This chapter shows the results of statistical analysis of data for verification of hypotheses and begins with the descriptive statistics of variables along with Pearson Correlation and Stepwise Regression Analysis.

4.1. DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Demographic profile of the respondents play a vital role to know about the human population and states that how population are structured and change. It is a Greek word which refers to particular characteristics of population of interest. It offers a basis for determining whether the individual chosen in current study is a representative sample of target population for generalization purpose. In present study, age, gender, designation level, educational qualification and professional background are used as demographic variable. Descriptive statistics of demographic variables (gender, age, educational qualification, work experience, marital status and designation).
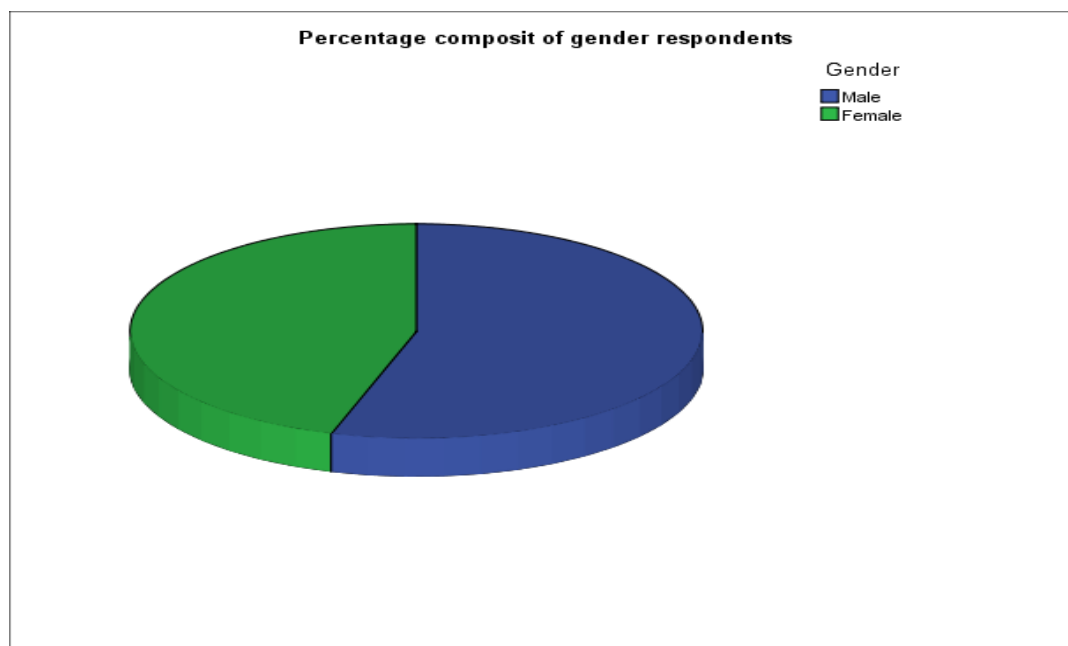
4.1.1 RESPONDENT DISTRIBUTION BASED ON GENDER: Table 20.1

Presents distribution of respondents according to gender-wise in Indian aviation industry:

Table 20.1: Respondents distribution: Gender-wise

Gender	Frequency	Percent
Male	405	54.8
Female	334	45.2
Total	739	100

Table 20.1 depicts that the majority of respondents are male i.e 405 (54.8 percent) and female accounts 334 (45.2 percent). The figure 15.1 shows the pictorial presentation of gender of respondent of Indian aviation industry.

Figure 15.1: Gender-wise Distribution of Respondents

4.1.2 RESPONDENTS DISTRIBUTION BASED ON AGE: Table 20.2 presents the

distribution of the respondents according to age-wise in Indian aviation industry:

Table 20.2: Age-wise distribution of the Respondent

Age	Frequency	Percent
20-30	158	21.4
31-40	276	37.3
41-50	187	25.3
51-60	118	16.0
Total	739	100

Table 20.2 shows the majority of respondent are between 31- 40 (37.3 percent). The

possible reason may be that in airlines industry youngster and middle age are attracting as

there are ample of job opportunities for them. The figure 15.2 shows the pictorial

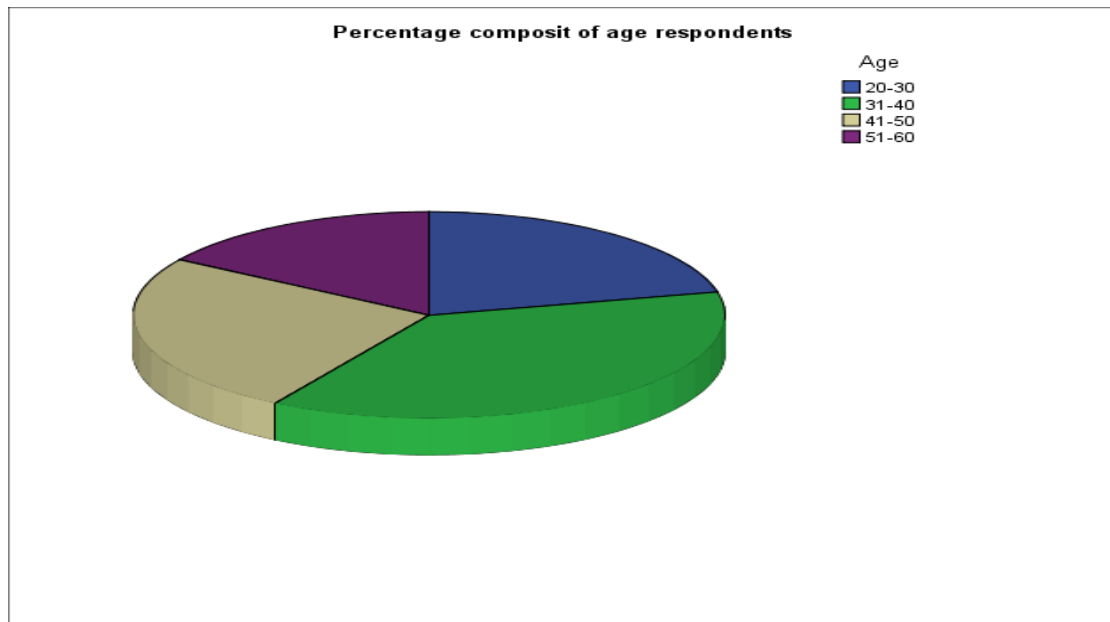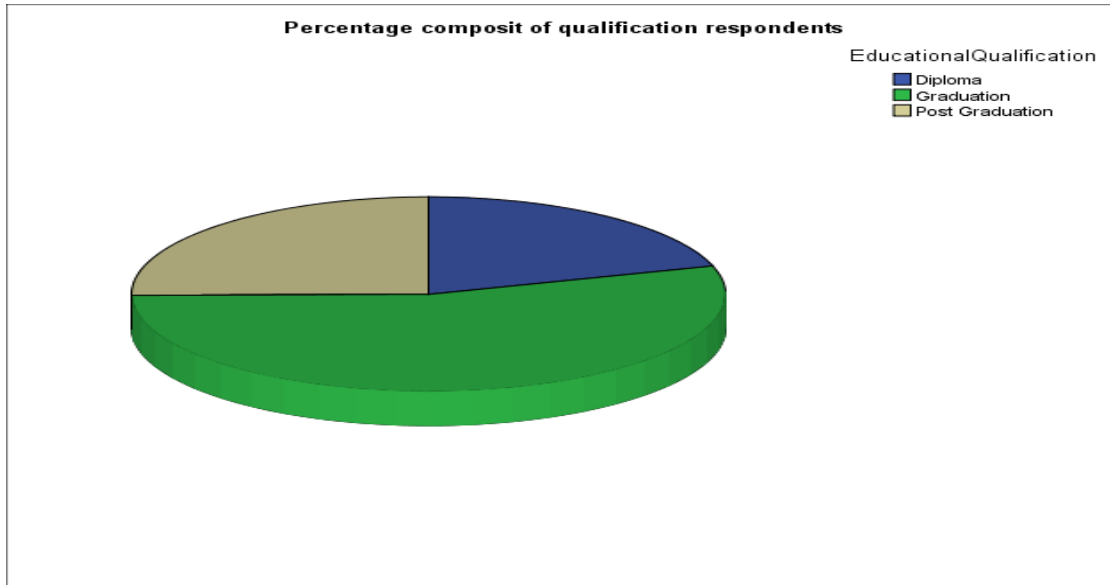presentation of age of respondent of Indian aviation industry.

Figure 15.2: Respondents distribution: Age-wise

4.1.3 RESPONDENTS DISTRIBUTION BASED ON QUALIFICATION: Table 20.3

presents the qualification-wise distribution of the respondents in Indian aviation industry.

Table 20.3: Qualification-wise distribution of Respondents

Qualification	Frequency	Percent
Diploma	150	20.3
Graduation	403	54.5
Post-Graduation	186	25.2
Total	739	100

Table 20.3 depicts that 54.5 percent of the respondent are graduate, 25.2 percent of

the respondent are post graduate and 20.3 percent respondent are diploma holders. The reason

behind the distribution in Indian aviation industry is that there are numerous profile and

vacancies where people of different qualification can apply and work. The minimum

qualification for majority of job is graduation hence major respondents are graduate working

in aviation industry. The figure 15.3 shows the pictorial presentation of qualification of

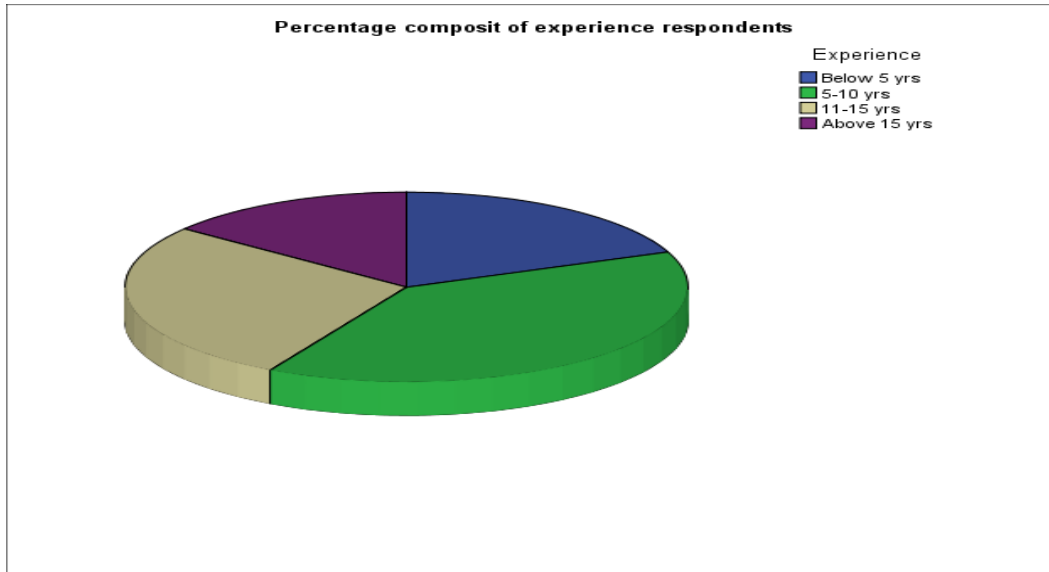respondent of Indian aviation industry.

