internal consistency – reliability of the test has been reported to be .87 and test re-test reliability has been reported to be .85.

3.7.4 Organisational Commitment Scale (Allen & Meyer, 1990)

Organisational commitment was measured using the three dimensional Meyer et al. (1993) instrument that was originally developed by Allen & Meyer (1990). Meyer & Allen (1984) initially proposed making distinctions between two types of commitment: affective commitment and continuance commitment. Affective commitment denoted a sense of belonging and emotional attachment to the organization, whereas, continuance commitment emphasized the perceived costs of
leaving the organization. Allen & Meyer (1990) subsequently introduced a third component of commitment, normative commitment, which reflected the perceived obligation to remain with the organization. Allen and Meyer’s (1990) three-component questionnaire is a multidimensional construct that conceptualises organisational commitment and can be applied across domains (Meyer, Allen and Smith, 1993). The value of taking this multidimensional approach is that it provides a more complete understanding of an employee’s relationship to their job (Meyer et al., 1993). This research instrument was also chosen because it has been previously tested by Allen and Meyer (1990); Clugston et al. (2000); Meyer and Allen (1991); Rashid et al. (2003); and Wasti (2003). The OCS is a questionnaire consisting of 24 structured statements or items, measuring the affective, continuance and normative dimensions of organisational commitment. The affective, continuance and normative organisational commitment scales each comprise eight items. Responses were made on a 7-point scale (1=strongly disagree and 7=strongly agree) and were averaged to yield composite commitment scores for each respondent. The scoring was done as 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neither agree nor disagree, 5=slightly agree, 6=moderately agree, 7=strongly agree. Item no. 4,5,6,8,9,12,18,19,24 were reverse scored and scoring was done as 1=strongly agree, 2=moderately agree, 3=slightly agree, 4=neither agree nor disagree, 5=slightly disagree, 6=moderately disagree, 7= strongly disagree. Examples of items from the OCQ questionnaire include: (a) affective commitment – I would be very happy to spend the rest of my career with this organization; (b) continuance commitment – I feel that I have too few options to consider leaving this organisation and (c) normative commitment – I think that people these days move from company to company too often. Allen and Meyer (1990) tested the reliability in terms of Cronbach’s alpha.
coefficient and the reliability for each scale was as follows: affective commitment scale: 0.87; continuous commitment scale: 0.75; and the normative commitment scale: 0.79. Several studies have examined the reliability (alphas) of the OCQ. Dunham, Grube & Castaneda (1994) found alpha ranges of .74 to .87 for affective, .73 to .81 for continuance, and .67 to .78 for normative. Cohen (1996) discovered alphas of .79 for affective, .69 for continuance, and .65 for normative. Rashid et al. (2003) also tested the reliability of the three scales in the instrument, and found that the scores for the three organisational commitment types, namely, the affective, continuance and normative commitment were 0.92, 0.93 and 0.72, respectively. These results suggest a fair level of internal consistency in the responses (Rashid et al., 2003). Clugston et al. (2000) also tested the reliability of Allen and Meyer’s (1990) measuring instrument and the coefficient alphas were all above 0.75.

3.7.5 Work Family Conflict scale (Netemeyer, Boles & McMurrian, 1996)

Work-family conflict with its two dimensions - work-to-family conflict and family-to-work conflict were assessed using two scales. Netemeyer et al. (1996) developed and validated separate scales of work-to-family conflict (WFC) and family-to-work conflict (FWC). Prior to the development of these scales, the literature regarding work family conflict was without sound measures to assess this construct. They defined work-family conflict as “a form of inter-role conflict in which the general demands of, time devoted to, and strain created by the job interfere with performing family-related responsibilities” (Netemeyer et al., 1996). Family-work conflict is defined as “a form of inter-role conflict in which general demands of, time devoted to, and strain created by the family interfere with performing work-related responsibilities” (Netemeyer et al., 1996). The WFC and FWC scales each consist of five items. Using a 7-point likert scale, participants were asked to indicate the extent
to which they agree with each item. The responses range from 1 (strongly disagree) to 7 (strongly agree). High scores indicate high levels of work/family conflict, while low scores indicate low levels of work/family conflict. A sample item from the work-family conflict scale is: “Things I want to do at home do not get done because of demands my job puts on me.” A sample item from the family-work conflict scale is: “My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.” The WFC subscale had coefficient alpha reliability estimates of .88, .89, and .88 across the three groups, while the FWC subscale had alpha coefficients of .86, .83, and .89 across three samples. Kelly (2005) reported the coefficient alpha for the WFC scale to be .91, while the alpha for the FWC scale was reported to be .88.

