### **CHAPTER VII**

# TO IDENTIFY THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE, OCCUPATIONAL STRESS AND WORK PERFORMANCE OF TEACHERS

### **OBJECTIVE : 4**

# Relationship between Self Awareness, Self Management, Social Awareness and Relationship Management.

The following table presents the result of Correlation analysis between Self awareness, Self management, Social awareness and Relationship management.

H<sub>01</sub>: "There is no significant relationship between Self awareness, Self management, Social awareness and Relationship management"

	Self awareness	Self management	Social awareness	Relationship management
Self awareness	1	.540**	.525**	.158**
Self management		1	.638**	.511**
Social awareness			1	.378**
Relationship management				1

**Table: Correlation Matrix- Emotional intelligence** 

(Source: computed)(\* - significant at 1 per cent level,)

It is revealed from the table that, all the four factors have a significant relationship with other factors at 1 per cent level. Among the four factors of emotional intelligence, the highest correlation exists between Self management and Social awareness (r=0.638) followed by Self awareness and Self management (r=0.540), Self awareness and Social awareness (r=0.525), Self management and Relationship management (r=0.511). There exists moderate correlation between Social awareness and Relationship management (r=0.378) and there exists less correlation between Self awareness and Relationship management (r=0.158)

# Relationship between Intrinsic to Job, Career Development, Interpersonal Relationships, Work Stress, Role Stress and Organizational Climate Stress.

H<sub>01</sub>: "There is no significant relationship between Intrinsic to Job, Career Development, Interpersonal Relationships, Work Stress, Role Stress and Organizational Climate Stress"

The following table presents the result of Correlation analysis between Intrinsic to Job, Career Development, Interpersonal Relationships, Work Stress, Role Stress and Organizational Climate Stress.

	Intrinsic to Job	Career development	Interpersonal relationships	Work stress	Role stress	Organizational climate stress
Intrinsic to Job	1	.708**	.557**	.560**	.460**	.520**
Career development		1	.637**	.632**	.566**	.612**
Interpersonal relationships			1	.651**	.617**	.487**
Work stress				1	.521**	.462**
Role stress					1	.742**
Organizational climate stress						1

**Table: Correlation Matrix- Occupational Stress.** 

(Source: computed)(\* - significant at 1per cent level)

It is revealed from the table that, all the six factors have a significant relationship with other factors. Among the six factors of Occupational stress, the highest correlation exist between Role stress and Organizational climate stress (r=0.742), followed by Intrinsic to Job and Career development (r=0.708), Interpersonal relationships and Work stress (r=0.651), Career development and Interpersonal relationships (r=0.637), Career development and Work stress (r=0.632), Interpersonal relationships and Role stress (r=0.617), Career development and Organizational climate stress (r=0.612), Career development and Role stress (r=0.566), Intrinsic to Job and Work stress (r=0.560), Intrinsic to Job and Interpersonal relationships (r=0.557). There exist moderate correlation between Work stress and Role stress (r=0.521), followed by Intrinsic to Job and Organizational climate stress (r=0.520), Interpersonal relationships and Organizational climate stress (r=0.487), Work stress and Organizational climate stress (r=0.462), Intrinsic to Job and Role stress (r=0.460).

# Relationship between Punctuality, Teaching Methodology, Work Consciousness and Perseverance

This section of analysis aims at testing the following hypothesis:

H<sub>01</sub>: "There is no significant relationship between Punctuality, Teaching Methodology, Work Consciousness and Perseverance"

The following table presents the result of Correlation analysis between Punctuality, Teaching Methodology, Work Consciousness and Perseverance

	Punctuality	Teaching Methodology	Work Consciousness	Perseverance
Punctuality	1	.686**	.576**	.572**
Teaching Methodology		1	.612**	.623**
Work Consciousness			1	.758**
Perseverance				1

**Table.** Correlation Matrix- Work Performance

(Source: computed)(\* - significant at 1per cent level)

It is revealed from the table that, most of the variables have a relationship with other variables. Among the four factors of Work performance, the highest correlation exist between Work Consciousness and Perseverance (r=0.758) followed by Punctuality and Teaching Methodology (r=0.686), Teaching Methodology and Perseverance (r=0.623), Teaching Methodology and Work Consciousness (r=0.576), Punctuality and Perseverance (r=0.572).