Figure15.3: Respondents distribution: Qualification-wise

4.1.4 EXPERIENCE-WISE DISTRIBUTION OF RESPONDENTS: Table 20.4 presents

distribution of respondents experience-wise in Indian aviation industry:

Table 20.4: Experience-wise distribution of respondent

Work Experience (years)	Frequency	Percent
Below 5	140	18.9
5-10	289	39.1
11-15	203	27.5
Above 15 years	107	14.5
Total	739	100

Table 20.4 shows the majority of respondent are from 5-10 years (39.1%). The figure 15.4

shows the pictorial presentation of experience of respondent of Indian aviation industry.
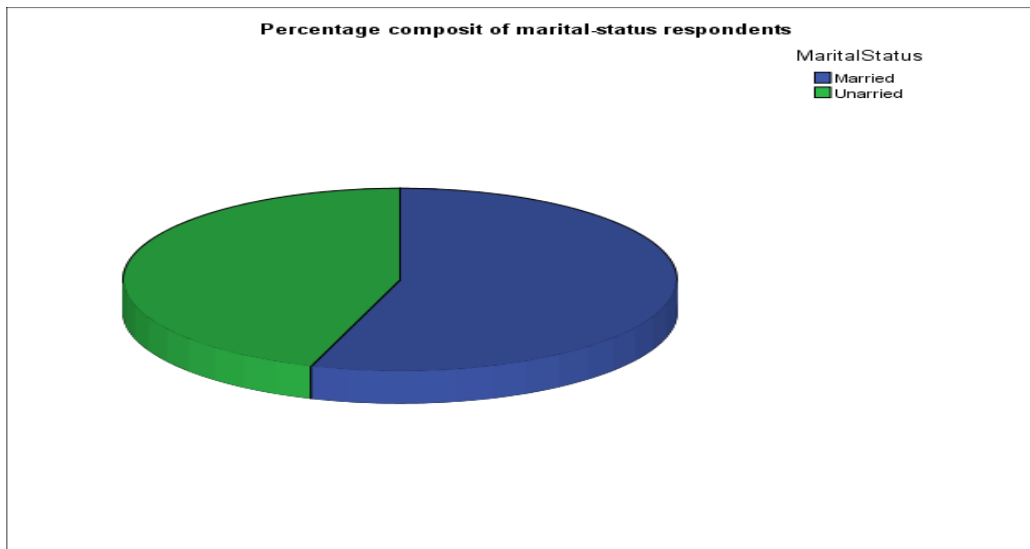
Figure: 15.4. Experience-wise distribution of Respondents

4.1.5 RESPONDENTS DISTRIBUTION BASED ON MARITAL STATUS: Table 20.5 presents distribution of respondents according to marital-status wise in Indian aviation industry:

Table 20.5: Marital Status -wise distribution of the Respondent

Marital-status	Frequency	Percent
Married	408	55.2
Unmarried	331	44.8
Total	739	100

Table 20.5 depicts that the majority of respondents are married i.e. 408 (55.2 percent) and unmarried accounts 331 (44.8 percent). The figure 15.5 shows the pictorial presentation of marital status of respondent of Indian aviation industry

Figure: 15.5. Respondents distribution: Marital Status-wise

4.1.6   RESPONDENTS DISTRIBUTION BASED ON DESIGNATION: Table 20.6 presents the distribution of the respondents according to designation-wise in Indian aviation industry:

Table 20.6: Designation of respondent

Designation	Frequency	Percent
Senior level	137	18.5
Middle level	382	51.7
Junior level	220	29.8
Total	739	100

Table 20.6 shows that majority of respondents belongs from middle level and junior level. The probable explanation may be that Indian aviation has generated many jobs by doing rigorous recruitment in past years at middle and junior level. The figure 15.6 shows the pictorial presentation of designation of respondent of Indian aviation industry.
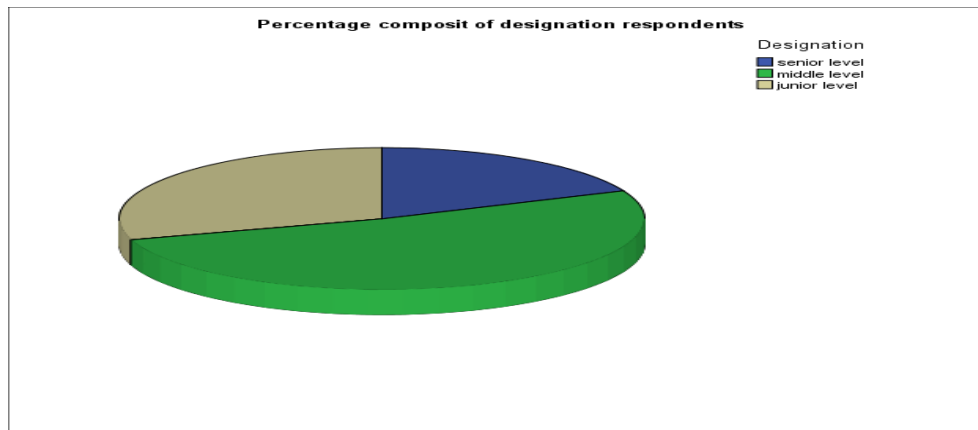
Figure: 15.6. Designation-wise distribution of Respondents

1.2 DESCRIPTIVE STATISTICS OF THE VARIABLES

Table 21 contains a report with descriptive statistics regarding the variables that were investigated in the study. These statistics include the sum, the mean, and the standard deviation.

Table 21: Descriptive Statistics of Study Variables

| Variables	Mean	SEm	SD
Employee Engagement	3.57	0.02	0.64
Dimensions of Employee Engagement**			
i. Vigor			
ii. Absorption	3.62	0.02	0.76
iii. Dedication	3.51	0.03	0.85
	3.59	0.02	0.70
Work Life Balance Dimensions of WLB*	3.52	0.02	0.60
i. Work Personal Life Strain	3.15	0.03	1.04
ii. Personal Life Work Strain	3.20	0.04	1.10
iii. Work Personal Life Gains	3.13	0.03	1.00
iv. Personal Life Work Gains	3.30	0.03	0.87
Job Satisfaction Dimensions of Job Satisfaction*	3.67	0.02	0.76
i. Pay	3.69	0.04	1.09
ii. Promotion	3.72	0.03	1.05
iii. Supervision	3.71	0.03	0.95
iv. Benefit	3.73	0.03	0.93
v. Contingent Reward	3.72	0.03	0.94
vi. Operating Procedure	3.73	0.03	0.98
vii. Co-Workers	3.70	0.03	0.95
viii. Nature of Work	3.75	0.03	0.96
ix. Communication	3.29	0.03	0.92

4. 3 ASSUMPTIONS ANALYSIS

Prior to using correlation analysis on the collected data, it is crucial. It is necessary to qualify the key correlational premises. Prior to doing correlation analysis on the data, we identified and tested the main hypotheses in this study. In this study, we investigated the following hypotheses: measurement level, linearity, normality, and absence of outliers. Following is a full explanation of each premise and its implications. For each assumption, the outcomes of the tests and their interpretations are noted.

Assumption 1: Level of Measurement

In order to compute the Pearson correlation coefficient between two variables, it is necessary to do measurements on both of them at interval or ratio level. Level of measurement refers to each variable. Each variable should be continuous. The variables are measured on a continuous scale (Condition met). All the study variables for this study are on continues scale; EE, WLB and JS.

Assumption 2: Linear Relationship

It is expected that there will be a linear relationship between the two variables. Based on Scatter Plot test we have concluded the linearity test between JS and EE and WLB.
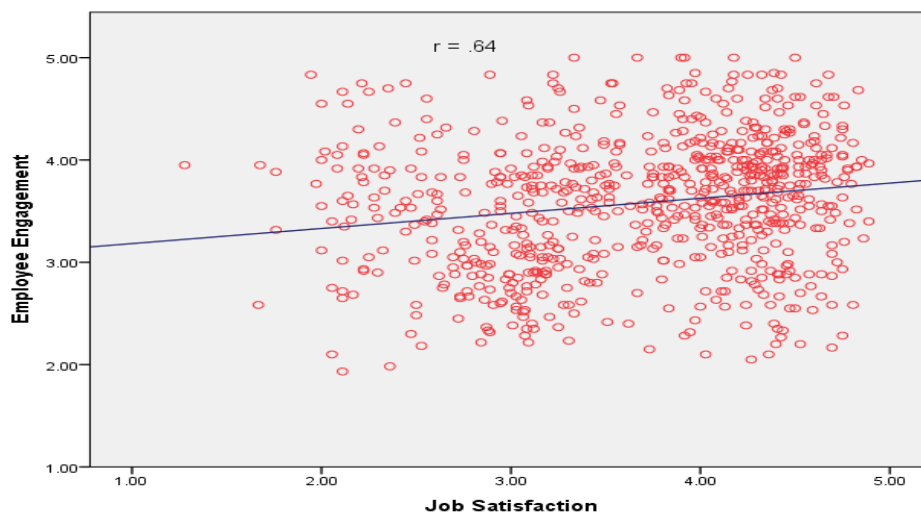
A scatter plot is a graphical representation of the relationship between two or more numerical variables using dots. The values of the individual data points are represented by the dots in the chart by their positions along the horizontal and vertical axes. The correlations between a number of variables can be visualized through the use of scatter plots.

The above scatter plot above shows job satisfaction and employee engagement. Each dot represents items; each point's horizontal position indicates job satisfaction and the vertical position indicates Employee Engagement. From the plot, we can see the correlation between them.
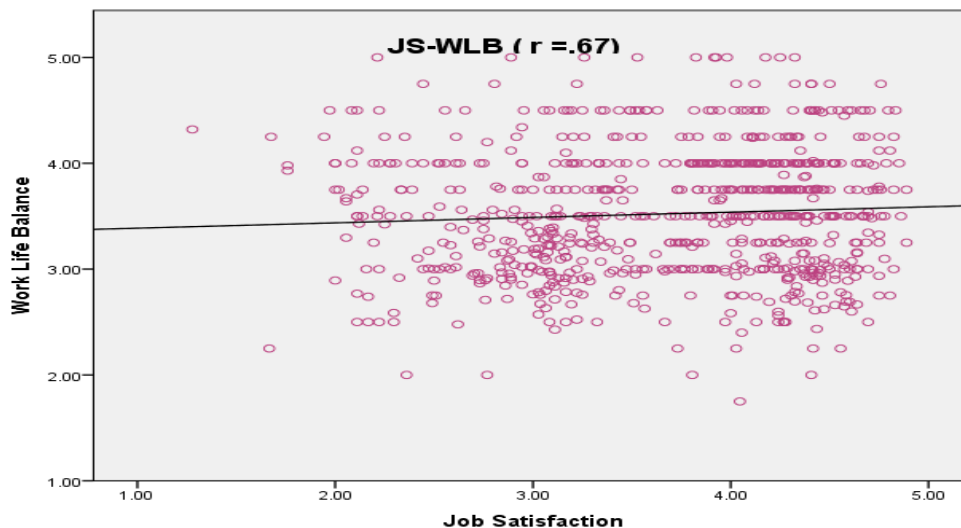
Figure 17: Graph of WLB and JS

The above scatter plot above shows JS and WLB. Each dot represents items; each point's horizontal position indicates JS and the vertical position indicates WLB. From the plot, we can see the correlation between them.

Assumption 3: Normality

The variables must be distributed regularly or nearly so. The normality test reveals the type of data distribution for a certain variable. The term "normal distribution of data" describes how closely each observation in a dataset tracks the mean value. The bell-shaped curve formed by the mean of normally dispersed data is symmetrical in nature. The best

form of graph to use to determine whether or not our data are normally distributed is a histogram, which shows the shape and dispersion of distributions. We can also use Q-Q plots or normal probability plots to test for normalcy.

- **HISTOGRAM**

Using Histograms to graph Normal Distributions
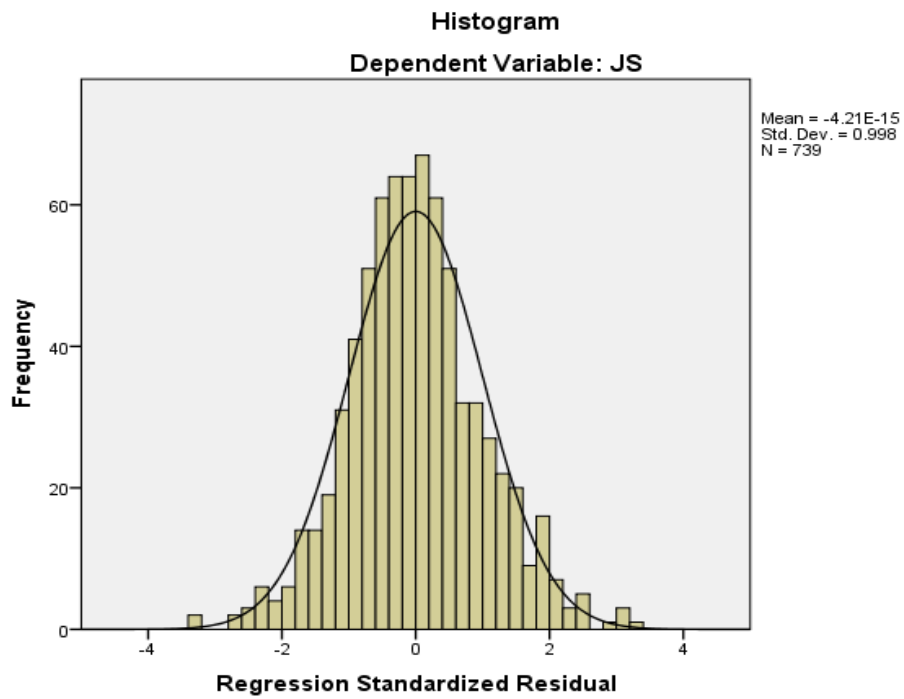
Figure 18.1: Histogram for Employee Engagement
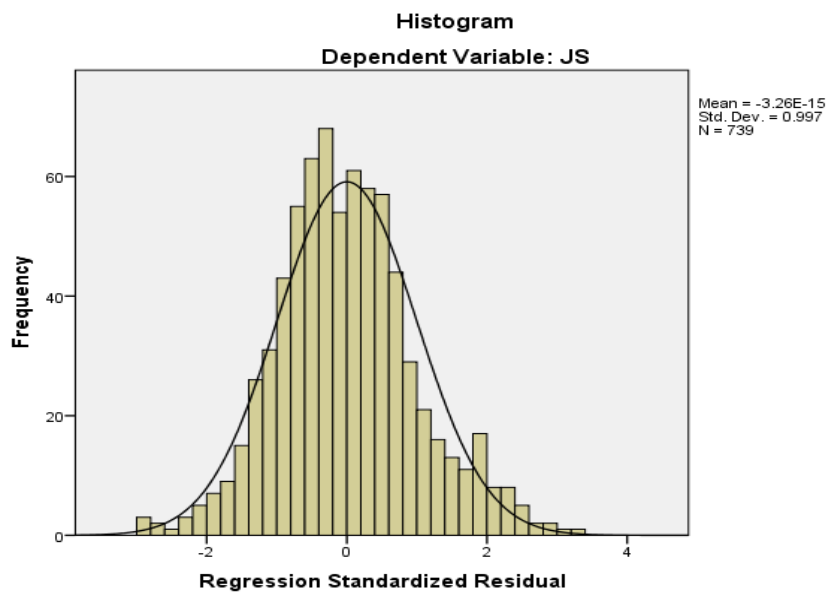
Figure 18.2: Histogram for Work Life Balance

From figure 18.1 and 18.2 it has showed that histogram is nearly bell shaped curve.