3.7.6 Occupational Stress Index (Srivastva and Singh 1984)

The Occupational stress index was developed by Srivastva and Singh (1984) to assess the degree of perceived stress arising from various aspects of the job of the employees According to Beehr and Newman (1978), Occupational stress is a condition arising from the interaction of people and their jobs characterized by changes within the people that force them to deviate from their normal functioning. The scale has 46 items with 5 alternative responses. The items relate to almost all relevant components of the job life which causes stress in some way or the other such as role overload, role ambiguity, role conflict, group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability. The respondents were asked to indicate the extent to which each item describe their job, experience or feelings about the job on a 5-point scale ranging from strongly disagree to strongly agree. Out of 46 items, 28 were true keyed and 18
were false keyed. The scoring for true keyed items was done as follows: 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree. For false keyed items (reverse coded items) scoring was done as 1=strongly agree, 2=agree, 3=undecided, 4=disagree, 5=strongly disagree. Examples of the items are “My assignments are of monotonous nature” and “I do my work under tense circumstances.” The reliability index ascertained by split half method and Cronbach’s alpha coefficient for the scale as a whole have been reported to be .93 and .90 respectively.

3.7.7 Reliability and Validity of Research Instruments

The reliability and validity of the instruments to be used for collection of data are very important aspects to be considered when evaluating a research instrument. This section reports the reliability and validity of the measuring instruments used in this research in the present context even though previous studies have already conducted analyses pertaining to the reliability and validity of these measuring instruments.

(a) Reliability

Reliability is important because it indicates whether or not an instrument’s measures are free from error, therefore yielding consistent results (Collis and Hussey, 2003). The reliability of the questionnaires used in this research was assessed through the use of Cronbach’s Alpha and test re-tests method. Cronbach’s Alpha measures the internal consistency of the instrument, which refers to the degree to which the measuring instrument items are homogenous and reflect identical underlying constructs (Cooper and Schindler, 2006). Table 3.3 shows the Cronbach’s alpha coefficients for the scales used in the study.
Table 3.3 Cronbach’s alpha coefficient scores for the scales used in the present study

<table>
<thead>
<tr>
<th>S No.</th>
<th>Scale</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Big Five Inventory (BFI)</td>
<td>.80</td>
</tr>
<tr>
<td>2</td>
<td>Job Descriptive Index (JDI)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>People</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Pay</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>Promotion</td>
<td>.72</td>
</tr>
<tr>
<td>3</td>
<td>Job Involvement scale</td>
<td>.85</td>
</tr>
<tr>
<td>4</td>
<td>Organisational Commitment Scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Affective Commitment</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>Continuous Commitment</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>Normative Commitment</td>
<td>.70</td>
</tr>
<tr>
<td>5</td>
<td>Work Family Conflict Scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work to Family Conflict</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Family to work Conflict</td>
<td>.85</td>
</tr>
<tr>
<td>6</td>
<td>Occupational Stress Index</td>
<td>.85</td>
</tr>
</tbody>
</table>

Each of the coefficients are within acceptable parameters.

Further test re-test reliability of the complete Questionnaire package was assessed by conducting a pilot study of 30 respondents who completed the whole set of Questionnaire. Table 3.4 reveals the test re-test reliability scores measured using Pearson Product Moment correlation.