- **NORMAL PERCENT-PERCENT PLOT (PP Plot)**

The cumulative distribution functions of two data sets are compared using a probability plot known as a P-P plot, also known as a probability-probability plot, to ascertain how closely the two data sets coincide. Because this plot sheds light on skewness, kurtosis, and outliers, it has become a very popular tool for refuting the idea that things are normal.

Within the context of P-P plot, an empirical cumulative distribution function of data collection is contrasted with theoretical cumulative distribution function that has been computed in advance. If there are no outliers and the line looks to be straight without any curves, then it is reasonable to conclude that it is true. The assumption is regarded to be false if it looks to be something other than straight line, such as a curve. One example of this would be if the line appears to be curved.

Normal P-P plots presented in figure plot shows a normality pattern.
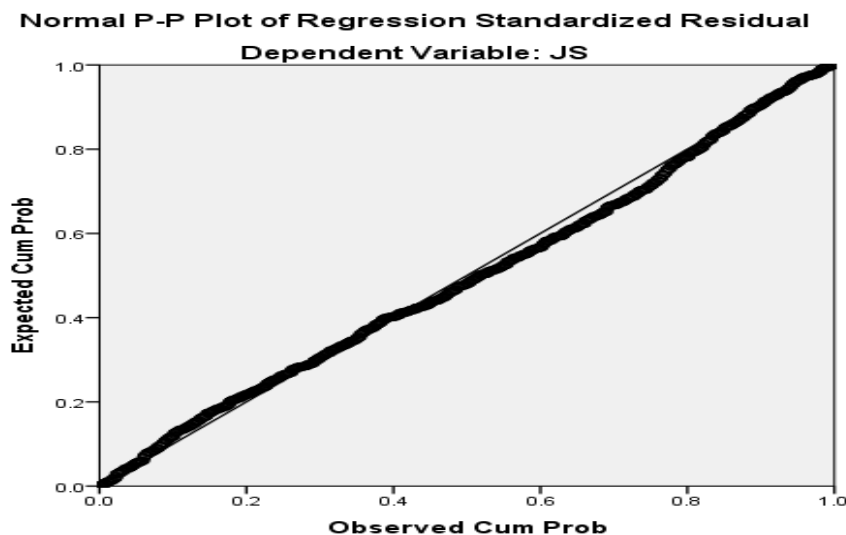
Figure 19.1: Normal PP plot of Regression Standardized Residual
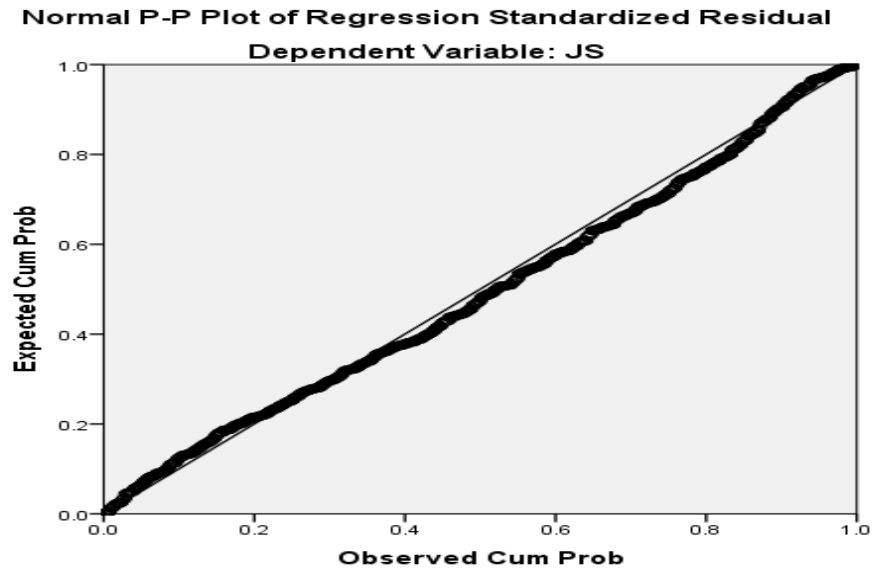
Figure 19.2: Normal PP plot of Regression Standardized Residual

- **Normal Quantile-Quantile Plot**

A quantile-quantile plot, also known as Q-Q plot, is a comparison that is made between the quantiles of data distribution and quantiles of a standard theoretical distribution that belongs to a specific family of distributions. A typical Q-Q diagram is created by comparing quantiles of one distribution to quantiles of normal distribution and plotting results. The presence of a rightward skew in the data distribution is indicated when the size of the curve has a slope that rises from left to right, whereas the presence of a leftward skew is shown when the slope of the curve falls from left to right.

Figure 20.1: Q-Q Plot for EE
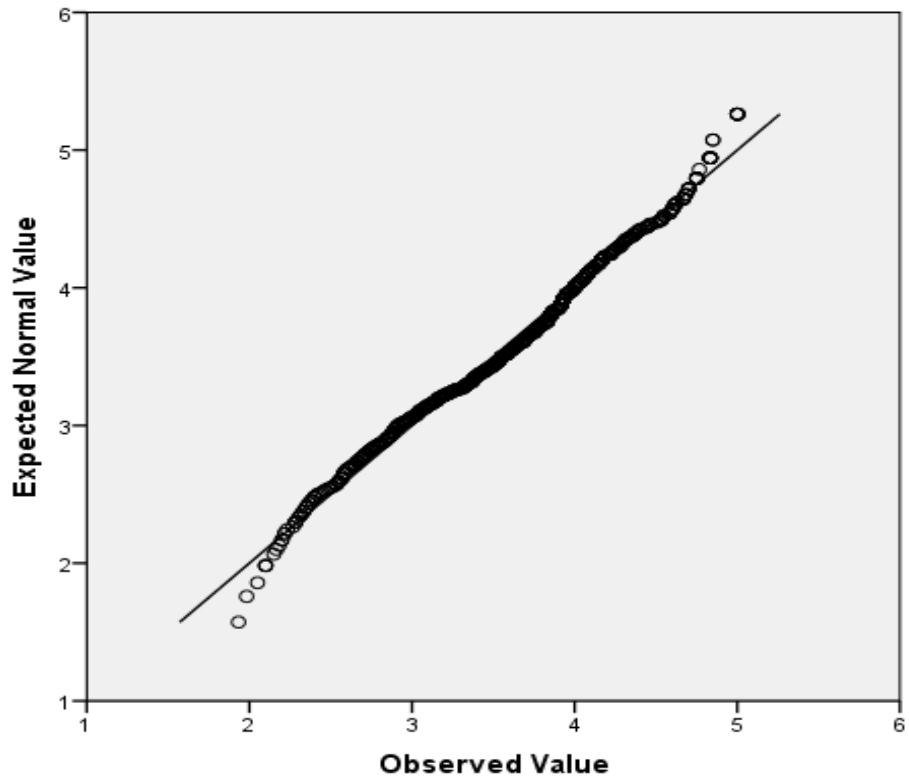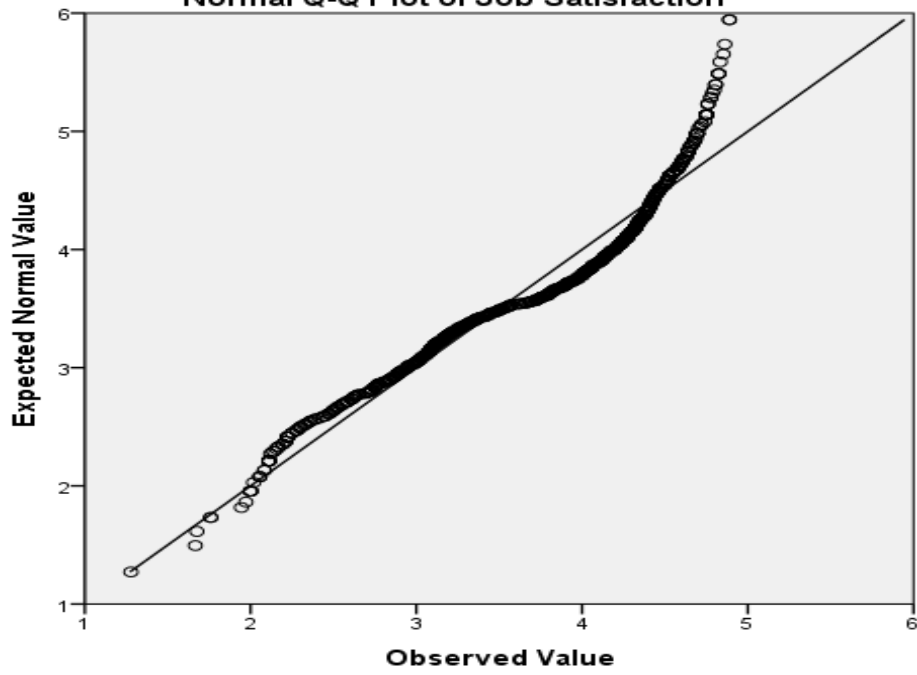

Figure 20.2: Q-Q Plot for Job Satisfaction
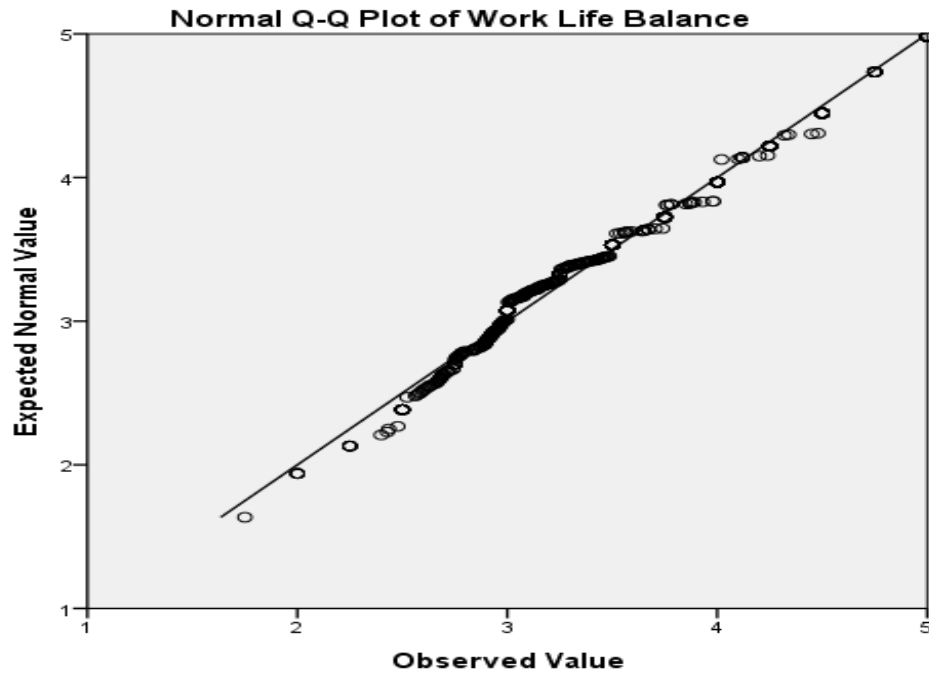
Figure 20.3: Q-Q Plot for Job Satisfaction

Assumption 4: No Outliers

A correlation coefficient based on the Pearson method also makes the assumption that the dataset does not contain any severe outliers. This is because outliers have a significant impact on the calculation of the correlation coefficient. For checking this box-and-whisker plot test has been done.

- **Box-and-Whisker Plot**

It is also known as a "five number summary" since it requires to display data from the first, second, and third quartiles as well as the median, minimum, and maximum values. Here, we attempt to plot our data in a box with the sample median at its midpoint, the third quartile (Q3) at its top, and the first quartile (Q1) at its bottom. The top whisker extends to this subsequent number, which is the greatest value contained inside the upper limit, which is defined as Q3 + 1.5 IQR, where IQR stands for interquartile range and is equal to Q3 - Q1. The bottom whisker also extends to the value immediately adjacent to it, which is the lowest value contained within the lower limit (Q1-1.5 IQR).
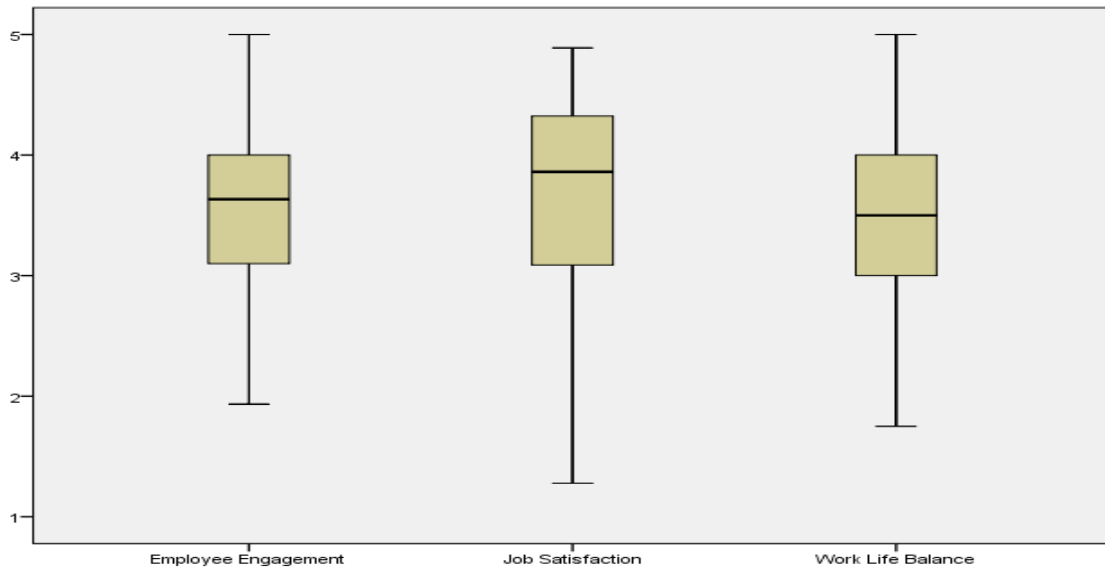
Figure 21: Box Whisker Plot

When an observation is plotted outside of the whiskers, we consider it to be exceptionally large or little and treat it as an outlier. Figure 21 graphic provides a clear illustration of the data set's symmetry. Additionally, it provides insight into the dispersed nature of observations. This plot also helps to understand the data's normalcy pattern. This graphic unmistakably demonstrates the data's typical pattern. The data are symmetrical and include no outliers.

4.4 CORRELATION

Correlation matrix revealed the relationship of JS as a single dependen variable with EE and work life balance as IV. Table 22 represents significant, relationship between EE and JS (on over all basis) with correlation value r = .64** (p<.01 level). Similarly, significant and positive relations has been found between WLB and JS (on over all basis) with correlation value as r = .67** (p<.01 level). Relationship of employee engagement and work life balance (on overall basis) has been displayed through graph (Fig. 22& Fig. 23). The correlation between dimensions of JS and dimensions of EE and WLB has been discussed on the basis of dimensions. Hence the results indicated that the

hypothesis H(1) & H(2) which depicted that the JS has positive and significant relationship between EE and WLB.

Table 22: Pearson Correlation between JS, EE and WLB on an Overall Basis (N=739)

Variables	EET	WLBT
JST	.64**	.67**

*** Significant at the .01 level; EET-Employee Engagement Total, WLBT-Work Life Balance Total, JST-Job Satisfaction Total.*

A scatter plot is a form of graph in which dots are used to represent the values of two different numerical variables. The locations of the dots along the horizontal and vertical axes represent the values of the data points. The relationships between the variables can be seen using scatter plots.

The below scatter plot above shows JS and EE and WLB. Each dot represents items; each point's horizontal position indicates job satisfaction and the vertical position indicates employee engagement, work life balance in figure 22 and 23 respectively. From the plot, we can see the correlation between them.
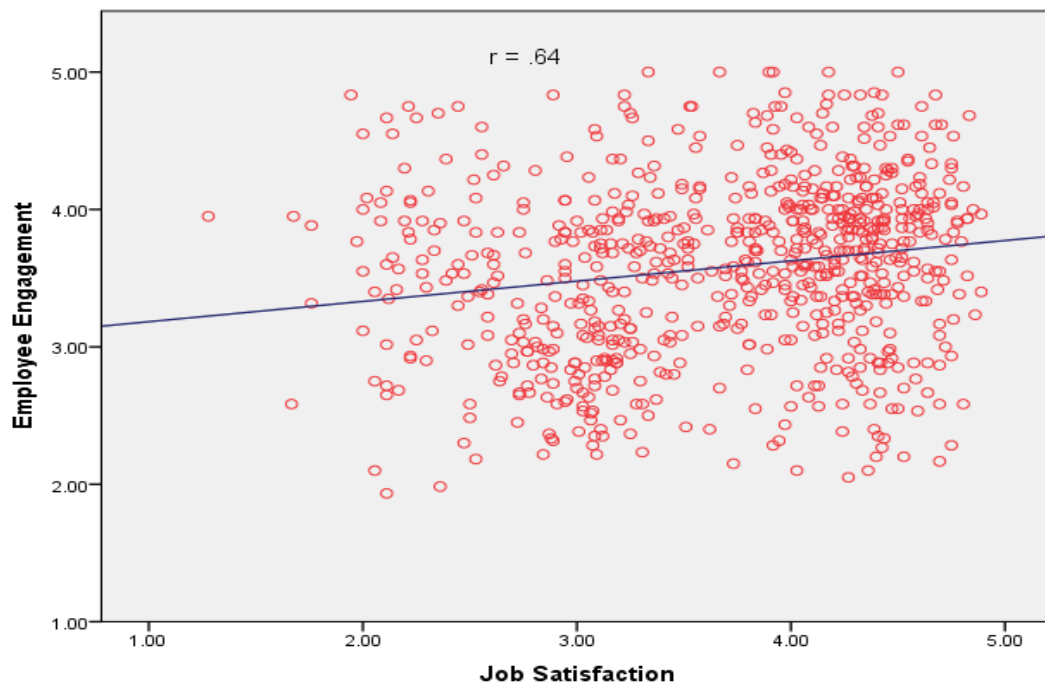
Figure 22: Graph of EE and JS
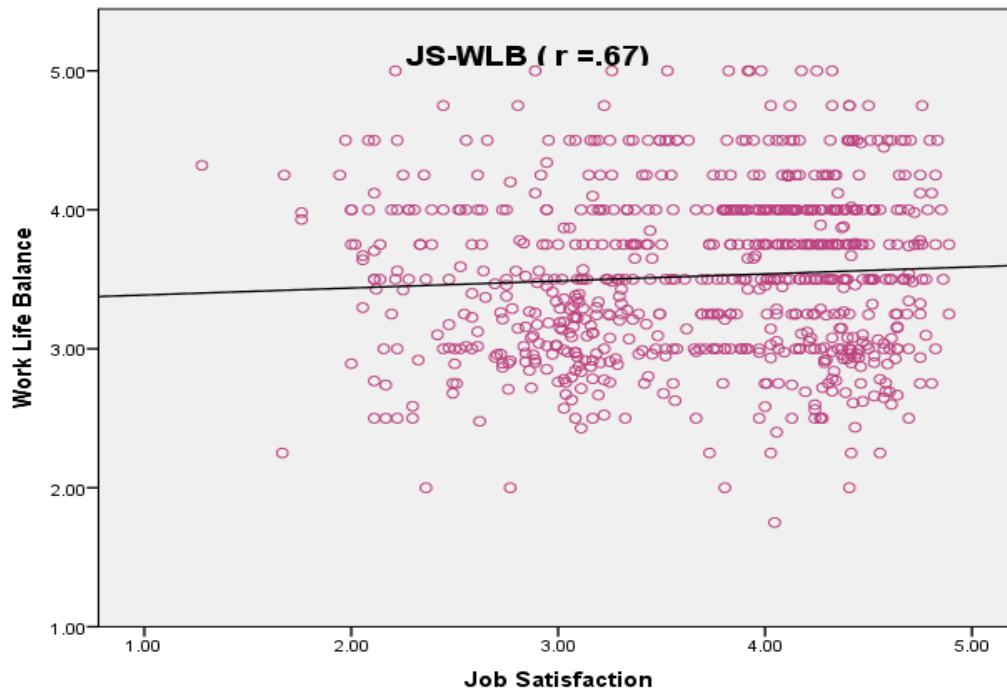
Figure 23: Graph of WLB and JS

Table 23 shows the correlation between dimensions of Employee Engagement (vigor, dedication, absorption) with overall JS.

Table 23: Correlation between Employee Engagement dimension and overall JS

Variables	Job Satisfaction
Vigor	.32**
Absorption	.41**
Dedication	.34**

** Correlation is significant at the .01 level.

Table 24: Pearson's Correlation between the Dimensions of Employee Engagement and Dimensions of Job Satisfaction on an Overall Basis (N=739)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1.Vigor	1											
2. Absorption	.57**	1										
3. Dedication	.50**	.51**	1									
4. Pay	.12**	.14**	.16**	1								
5. Promotion	.79*	.05	.08*	.61**	1							
6. Supervision	.08*	.03	.10**	.76**	.68**	1						
7. Benefit	.12**	.08*	.14**	.75**	.65**	.81**	1					
8. Contingent Reward	.13**	.09**	.15**	.47**	.41**	.49**	.54**	1				
9. Operating procedure	.12**	.11**	.11**	.68**	.70**	.72**	.78**	.51**	1			
10. Co-Worker	.19**	.09**	.13**	.50**	.45**	.51**	.49**	.54**	.51**	1		
11. Nature of Work	.09**	.11**	.12**	.73**	.64**	.81**	.85**	.51**	.79**	.51**	1	
12. Communication	.15**	.14**	.16**	.37**	.31**	.37**	.42**	.16**	.39**	.13**	.41**	1

** Correlation is significant at .05 level, *Correlation is significant at .01 level

Table 24 shows correlation between various variables of employee engagement (EE) and job satisfaction (JS). Vigor shows correlation with absorption, dedication and dimensions of JS with the correlation values as: .57**, .50**, .12**, .79**, .08*(p<.01), .12**, .13**, .12**, .19**, .09** and .15** (p<.05 level), respectively. Again, absorption showed a correlation with dedication and dimensions of JS with the correlation values as: .51**, .14**, .08*,

.09**, .11**, .09**, .11** and .14**, (p<.05 level) respectively. Dedication showed a correlation with dimensions of JS with the correlation values as: .16**, .08*(p<.01), .10**, .14**, .15**, .11**, .13**, .12** and .16**, (p<.05 level) respectively. Further Pay has yielded positive and significant relationship with other dimensions of JS with the correlation values as: .61**, .76*, .75**, .47**, .68**, .50**, .73** and .37**, (p<.05 level) respectively. Promotion has also been found to be significantly and positively correlated with other dimensions of JS with the correlation values as: .68**, .65**, .41**, .70**, .45**, .64**and .31**, (p<.05 level) respectively. Similarly, supervision has yielded positive and significant relationship with other dimensions of JS with the correlation values as: .81**, .49**, .72**, .51**, .81** and .37** (p< .05 level), respectively. Benefit has yielded positive and significant relationship with rest of the dimensions of JS with the correlation values as: .54**, .78**, .49**, .85** and .42** (p< .05 level), respectively. Contingent Reward has also been found to be significantly and positively correlated with other dimensions of JS with the correlation values as: .51**, .54**, .51** and .16**, (p<.05 level) respectively. Operating Procedure shows the correlation with other dimensions of JS with the correlation values as: .51**, .79** and .39**, (p<.05 level) respectively. Co-worker has also been found to be significantly and positively correlated with nature of work and communication with the correlation values as: .51** and .13**, (p<.05 level) respectively. Lastly nature of work shows correlation with communication with r value .41** (p< .05 level).