Table 3.4 Test Re-test Reliability Coefficient

<table>
<thead>
<tr>
<th>S No.</th>
<th>Scale</th>
<th>Test retest reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Big Five Inventory</td>
<td>.90</td>
</tr>
<tr>
<td>2</td>
<td>Job Descriptive Index</td>
<td>.87</td>
</tr>
<tr>
<td>3</td>
<td>Job Involvement Scale</td>
<td>.85</td>
</tr>
<tr>
<td>4</td>
<td>Organisational Commitment scale</td>
<td>.87</td>
</tr>
<tr>
<td>5</td>
<td>Work Family Conflict</td>
<td>.90</td>
</tr>
<tr>
<td>6</td>
<td>Occupational Stress Index</td>
<td>.92</td>
</tr>
</tbody>
</table>
(b) Validity

Validity refers to how well a test measures what it is purported to measure. There are a number of ways in which validity of a measurement can be assessed, with the foremost ways being face validity, content validity and construct validity. The face validity of a measuring instrument refers to the subjective agreement that the instrument logically appears to reflect accurately what it purports to measure (Zikmund, 2003). Content validity evidence involves the degree to which the content of the test matches a content domain associated with the construct. Though all the scales used in the present study are standardized and pre-tested and used by numerous researchers over a period of time, the complete questionnaire package consisting of six scales was checked for its face and content validity. A group of experts (that included HR experts, academicians, research supervisor and respondents) were asked to check all the six scales for their appropriateness in assessing the study variables. All the scales were found to have strong face and content validity as determined by expert opinions. All the experts agreed that scales were valid in measuring what they purported to measure.

3.8 DATA COLLECTION

The data was personally collected by the researcher. Respondents were requested to fill in the questionnaires. The purpose of the Questionnaire was explained to them and they were assured of total confidentiality of the data. Some questionnaires were also sent through mail. Regular follow-ups (telephonic as well as mail) were made to respondents. In total 300 questionnaires were administered. Out of this, only 262 questionnaires were received. Among those received, only 254
questionnaires were complete and served as sample for the present study others being not used on account of being incomplete.

3.9 DATA ANALYSIS

Means and standard deviations were used to study the nature of distribution of scores on Personality, Job Attitudes, Work Family conflict and Occupational Stress.

3.9.1 Stepwise multiple regression analysis

Stepwise multiple regression analysis was conducted to test main study hypothesis as well as additional analyses that uncovered significant findings. It was done in linear form as under:

\[ Y = a + b_1x_1 + b_2x_2 + \ldots + b_n x_n + \mu \]

Where

\( Y \) = Dependent Variable(s)

\( x_1 \) to \( x_n \) = Independent Variables

\( b_1 \) to \( b_n \) = Regression coefficients of independent variables

Every independent variable was in turn made the dependent variable in order to see the direct and indirect effects of variables on each other.

3.9.2 t-test

To identify the gender differences on personality, job satisfaction, job involvement, organisational commitment, occupational stress and work family conflict, student’s t-test was applied as under:

\[ t = \frac{\bar{X}_1 - \bar{X}_2}{\text{SE} (\bar{X}_1, \bar{X}_2)} \]
\[ SE (\bar{X}_1 - \bar{X}_2) = S \sqrt{\frac{1}{n_1} + \frac{1}{n_2}} \]

\[ S = \sqrt{\frac{SD_1^2 (n_1 - 1) + SD_2^2 (n_2 - 1)}{n_1 + n_2 - 2}} \]

where,

\( SE \) = standard error of mean difference

\( \bar{X}_1 \) = mean value of males

\( \bar{X}_2 \) = mean value of females

\( SD_1 \) = standard deviation of males

\( SD_2 \) = standard deviation of females

\( S \) = common standard deviation

\( n_1 \) = number of observations in case of males

\( n_2 \) = number of observations in case of females

### 3.9.3 Analysis of Variance

One way ANOVA was carried out to determine whether or not there were significant differences between various working professionals in various airline companies on personality dimensions, job satisfaction, job involvement, organisational commitment, occupational stress and work family conflict. Further wherever there were statistically significant relationships, Tukey’s HSD post-hoc analysis was computed in order to determine where the differences lay.
The process of the analysis is given hereunder:

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>d.f.</th>
<th>T.S.S.</th>
<th>M.S.S.</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies</td>
<td>n-1=a</td>
<td>S1</td>
<td>S1/a=x</td>
<td>x/y</td>
</tr>
<tr>
<td>Error</td>
<td>b-a=c</td>
<td>S2</td>
<td>S2/b=y</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>N-1=b</td>
<td></td>
<td></td>
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where
n= No. of companies to be compared
N= Total number of respondents
T.S.S.= Total Sum of Squares
M.S.S. = Mean Sum of Squares (TSS/d.f.)
d.f. = Degree of Freedom.

REFERENCES