Table 25 shows the correlation between dimensions of WLB (WPLS, PLWS, WPLG, and PLWG) with overall JS

Table 25: Correlation between WLB dimension and overall Job Satisfaction

Variables	Job Satisfaction

WPLS	.31**
PLWS	.33**
WPLG	.57**
PLWG	.54**

** Correlation is significant at.01level

Table 26: Pearson's Correlation between the Dimensions of WLB and Dimensions of JS on an Overall Basis (N=739)

** Correlation is significant at 0 .01 level, *Correlation is significant at 0.05 level. WPLS= Work Personal Life Strain, PLWS= Personal Life Work Strain, WPLG= Work Personal Life Gain, PLWG= Personal Life Work Gain.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1.WPLS	1												
2. PLWS	.83**	1											
3. WPLG	.83**	.80**	1										
4. PLWG	.56**	.54**	.60**	1									
5. Pay	.23**	.18**	.13**	.31**	1								
6. Promotion	.47**	.32**	.21**	.52**	.61**	1							
7.Supervisio n	.31*	.26**	.42**	.51**	.76**	.68**	1						
8. Benefit	.41**	.42**	.32*	.29*	.75**	.65**	.81**	1					
9.Contingent Reward	.53**	.21**	.71**	.15**	.47**	.41**	.50**	.55**	1				
10.Operating procedure	.19**	.31**	.26**	.49**	.68**	.70**	.72**	.79**	.51**	1			
11. Co-Worker	.27**	.38**	.51**	.63**	.40**	.45**	.51**	.50**	.54**	.51**	1		
12. Nature of Work	.21**	.28**	.37**	.42**	.73**	.64**	.81**	.86**	.51**	.80**	.51**	1	
13.Communiation	.54**	.33**	.47**	.44**	.37**	.31**	.37**	.42**	.16**	.40**	.13**	.41**	*1

Table 26 shows the correlation between the various variables of WLB and JS. Work Personal Life Strain (WPLS)shows positive and significant correlation with PLWS, WPLG, PLWG and dimensions of JS with the correlation values as: .83**, .83**, .56**, .23**, .47*, .31**, .41**, .53**, .19**, .27**, .21** and .54** (p<.05 level), respectively. Again, Personal Life Work Strain (PLWS) showed a significant correlation with WPLG, PLWG and dimensions of JS with the correlation values as: .80**, .54**, .18**, .32**, .26*, .42**, .21**, .31**, .38**, .28 and .33**, (p<.05 level) respectively.

Work Personal Life Gain (WPLG) showed a significant correlation with PLWG, and dimensions of JS with the correlation values as: .60**, .13**, .21**, .42**, .32**, .71**, .26**, .51**, .37** and .47**, (p<.05 level) respectively. Further PLWG showed a significant correlation with dimensions of JS with the correlation values as: .31**, .52*, .51**, .29**, .15**, .49**, .63**, .42** and .44**, (p<.05 level) respectively.

Pay have yielded positive and significant relationship with other dimensions of JS with the correlation values as: .61**, .76*, .75**, .47**, .68**, .40**, .73** and .37**, (p<.05 level) respectively.

Promotion has also been found to be significantly and positively correlated with other diemnsions of JS with the correlation values as: .68**, .65**, .41**, .70**, .45**, .64**and .31**, (p<.05 level) respectively. Similarly, supervision has yielded positive and significant relationship with other dimension of JS with the correlation values as: .81**, .50**, .72**, .51**, .81** and .37** (p< .05 level) respectively.

Benefit has yielded positive and significant relationship with other dimensions of JS with the correlation values as: .55**, .79**, .50**, .86** and .42** (p< .05 level), respectively. Contingent Reward was significantly and positively correlated with other dimensions of JS with the correlation values as: .51**, .54**, .51** and .16**, (p<.05 level) respectively.

Operating Procedure shows the correlation with co-worker, nature of work and communication with the correlation values as: .51**, .80** and .40**, (p<.05 level) respectively. Co-worker has also been found to be significantly and positively correlated with nature of work and communication with the correlation values as: .51** and .13**, (p<.05 level) respectively. Lastly nature of work shows correlation with communication with r value .41** (p< .05 level).

4.5 ASSUMPTION ANALYSIS

It is utmost important that before applying regression analysis on captured data. The important assumptions of regression must be qualified. In this study we have identified primary assumption and tested them before applying regression analysis on data. The assumptions we tested in this study are: linearity, independence of error, homo scedasticity, normality and collinearity. The detailed description of each assumption along with its consequences is mentioned below. The tested results, as well as interpretations, are highlighted for each assumption.

Assumption 1: Linearity

This determines whether or not there is a linear relationship between IV (EE &WLB) and DV (JS). In multiple regressions, this is the first assumption that is made. In order to verify this hypothesis, we get to the conclusion that the relationship between the IV and DV must be modeled by line that is perfectly straight. We make a scatter plot and analyze the correlation between IV and DV to test this presumption. According to many academics, the assumption of linearity is one of the most crucial hypotheses to evaluate because it demonstrates the overall relationships between IV and DV (Keith, 2006). The DV is explained by the linearity as linear function of the IV (predictor), (Darlington 1968). When both variables are linear in type, Osborne & Waters (2002) hypothesized that multiple regressions can accurately assess relationship between IV and DV. Additionally, they noted that since there is significant likelihood that the relationship between an IV and a DV in

social science research will not be linear, it is important to assess this relationship before conducting regression analysis. Regression coefficients, standard errors, and tests of statistical significance may all be biased if linearity is not taken into account (Keith, 2006).

According to (Stevens, 2009) by determining the clustering of the residuals helps in identifying the violation of linearity between the variables. An F-test reveals the shared variance's (R^2) magnitude. The F-test compares ratio of two variances to determine whether two population variances are equal. The ratio of the variances will be one if they are all equal. According to Sevier (1957), a significant F value denotes a break from linearity. Since linearity between the variables is one of the key prerequisites for correlation and regression analysis, the goal of linearity test is to clarify whether two variables IV and DV are linear or not.

The procedure for making decisions during the linearity test:

1. The relationship between the IV is dependent on linearity if value of the sig. deviation from linearity is >.05.

2. The relationship between IV and DV is not linear if value of the sig. deviation from linearity is less than.05 (<.05).

As table 27.1 & 27.2 shows the measures of deviation from linearity between the independent variable (EE and WLB) and dependent variables (JS).

ANOVA TABLE 27.1: Linearity between IV(EE) and DV(JS)

			Sum of Squares	Df	Mean Square	F	Sig.
Job Satisfaction * Employee	Between Groups	(Combined)	103.131	158	.653	1.149	.129
		Linearity	13.145	1	13.145	23.13	.000

Engagement		Sum of Squares	Df	Mean Square	F	Sig.
	Deviation from Linearity	89.986	157	.573	1.009	.463
Within Groups		329.561	580	.568		
Total		432.692	738			

It is possible to draw conclusion that there is linear relationship between the factors of

EE and JS due to the fact that the value of sig Deviation from linearity was 0.46 > 0.05

in the ANOVA table.

ANOVA TABLE 27.2: Linearity between independent variable (WLB) and dependent variables (JS)

			Sum of Squares	Df	Mean Square	F	Sig.
Job Satisfaction * Work Life Balance	Between Groups	(Combined)	157.805	248	.636	1.134	.123
		Linearity	1.793	1	1.793	3.197	.074
		Deviation from Linearity	156.011	247	.632	1.126	.137
	Within Groups		274.887	490	561		
	Total		432.692	738			

Similarly for WLB and JS, the ANOVA table shows that there is linear association between the

two variables of WLB and JS, with a value of sig Deviation from linearity of 0.13>0.05.

Assumption 2: Multicollinearity (There is no multi-collinearity in data): This is essentially the assumption that your predictors are not too highly correlated with one another.

When two or more predictor variables have a high degree of connection and do not

provide unique or independent information to the regression model, multicollinearity in

regression analysis occurs. It could be challenging to fit and understand the regression model if

there is significant enough connection between the variables.

Table 28: Coefficient output- collinearity
Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Co linearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.418	.071		5.880	.030		
EENG	.417	.019	.481	21.866	.067	.784	1.275
WLB	.472	.020	.512	23.280	.027	.784	1.275

Dependent Variable: JS , *EENG- employee engagement, * WLB- work life balance*

Interpretation of multicollinearity

It is possible to draw the conclusion that there is no evidence of multicollinearity based on coefficient output- collinearity statistics and the obtained VIF value of 1.275. This indicates that VIF value obtained falls somewhere in the range of 1-10. As a result, this presumption can now be considered validated.

Assumption 3: Independence of residuals or independence of observation (values of residuals are independent)

This is essentially same as saying that we require independence (or uncorrelated) between our observations (or individual data points).

This presumption stated why each observation should be separate from the others. It implies that the residual values ought to be independent. In other words, every data point must exist independently of every other data point. For a regression analysis model to yield correct findings, the uncorrelated data points are crucial. The Durbin-Watson statistic from table 29.1 can be used to evaluate this crucial supposition. A value of 0 to 4 indicates that residuals are independent, uncorrelated, or does not exhibit autocorrelation. Independence of residuals

assumption was successfully evaluated for applying a regression model to collected

observations, as evidenced by the findings shown in the tables (Tables: 29.1 & 29.2).

Table:29.1 Model Summary: Predictors: JS & DV:EE

Model	R	R Square	Adjusted R Square	Std. Errorof the Estimate	Change Statistics						Durbin -Watson
					R Square Change	F Change	df1	df2	Sig. F Change		
1	.718	.516	.515	.38597	.516	785.357	1	737	.000		**1.324**
a. Predictors: EE											
b. Dependent Variable: JS											

Table 29.2 Model Summary : Predictors: JS & Dependent Variable: WLB

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.735	.540	.539	.37621	.540	865.385	1	737	.000	**1.446**
a. Predictors: WLB										
b. Dependent Variable: JS										

Interpretation of Test Independence of residuals or independence of observation:

The Durbin-Watson statistic in which Predictors is employee engagement in table 29.1 for

dependent variable job satisfaction the Durbin-Watson statistic1.324,intable29.2 for

dependent variable job satisfaction the Durbin-Watson statistic1.446. These are values are

between 0 to 4 and therefore the data is not auto correlated. So, we can say this assumption

has been met.

Assumption 4: Homoscedasticity - The variance of residual is constant

The obtained dependent variable residuals' close resemblance to predicted dependent

variable's score can be explained by this supposition. For all projected scores, the variance of the residuals must be comparable, according to Tabachnick & Fidell's explanation in 2007. Furthermore, he said there shouldn't be a discrepancy between the anticipated score and the residual calculated score for dependent variables. This presumption, known as homoscedasticity, is necessary for regression model analysis to succeed. Scores will be scattered in a rectangle pattern and concentrated in the center (near the 0 point), as illustrated in the scatter plot in figure 24 (below). We must examine the output's final graph in order to test the presumption. Assumption of homoscedasticity, or assumption that amount of error in model varies similarly across all points in the residuals, is put to the test here. In other words, the dispersion of the residuals ought to be roughly consistent across the linear model or at each point of the predictor variable. This graph shows a comparison between the standardized values that were derived from the residuals and the standardized values that our model would predict. As the anticipated value rises (along x-axis), volatility in residuals should remain rather consistent. This ought to look like a chaotic collection of dots if everything is in its place and working as it should. If the graph is in the shape of a funnel, then this assumption has most likely been proven incorrect. In order to evaluate this assumption, we will need to create a graph that compares standardized values that our model would predict to standardized residuals that were obtained.
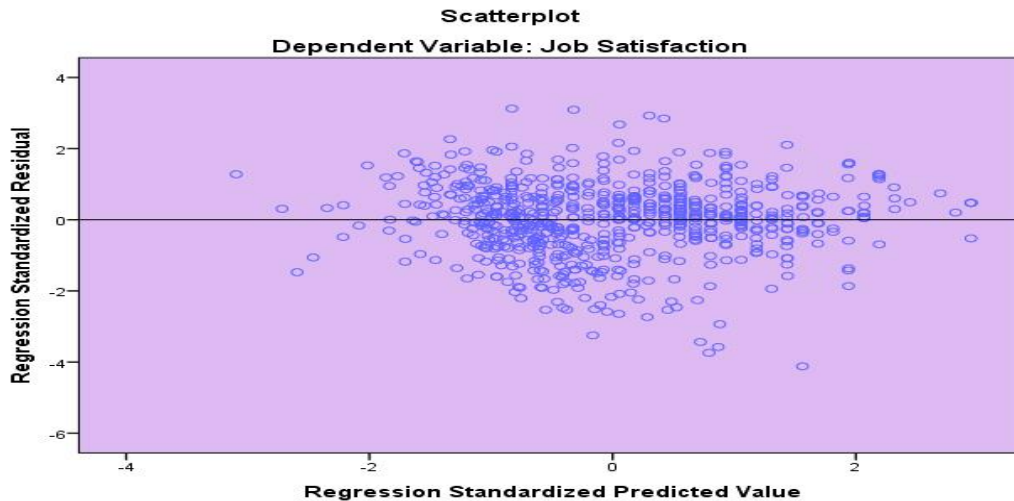
Figure 24: Scatter Plot

Assumption 5. Normality (the values of the residuals are normally distributed):
This assumption can be verified or disproved by using the P-P plot that is associated with the

model. When the dots are closer to the diagonal lines, the residuals have a distribution that is

closer to being normal.
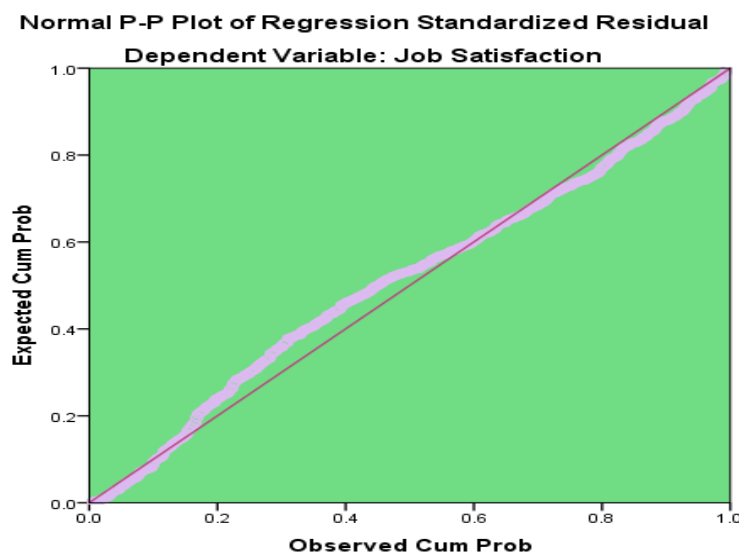
Figure 25:

P-P Plot of Regression Standard Residual

In this case our data points touch the diagonal line and it shows thatthe closer the normal

residual are distributed. Hence assumption is met.

- There are no influential cases biasing model

There is the potential for significant outliers and influential data points to put an undue impact on our model, so reducing the extent to which it is reflective of our data as a whole.

Going back to Data File and looking at Cook's Distance data that we requested SPSS 22 to preserve for us is going to give us the opportunity to validate our most recent hypothesis. For the same SPSS has added new column to our data file by looking at it. This provides Cook's Distance statistic for each individual participant. You should disregard any values greater than one since it is highly possible that they are huge outliers that could have an unexpected effect on the model. As a result, you should get rid of these numbers and run the analysis once more. There have not been any other instances that are comparable to this one in this context.

|	RES_25	DRE_24	ADJ_25	ZPR_25	ZRE_24	SRE_25	SDR_25	SEP_25	COO_1
1	.10297	.10315	3.20127	-.57788	.35129	.35161	.35140	.01250	.00008
2	-.08471	-.08487	3.31956	-.32733	-.28902	-.28928	-.28910	.01253	.00005
3	.15399	.15427	3.20117	-.57788	.52535	.52583	.52557	.01250	.00017
4	-.11760	-.11818	3.44130	-.06962	-.40121	-.40219	-.40196	.02048	.00026
5	.17320	.17423	3.49924	.05685	.59091	.59266	.59240	.02252	.00069
6	-.08350	-.08370	3.08370	-.82844	-.28488	-.28522	-.28504	.01438	.00007
7	.02246	.02262	3.32262	-.32018	.07664	.07691	.07686	.02446	.00001
8	.10684	.10705	3.49669	.04970	.36451	.36486	.36465	.01300	.00009
9	-.06484	-.06502	3.26230	-.44903	-.22120	-.22151	-.22137	.01570	.00005
10	-.00089	-.00090	3.55532	.17378	-.00305	-.00306	-.00306	.01767	.00000
11	.14531	.14563	3.79315	.67966	.49574	.49629	.49603	.01378	.00018
12	.01846	.01855	3.44064	-.06962	.06297	.06312	.06308	.02048	.00001
13	.26798	.26888	3.02194	-.95729	.91424	.91578	.91568	.01698	.00094
14	.09636	.09856	2.36573	-2.34846	.32875	.33248	.33228	.04376	.00084
15	.00649	.00650	3.55643	.17617	.02213	.02215	.02213	.01199	.00000
16	-.23894	-.23959	3.49979	.05446	-.81518	-.81629	-.81610	.01524	.00060
17	.02310	.02327	3.08557	-.82367	.07881	.07911	.07905	.02544	.00002
18	.15277	.15315	3.43699	-.07677	.52121	.52185	.52159	.01446	.00022
19	-.06038	-.06059	3.55889	.18093	-.20600	-.20636	-.20622	.01709	.00005
20	.04227	.04247	3.44052	-.06962	.14420	.14455	.14445	.02048	.00003
21	.43238	.43558	2.95898	-1.08614	1.47512	1.48058	1.48178	.02513	.00541

Visible: 332 of 332 Variables

Figure 26: Data File for the Cook's Distance values

4.6 STEPWISE REGRESSION ANALYSIS

On basis of stepwise regression analysis, hypothesis 3 and 4 have been confirmed, according to which employee engagement and work-life balance will predict job satisfaction. Although bivariate correlation has addressed degree of association among all measures, it cannot be

easily construed as a measure of how much EE and WLB influence job satisfaction scores. As a result, the stepwise approach has been used to calculate stepwise regression analysis.

Table 30 indicates that employee engagement has predicted JS with multiple R as .718 (F = 785.35 **, p <.01, beta = .71) and explained 51% of variance in predicting job satisfaction (on an overall basis). Table 24 also represents that WLB has predicted JS with calculated R as .849 (F = 951.86**, P < .01, beta = .51) and explained 72% of variance in predicting job satisfaction (on an overall basis).

Table 30: Multiple Stepwise Regression Analysis for the Prediction of JS, with the IV as EE and WLB and DV as JS, on an Overall Basis (N=739).

Variables	R	R^2	SEm	F-value	DF	B
D.V:JST EET	.718	.516	.38597	785.35**	1,737	.71
D.V:JST WLBT	.849	.721	.29311	951.86**	1,736	.51

** Correlation significant at .01 level, JST-*Job Satisfaction Total, EET-Employee Engagement Total; WLBT-Work life Balance Total.*

Table 31 represents stepwise regression analysis, which has been used for prediction of job satisfaction (JS), with the IV as EE. The three dimensions of EE has been entered for regression equation, and has been found that vigor has predicted job satisfaction with R as .64 (F = 523.29**, p < .01, beta =.64, R^2 = .41); predicted absorption with the R as .70 (F = 355.38**, p < .01, beta = .28, R^2 = .49); dedication predicted JS with the R as .71 (F = 254.87**, p < .01, beta = .14, R^2 = .51) and jointly accounted for 51% variance in prediction of JS. The results demonstrate that vigor has been found as strongest predictor of JS with Beta value as .64.

Vigor has predicted pay with R as .57 (F = 116.136**, p < .01, beta =.37, R^2 = .32); predicted Absorption with R as .59 (F = 68.71**, p < .01, beta = .14, R^2 = .34); Dedication

predicted Pay with R as .53 (F = 47.28**, p < .01, beta = .17, R^2 = .28) and jointly accounted for 28% variance in prediction of pay. The results demonstrate that Vigor has been found as strongest predictor of pay with Beta value as .37.

Vigor has predicted promotion with R as .61 (F = 166.29**, p < .01, beta =.43, R^2 = .37); predicted absorption with R as .45 (F = 97.02**, p < .01, beta = .56, R^2 = .22); dedication predicted promotion with as .46 (F = 67.21**, p < .01, beta = .18, R^2 = .26) and jointly accounted for 26% variance in the prediction of promotion. The results demonstrate that absorption has been found as the strongest predictor of promotion with Beta value as .56

Vigor has predicted supervision with R as .58 (F = 103.32**, p < .01, beta =.35, R^2 = .33); predicted absorption with R as .57 (F = 59.92**, p < .01, beta = .13, R^2 = .42) and jointly accounted for 42% variance in the prediction of supervision. The results demonstrate that absorption has been found as the strongest predictor of supervision with Beta value as .42.

Vigor has predicted benefit with R as .60 (F = 247.35**, p < .01, beta =.50, R^2= .36); predicted absorption with R as .54 (F = 151.00**, p < .01, beta = .46, R^2 = .29) dedication predicted benefit with R as .58 (F = 104.91**, p < .01, beta = .21, R^2 = .34) and jointly accounted for 34% variance in the prediction of benefit. The results demonstrate that vigorand absorption both predicted benefits equally with Beta value as .50& .46.

Vigor has predicted contingent rewards with R as .57 (F = 4.44**, p < .01, beta =.37, R^2 = .32); predicted absorption with R as .62 (F = 16.90**, p < .01, beta = .22, R^2 = .38) and jointly accounted for 38% variance in the prediction of contingent reward. The results demonstrate that vigor has been found as the strongest predictor of contingent rewards with Beta value as .31.

Vigor has predicted operating procedure with R as .63 (F = 152.17**, p < .01, beta =.41, R^2 = .39); predicted absorption with R as .67 (F= 109.28**, p < .01, beta = .24, R^2 =

.44) dedication predicted operating procedure with R as .69 (F = 79.14**, p < .01, beta = .13, R^2 = .48) and jointly accounted for 48% variance in the prediction of operating procedure. The results demonstrate that vigor has been found as the strongest predictor of operating procedure with Beta value as .41.

Vigor has predicted co-workers with R as .55 (F = 194.15**p < .01, beta=.39, R^2 = .30); predicted absorption with R as .67 (F = 107.64**, p < .01, beta = .23, R^2 = .44) dedication predicted co-workers with R as .68 (F = 74.54**, p < .01, beta = .48, R^2 = .46) and jointly accounted for 46% variance in the prediction of co-workers. The results demonstrate that dedication has been found as the strongest predictor of co-workers with Beta value as .48.

Absorption has predicted nature of work with R as .72 (F = 814.50**, p < .01, beta =.72, R^2 = .52) and accounted for 52% variance in the prediction of nature of work. The results demonstrate thatabsorption has been found as the strongest predictor of nature of work with Beta value as .52.

Vigor has predicted communication with R as .68 (F = 126.78**, p < .01, beta =.32, R^2 = .46); predicted absorption with R as .63 (F = 83.70**, p < .01, beta = .27, R2 = .39) dedication predicted communication with R as .64 (F = 58.61**, p < .01, beta = .37, R^2 = .40) and jointly accounted for 40% variance in the prediction of communication. The results demonstrate that dedication has been found as the strongest predictor of communication with Beta value as .37.

Table 31: Stepwise Regression Analysis for the Prediction of Dimensions of JS as DV, with the IV as dimensions of EE on an overall Basis (N=739)

Variables	R	R^2	SEm	F-value	D.F	β
1) D.V: Job Satisfaction						
Vigor	.64	.41	.42	523.29**	1735	.64
Vigor, Absorption	.70	.49	.39	355.38**	1,734	.59, .28
Vigor, Absorption, Dedication	.71	.51	.38	254.87**	1,733	.57, .24, .14
(a) Dimensions of Job satisfaction						
D.V: Pay						
Vigor	.57	.32	.62	116.13**	1,734	.37
Vigor, Absorption	.59	.34	.61	68.71**	1,733	.34, .14
Vigor, Absorption, Dedication	.53	.28	.61	47.28**	1,732	.33, .12, .17
D.V: Promotion						
Vigor	.61	.37	.60	166.29**	1,734	.43
Vigor, Absorption	.45	.22	.59	97.02**	1,733	.39, .56
Vigor, Absorption, Dedication	.46	.26	.59	67.21**	1,732	.39, .13, .18
D.V: Supervision						
Vigor	.58	.33	.75	103.32**	1,734	.35
Vigor, Absorption	.57	.32	.74	59.92**	1,733	.32, .42
D.V: Benefit						
Vigor	.60	.36	.57	247.35**	1,733	.50
Vigor, Absorption	.54	.29	.55	151.00**	1,732	.39, .46
Vigor, Absorption, Dedication	.58	.33	.55	104.91**	1,731	.45, .17, .21
D.V: Contingent Rewards						
Vigor	.57	.32	.77	4.44**	1,735	.37
Vigor, Absorption	.62	.38	.76	16.90**	1,734	.11, .22

D.V: Operating Procedure						
Vigor	.63	.39	.71	152.17**	1,735	.41
Vigor, Absorption	.67	.44	.68	109.28**	1,734	.36, .24
Vigor, Absorption, Dedication	.69	.48	.68	79.14**	1,733	.35, 20, .13
D.V: Co-Workers						
Vigor	.55	.30	.64	194.15**	1,734	.39
Vigor, Absorption	.67	.44	.63	107.64**	1,733	.33, .23
Vigor, Absorption, Dedication	.68	.46	.63	74.54**	1,732	.22, 11, .48
D.V: Nature of Work						
Absorption	.72	.52	.48	814.50**	1,735	.72
D.V: Communication						
Vigor	.68	.46	.69	126.78**	1,735	.32
Vigor, Absorption	.63	.39	.67	83.70**	1,734	.24, .27
Vigor, Absorption, Dedication	.64	.40	.67	58.61**	1,733	.33, 17, .37

**Significant at .01 level, D.F-Degree of Freedom

Table 32 represents stepwise regression analysis, which was used for prediction of Job Satisfaction (JS), with the IV as WLB. The four dimensions of WLB has been entered for regression equation, and was found that WPLS has predicted JS with R as .66 (F = 591.93**, p < .01, beta =.36, R^2 = .44); predicted PLWS with R as .75 (F = 495.48**, p < .01, beta = .46, R^2 = .57); WPLG predicted Pay with R as .78 (F = 392.49**, p < .01, beta = .51, R^2 = .61); PLWG with R as .81 (F = 360.06**, p < .01, beta = .38, R^2 = .66) and jointly accounted for 66% variance in prediction of JS. The results demonstrate that WPLG has been found as the strongest predictor of JS with Beta value as .51.

WPLS has predicted pay with R as .52 (F = 273.29**, p < .01, beta =.32, R^2 = .27); predicted PLWS with R as .58 (F = 192.57**, p < .01, beta = .35, R^2 = .34); WPLG

predicted Pay with R as .60 (F = 138.87**, p < .01, beta = .46, R^2 = .36); PLWG with R as .63 (F = 125.43**, p < .01, beta = .25, R^2 = .40) and jointly accounted for 40% variance in prediction of pay. The results demonstrate that WPLG has been found as the strongest predictor of pay withBeta value as .46.

WPLS has predicted promotion with R as .54 (F = 310.95**, p < .01, beta =.34, R^2 = .29); predicted PLWS with R as .62 (F = 231.55**, p < .01, beta = .38, R^2 = .38); WPLG predicted Promotion with R as .63 (F = 167.35**, p < .01, beta = .47, R^2 = .40); PLWG with R as .67 (F = 150.98**, p < .01, beta = .58, R^2 = .44) and jointly accounted for 44% variance in prediction of promotion. The results demonstrate that PLWG has been found as strongest predictor of promotion with Beta value as .58.

WPLS has predicted supervision with R as .52 (F = 234.92**, p < .01, beta =.29, R^2 = .27); predicted PLWS with R as .54 (F = 152.27**, p < .01, beta = .39, R^2 = .29); WPLG predicted supervision with R as .56 (F = 167.35**, p < .01, beta = .47, R^2 = .31); PLWG with R as .67 (F = 87.86**, p < .01, beta = .38, R^2 = .44) and jointly accounted for 44% variance in prediction of supervision. The results demonstrate that WPLG has been found as the strongest predictor of supervision with Beta value as .47.

WPLS has predicted benefit with R as .64 (F = 520.36**, p < .01, beta =.34, R^2 = .41); predicted PLWS with R as .71 (F = 393.33**, p < .01, beta = .36, R^2 = .51); WPLG predicted benefits with R as .74 (F = 309.76**, p < .01, beta = .64, R^2 = .55); PLWG with R as .77 (F = 270.56**, p < .01, beta = .31, R^2 = .59) and jointly accounted for 59% variance in prediction of benefit. The results demonstrate that WPLG has been found as the strongest predictor of benefits with Beta value as .64.

WPLS has predicted contingent rewards with R as .62 (F = 111.11**, p < .01, beta =.12, R^2 = .38); predicted PLWG with R as .65 (F = 9.56**, p < .01, beta = .43, R^2 = .42); and jointly accounted for 42% variance in prediction of contingent rewards. The results

demonstrate that PLWG has been found as strongest predictor of contingent rewards withBeta value as .43.

WPLS has predicted operating procedure with R as .62 (F = 467.71**, p < .01, beta =.36, R^2 = .38); predicted PLWS with R as .80 (F = 652.20**, p < .01, beta = .16, R^2 = .63); WPLG predicted operating procedure with R as .80 (F = 309.76**, p < .01, beta = .43, R^2 = .64); PLWG with R as .80 (F = 348.75**, p < .01, beta = .35, R^2 = .65) and jointly accounted for 65% variance in prediction of operating procedure. The results demonstrate that WPLG has been found as strongest predictor of operating procedure withBeta value as .53.

WPLS has predicted co-workers with R as .60 (F = 432.88**, p < .01, beta =.42, R^2 = .37); predicted PLWS with R as .66 (F = 298.45**, p < .01, beta = .36, R^2 = .44); WPLG predicted co-workers with R as .68 (F = 221.36**, p < .01, beta = .51, R^2 = .46); PLWG with R as .72 (F = 201.79**, p < .01, beta = .45, R^2 = .52) and jointly accounted for 52% variance in prediction of co-workers. The results demonstrate that WPLG has been found as strongest predictor of co-workers with Beta value as .51.

WPLS has predicted nature of work with R as .74 (F = 182.84**, p < .01, beta =.44, R^2 = .54); predicted PLWS with R as .69 (F = 121.79**, p < .01, beta = .29, R^2 = .47); WPLG predicted nature of work with R as .78 (F = 384.76**, p < .01, beta = .69, R^2 = .61) and jointly accounted for 61% variance in prediction nature of work. The results demonstrate that WPLG has been found as strongest predictor of nature of work with Beta value as .69.

WPLS has predicted communication with R as .55 (F = 325.44**, p < .01, beta =.38, R^2 = .30); predicted PLWS with R as .60 (F = 213.92**, p < .01, beta = .32, R^2 = .36); WPLG predicted communication with R as .61 (F = 148.49**, p < .01, beta = .42, R^2 = .37); PLWG with R as .79 (F = 310.50**, p < .01, beta = .39, R^2 = .62) and jointly accounted for 62% variance in the prediction of communication. The results demonstrate that WPLG has been found as strongest predictor of communication with Beta value as .42.

Table 32: Stepwise Regression Analysis for the Prediction of Dimensions of JS as DV, with the IV as dimensions of WLB on an overall Basis (N=739)

Variables	R	R²	SEm	F-value	D.F	β
1) D.V: Job Satisfaction						
WPLS	.66	.44	.41	591.93**	1,737	.36
WPLS, PLWS	.75	.57	.36	495.48**	1,736	.37, .46
WPLS, PLWS, WPLG	.78	.61	.34	392.49**	1,735	.21, .27, .51
WPLS, PLWS, WPLG, PLWG	.81	.66	.32	360.06**	1,734	.19, .30, .52, .38
(a) Dimensions of Job satisfaction						
D.V: Pay						
WPLS	.52	.27	.57	273.29**	1,736	.32
WPLS, PLWS	.58	.34	.54	192.57**	1,735	.29, .35
WPLS, PLWS, WPLG	.60	.36	.53	138.87**	1,734	.24, .29, .46
WPLS, PLWS, WPLG, PLWG	.63	40	.51	125.43**	1,733	.15, .22, .37, .25
D.V: Promotion						
WPLS	.54	.29	.56	310.95**	1,736	.34
WPLS, PLWS	.62	.38	.52	231.55**	1,735	.29, .38
WPLS, PLWS, WPLG	.63	.40	.51	167.35**	1,734	.24, .32, .47
WPLS, PLWS, WPLG, PLWG	.67	.44	.49	150.98**	1,733	.14, .25, .51, .58
D.V: Supervision						
WPLS	.52	.27	.70	234.92**	1,736	.29
WPLS, PLWS	.54	.29	.67	152.27**	1,735	.30, .31
WPLS, PLWS, WPLG	.56	.31	.66	111.49**	1,734	.25, .23, .47
WPLS, PLWS, WPLG, PLWG	.67	.44	.66	87.86**	1,733	.20, .19, .35, .38
D.V: Benefit						
WPLS	.64	.41	.50	520.36**	1,735	.34

WPLS, PLWS	.71	.51	.45	393.33**	1,734	.27, .36
WPLS, PLWS, WPLG	.74	.55	.43	309.76**	1,733	.30, .32, .64
WPLS, PLWS, WPLG, PLWG	.77	.59	.41	270.56**	1,732	.21, .26, .35, .31

D.V: Contingent Rewards

WPLS	.62	.38	.77	111.11**	1,737	.12
WPLS, PLWG	.65	.42	.76	9.56**	1,736	.03, .43

D.V: Operating Procedure

WPLS	.62	.38	.61	467.71**	1,737	.36
WPLS, PLWS	.80	.63	.47	652.20**	1,736	.27, .16
WPLS, PLWS, WPLG	.80	.64	.46	444.26**	1,735	.31, 12, .53
WPLS, PLWS, WPLG, PLWG	.80	.65	.46	348.75**	1,734	.21, .21, .29, .35

D.V: Co-Workers

WPLS	.60	.37	.57	432.88**	1,736	.42
WPLS, PLWS	.66	.44	.53	298.45**	1,735	.27, .36
WPLS, PLWS, WPLG	.68	.46	.52	221.36**	1,734	.21, 29, .51
WPLS, PLWS, WPLG, PLWG	.72	.52	.49	201.79**	1,733	.21, .21, .37, 45

D.V: Nature of Work

WPLS	.74	.54	.63	182.84**	1,737	.44
WPLS, PLWS	.69	.47	.61	121.79**	1,736	.26, .29
WPLS, PLWS, WPLG	.78	.61	.44	384.76**	1,735	.13, .12, .69

D.V: Communication

WPLS	.55	.30	.62	325.44**	1,737	.38
WPLS, PLWS	.60	.36	.59	213.92**	1,736	.24, .32
WPLS, PLWS, WPLG	.61	.37	.59	148.49**	1,735	.21, 27, .42
WPLS, PLWS, WPLG, PLWG	.79	.62	.45	310.50**	1734	.18, .10, .26, .39

On basis of obtained results we can say that hypotheses 1 & 3 has been retained at **.05 and .01* level while attaining significant and positive correlation between dimensions of EE and dimensions of JS. And also EE significantly predicts JS. Similarly, we can say that hypotheses 2 & 4 has been accepted at **.05 and .01* level while attaining correlation between dimensions of WLB and dimensions of JS. And also WLB significantly predicts job satisfaction.

4.7   EMPIRICAL SUPPORT FOR THE HYPOTHESES

The present research has been proposed to explore the effect employee engagement and WLB on JS in aviation industry. Besides this, the study also identifies the specific dimensions of EE and WLB that are important predictors of JS. The following section has been divided into four parts. In the first and second part, findings pertaining to the relationships of JS with EE and WLB (along with their dimensions) have been discussed. In the third and fourth part, the results of the study concerning the influence of EE and WLB (along with their dimensions) on job satisfaction(and its dimensions) has been discussed.

4.7.1   Relationship between EE and JS

Inference based on data is that there is a strong and favourable association between JS and EE (vigor, dedication, and absorption). According to findings of the study that was conducted by Fletcher et al. (2018), it is possible to increase employee engagement by creating an atmosphere at work in airlines in which feelings of pride and other good emotions are appreciated and promoted in Indian aviation industry.This will lead to an increase in organizational performance, decrease in employee turnover, and improved health for employees, among other benefits. According to (Cascio, 2019), when people are experiencing

positive emotions, they have a greater likelihood of thinking in a flexible and open manner. They are also more likely to feel more self-control, to be able to handle better, and to exhibit less defensive behaviour when they are on the job in air transportation. The notion of positive employee involvement really generates increased levels of happiness at work and satisfaction with one's profession.

According to the data presented in Table 18 the dimensions of EEare positively correlated to dimensions of job satisfaction in airlines industry. This means that when someone has an emotional or intellectual connection to their employer, supervisor, co-workers, or position, they are more likely to go above and beyond the call of duty to perform their duties (Hiltrop, 1999; Govaerts et al. 2011; Pittino et al. 2016). When doing work-related tasks, employees that exhibit high levels of vigor frequently show a willingness and determination to put out effort (Karatepe&Demir, 2013). Regardless of the difficulties encountered, motivated workers are highly motivated to excel at their jobs (Salanova et al. 2005). So, in the aviation sector, having high levels of energy and mental toughness while working (Vigor) results in JS.

Employees that have deep connection to their company are motivated, committed, and highly engaged. As a result, they experience job satisfaction. Employee engagement behaviours like devotion have a clear correlation with organizational profitability and JS (Czarnowsky, 2008). According to research, there is strong and positive correlation between commitment and JS. This means that in the aviation industry, committed employees are enthusiastic and feel sense of purpose from their work, proud of their jobs and feel inspired and challenged by them. In order to succeed and establish a competitive edge in aviation sector, it is essential to maintain a workplace with higher-calibre workers (Rakhra, 2019).

Absorption is defined as people's involvement in, pleasure with, and excitement for work performed by employees. According to Kossivi et al. 2016, very active workers are

those that are enthusiastic about their jobs, have a deep sense of loyalty to their companies, and give their work a great deal of energy and focus. The "satisfaction with conditions" is inversely correlated with employee engagement in their employment. This implies that workers who have a heavy workload could not be fully engaged in it. Finally, it was discovered that satisfied workers in the aviation business are fully engaged in their work.

Organizations can influence staff cognition, attitude, and behaviour not only through the distribution of compensation but also through the various ways in which it is distributed, release different signals to employees, and achieve the exchange of resources with employees (Pichler et al., 2021; Schroth, 2019). Employee Engagement is significantly affected by pay. Money makes people happy, and a certain amount of money makes people in the aviation sector feel more at ease. All of this is connected to employee engagement. The idea is that greater salaries correlate with higher levels of work satisfaction and employee engagement. This might be partially accurate, but it's not always the case. It's simple to think that spending more will result in higher rates of engagement and pleasure. Of course, money cannot buy happiness, but it may purchase a certain level of comfort. Stress, melancholy, illness, and conflict at work are all inevitably caused by financial concerns.

According to Presbitero & Teng-Calleja, 2020), the opportunity for position progression within an organization affects employee's focus on their work and performance in any field. In the aviation business, promotions have a large and favourable impact on employee engagement. According to Anitha (2014), an organization that promotes employee engagement in the workplace through equitable promotion practices and a diverse array of options for progress. Employees in the aviation sector discovered that their employment offers the chance to be promoted easily, which leads to a strong attachment to the company. Therefore, in the aviation industry, advancement results in job satisfaction.

Transformational leaders then bridge the gap between the organization's current issues and its future goals and aspirations by luring commitment, energizing employees, giving work meaning, establishing a standard of excellence, and advocating high ideals (Shahid, 2018; Johari et al., 2012).Employee engagement in the aviation business is significantly impacted by supervision. Employees' trust in their immediate supervisors' competence and competency helps leaders boost work engagement. Employees are obligated to focus on the work at hand rather than worry about the future (Presbitero & Teng-Calleja, 2020).

EE in the aviation business is positively and significantly impacted by rewards and contingent benefits. Rewards and recognition serve to keep employees interested in their work. The provision of rewards is an essential element of an engaged employee. Rewards and recognitions have tremendous impact on both performance of employees and level of motivation. The provision of benefits to workers can boost their sense of contentment in their jobs. Employee engagement (Titko et al. 2020) is a result of this. The compensation approach is important in motivating and keeping a talented team. It is possible to keep employees satisfied with their organization by rewarding them with prizes, rewards, presents, and other incentives for accomplishing organizational goals.

EE in the aviation business is positively and significantly impacted by operating procedures and nature of the work. The aviation industry keeps an accurate and useful record of its activities and operations. Each position in the sector has a specified duty and function. For all individuals working in the aviation sector, proper discipline is established. Superior makes an effort to keep performance at a constant level throughout all work units. They also aim to make chores or work for employees more efficient.

According to research by Popescu et al. 2019employee relationships with their co-workers will boost psychological significance and employee engagement at work. Therefore, in the aviation industry, considerable results are shown in terms of employee and co-worker

engagement. The camaraderie and sense of belonging that the relationship fosters strengthens psychological significance. A sense of recognition from co-workers fosters compassion and enhances worker security. People who connected with their co-workers and were valued by them experienced psychological significance at work. If workers are aware of concern of co-workers and managers, they are more likely to make themselves available (Bryngelson & Cole, 2021). It is crucial that co-workers have a close relationship.

As companies became more aware of the benefits of communication and how it affected the aviation industry's long-term productivity and growth, communication became more significant. Employee engagement in the aviation business has been found to benefit through communication. Watson Wyatt Worldwide did a number of studies in 2008, 2009, and 2010 that found that employees who are more involved are more likely to be top performers, have lower turnover rates, and are more helpful and flexible than employees who are less involved. Also, workers who are involved are more likely to feel good about jobs. Rezaei and Beyerlein's (2018) study found that communication made workers more personal advocates by giving them a stronger sense of community and more personal responsibility.

4.7.2. Relationship between WLB and JS

Inference according to results was that JS and WLB defined as WPLS, PLWS, WPLG, and PLWG have meaningful and positive relationship. The results show that when organizations or managers show concern for workers' personal and professional well-being, workers are likely to reciprocate by working harder to further those organizations' objectives (Campo et al. 2021). Accordingly, findings of the study imply that when employers care for personal and professional life of their employees, the employees' perceived good feelings rise, and are more inclined to reciprocate favour by performing on the job (Talukder et al. 2018). The official and unofficial assistance provided by supervisor in these kinds of

circumstances strengthens the link between WLB and JS in the aviation industry and further increases employees' opinions of how excellent their jobs are.

Personal life to work strains (PLWS) and job satisfaction in the aviation business are negatively correlated. Personal and professional demands that are incompatible with one another lead to personal life to work tensions (Hsu, 2011; Madeira Aires (2016). Family obligations that interfere with work are significantly impacted by personal life to work stresses, for example, long working hours, shift responsibilities, and substantial work duty (Boyar et al. 2008; EspíritoSanto in 2016). Findings revealed that personal life to work strains have strong negative correlation to Job satisfaction (Hassan et al. 2010).

WPLG has a favourable impact on JS in aviation sector. Employers in aviation sector look for ways to reduce burden, extra time, and travel for business purposes. Employers also reassign last-minute duties, create corporate work schedules, and execute core and professional growth programs. Employees must control the amount of work they do at home, rely less on overtime, travel less for work-related tasks, and learn more work-life balance tactics (Gocheva-Dimitrova, 2019). These actions will increase job satisfaction. According to (Redmond et al. 2006), workers who have access to a flexible work environment are better able to balance their personal and professional commitments.

PLWG are important for job satisfaction in the aviation sector. Job satisfaction is correlated with supportive family supervisor behaviors (Greenhaus et al. 2012; Wang et al. 2018; Heras et al. 2021). When a family member understands and supportive of the workplace, it has a favourable impact on work because of personal life. Employees in the aviation sector also make an effort to lessen work pressure by implementing policies that are effective, such as sufficient mentoring, support, flexible working hours, reducing workload, family tours, organizing family parties, and many other policies that can lessen employees'

work-life conflict (Cegarra-Leiva et al. 2012) and positively impact their satisfaction (Allen et al. 2020) in the aviation sector. This effort is made by the employees in the aviation sector.

According to Gomez-Mejia (1992), a compensation scheme is a diversification approach that enhances a company's performance and employee happiness. In the aviation sector, salaries and perks encourage workers to perform better every day. The reason for this is that an employee's motivation to work is to earn a living (Arshadi, 2010). A better quality of life enables employees to reach their full potential, which is why WLB gives employees a sense of fulfilment and positive energy (Zheng et al. 2015; Agosti et al. 2017). Rewards increase respect within the workplace, encouraging employees to put in more effort than they previously had (Dewi et al. 2018). Thus, in the aviation industry, there is a favourable correlation between pay, perks, and WLB.

In the aviation business, promotion and WLB are significantly correlated. Employees in the aviation sector who experience career advancement, self-improvement, and promotion demonstrate a healthy WLB, which is one of the factors contributing to increased JS. As a result of the improved prestige and income that come along with promotions, employees in the aviation business are better able to combine their personal and professional lives and achieve high levels of societal standing.

In addition to having an effect on an employee's level of WLB, supervisors and co-workers have big impact on how well formal and informal work-life practices are used (Fiksenbaum, 2014; Wee and Ahmed, 2016). According to Purna, Minarsih & Hasiholan (2018), Ferguson et al. (2012), Neto (2017), and others, workplace assistance has been a vital contextual resource that enables employees to achieve goals they value, including a higher work life balance. Support from co-workers and supervisors in the aviation business encourages a higher level of WLB by allowing employees to complete both work-related and non-work-related commitments and duties (Russo et al. 2016). Employees may feel safer and

more capable to invest in activities that promote improved WLB in the aviation business with the help of their supervisor and co-workers, according to reports. Hence demonstrating a favourable and significant impact on JS.

The growing level of competition in the aviation sector, development of IT, and demand for prompt and reliable services have required a significant portion of the workers' time, sometimes even after working hours. Therefore, good operating practices improve the calibre of the work in the aviation sector, which results in job satisfaction. Technical work, dealing with passengers, and checking security measures are some job characteristics that put employees under a lot of stress at work, which can occasionally lead to an imbalanced work-life balance.

The aviation industry has come up with number of programs and policies, such as caring of child care and elder, family vacation, medical reimbursement for family including dependents, flexible work schedules, and so on, in response to the challenges that employees face in maintaining reasonable and effective balance between work and personal life. The aviation business has placed a high value on communication, which is crucial in assessing an employee's commitment and performance. Better comprehension of co-workers and managers as a result of good communication has increased commitment to and sense of responsibility in achieving both organizational and individual goals.

4.7.3 Prediction of JS on the basis of EE

The predicted level of JS based on workplace employee involvement is shown in the table. According to the findings, overall employee involvement has been shown to be reliable indicator of job satisfaction. Engaged employee has a very optimistic outlook on life and is known for their unmatched enthusiasm, drive, and willingness to give their best to their work. The worker is able to deliver extraordinary performances as a result. Those who are involved, open to new ideas, in good bodily and mental health, and who start each new (work) day with

a lot of vigor and joy for life are those who search for their true skills. This not only makes the individual happy, but it also inspires their close co-workers and benefits the company.

According to Table 25, vigor is the factor that most accurately predicts job satisfaction. Vital individuals perform better and have more fun. Vital employees, according to research by Diehl & Stoffelsen (2007), not only appear happy, but they also appear to work more efficiently, complain less frequently, recover more quickly, and still have plenty of energy throughout the day.

Vigor, which is a combination of motivation and vigor, seems to provide long-term employment for workers. As well as affecting their motivation and ability to continue working in their current and prospective employment, it also affects their ability to meet the physical and mental demands of a job (Kodden & Hupkes 2019).

According to Shimazu et al. (2012) & Mäkikangasa (2013), an employee's vigor is what gives them sense of commitment to organization, the drive to perform well, and the conviction to finish or handle a task appropriately. Additionally, Hakanen et al. (2006) noted that energetic workers are frequently more imaginative, productive, and eager to put in more effort. People must be physically and mentally healthy in the aviation business, because the work needs passion, in order to accomplish their duties. As the aviation business deals with customers who are quite unexpected, job requirements are very innovative, thus personnel must have strong belief in their ability to complete task. The energy at work in the aviation sector encourages workers to experiment with new methods and find unique solutions to challenges through engaging and difficult assignments. A person can create results in their own way, improve activities outside of work, and obtain the needed results in a competitive work environment, giving them job satisfaction. This encourages people to execute tasks while managing the complicated array of work demands.

Employee engagement is based on what the employee receives in return for completing the assignment. It consists of compensation, rewards, bonuses, and perks. These are common motivators for employees to increase organizational effectiveness and rigorously accomplish responsibilities (Clack, 2020). It helps the staff members comprehend precisely what they are expected to do. Task completion and work duties are also included. More meaningful connections are made between workers, employers, and workgroups as a result, increasing job satisfaction. It increases job satisfaction and offers chances to put skills to use.

Table 26 represents the prediction of JS on the basis of WLB at workplace. The results reveal that overall WLB has proved to be significant predictor of JS. Table 26 reveals that job satisfaction have been predicted by WPLG (work life personal gain) personal life work gain) with the joint effect of PLWG (personal life work gain).

When management provides incentives, employees are more likely to feel bound to company and to put in greater effort to ensure the success of the business. (Eisenberger et al. 2001; Vayre, 2019). Employees often give back to organizations or managers who care about their personal and professional well-being by contributing to goals through greater performance (Campo et al. 2021). When employers show concern for their workers' ability to maintain healthy balance between personal and professional life, workers' perceptions of their own well-being improve, which in turn boosts their level of job satisfaction; in turn, these workers are more likely to be productive at work. (Talukder et al. 2018).

Work-life conflict for employees can be reduced (Cegarra-Leiva et al. 2012), which in turn increases JS (Allen et al. 2020) and improves performance (Hughes & Bozionelos, 2007). The aviation industry can benefit from appropriate mentoring, support, flexible working hours, a reduction in workload, and many other policies that reduce work-life conflict for employees.

According to Noah & Steve (2012), workers in the aviation sector are dedicated to their work and find it gratifying and pleasurable. According to Abdulrahman et al. (2020), the aviation sector has given its employees enough time to accomplish both their family and professional obligations. Employees are able to juggle personal and professional duties when workplace allows for more flexibility. (Redmond et al. 2006). Because it affects employee productivity and performance, WLB is an issue for firms that ignore it (Naithani, 2010). According to Roberts (2008), workers who are able to strike healthy balance between their professional and personal lives are more likely to appreciate the companies for which they work. As an act of gratitude, they provided the organization with their very best work, which ultimately led to increased productivity (Ryan &Kossek, 2008). (French et al. 2020) employees who strike good coordination between their professional and personal lives are more likely to be successful in their jobs.

The airline industry has undergone significant changes as a result of privatization, including cost savings, work design optimization, digitization, and flexibility, all of which have been reflected in EE, WLB, and JS. It was suggested to leaders that key objectives in staff management should include diversity, inclusiveness, empowerment, rewards, and recognition. Positive behaviours were noted, such as professional development, training, acknowledgment, and a dedication to diversity and inclusion. Good leadership has been identified as essential to employee engagement, with a focus on interpersonal connections and articulating the organization's mission. Strong relationships between leaders and employees, as well as promotion of diversity and inclusion, work design, digitization, automation, and flexibility, have demonstrated this. Increased employment, cost savings, modern equipment, better infrastructure, and higher-quality air travel are just a few advantages of airline privatization.

Success and satisfaction at work are correlated with satisfaction and success in home life. Employees who are happy with professional and personal accomplishments are more likely to reach the organizational goal. (Dusin et al., 2019).