# Relationship between Emotional Intelligence, Occupational Stress and Work Performance

To examine the level of influence of occupational stress, Emotional Intelligence on Work Performance, Correlation analysis has been performed initially to find the relationship between the factors measuring the occupational stress, emotional intelligence, and work performance. Further, regression analysis has been applied to estimate the co-efficient of the dependent variable from several independent variables. This section of analysis aims at testing the following hypothesis:

H<sub>01</sub>: "Occupational stress, Emotional Intelligence do not have a significant influence on Work Performance"

The following table presents the result of Correlation analysis between Work Performance, Emotional Intelligence, and Occupational Stress

# Table: Correlation Matrix- Work Performance, Emotional Intelligence, andOccupational Stress.

	Work Performance	Emotional Intelligence	Occupational Stress
Work Performance	1	.589**	412**
Emotional Intelligence		1	273*
Occupational Stress			1

(Source: computed)(\* - significant at lper cent level)

It is revealed from the table that, all the three variables have a significant relationship with other variables. Among the three variables, the highest positive correlation exist between Emotional Intelligence and Work performance (r=0.589) and the relationship is significant at 1 per cent level. Besides, there exist moderate negative correlation between Work Performance and Occupational Stress (r=-0.412) and there exist less negative correlation between Emotional Intelligence and Occupational Stress (r=-0.412) and there exist less negative correlation between Emotional Intelligence and Occupational Stress (r=-0.273) and the relationship is significant at 1 per cent level.

## **REGRESSION ANALYSIS FOR WORK PERFORMANCE**

The regression analysis has been applied to study the nature of relationship between two variables. It provides estimates of values of the dependent variable from values of the independent variables with the regression equation. The following ten independent variables namely, Self Awareness', 'Self Management', 'Social Awareness', 'Relationship Management', 'Intrinsic to Job', 'Career development', 'Interpersonal relationships', 'Work stress', 'Role stress' and 'Organizational climate stress' have been included in the model as pointers to predict the level of influence on Work Performance.

Multiple Regression analysis which is a logical extension of regression analysis includes two or more independent variables in the regression equation. Multiple regression analysis derives an equation which provides values of the dependent variable from values of the several independent variables. Out of the different methods of Multiple Regression analysis, stepwise regression method has been used. The general Multiple Regression equation is of the form,

 $Y = a0 + a1X1 + a2 + \dots anXn$ 

where Y, the dependent variable

a0, constant

a1, a2,....an - regression coefficients of dependent variable

X1,,.....Xn - regression coefficients of independent variables.

The regression analysis estimates the regression co-efficient and the constant. Initially, the equation starts with no predictor (independent) variables, then at the first step the variable having maximum correlation with the dependent variable is selected first and included in the regression model. The variable once included in the equation is again considered for removal to avoid multi-collinearity (correlation between independent variables) problems.

Once the variable has entered and remains in the equation, the next variable with the highest positive or negative partial correlation has been selected and considered for entry and if satisfies, the variable is added to the equation. This process of entry and removal is continued until all the variables satisfy the entry and removal criteria. Finally, the variables selected based on the selection criteria have alone been included in the model. The regression result of the independent variables (factors) against the dependent variable (Work Performance) has shown in the following table:

Model	Regression Coefficients(B)	Std. Error	Beta	t- value	Sig.
(Constant)	5.606	.241			
Social awareness	.340	.032	.352	9.405	**
Career Development	329	.062	363	-6.732	**
Interpersonal relationship	.212	.041	.241	4.653	**
Self management	.190	.026	.226	3.233	*
Intrinsic to job	215	.034	295	-7.314	**
Role stress	183	.034	205	-9.421	**
$R=0.587, R^2=0.445, Adj. R^2=0.433, F=44.5$	50,Sig = **				

Table: Stepwise regression analysis for Work performance

(Source: Computed \*-significant at 5per cent level, \*\*- significant at 1 per centlevel) Dependent variable: work performance

The table depicts the result of stepwise regression analysis and contains the details of Multiple R,  $R^2$ , Adjusted  $R^2$  and stepwise inclusion of variables in the regression equation. However, all the factors identified for the analysis have not been included in the equation. Out of 10 predictors, 6 predictors have been included in the equation. The factors which have not met the selection criteria (the variable whose F-value is 3.84 and the associated probability for F-test is less than or equal to 0.05 is considered for inclusion in the equation. Similarly, once the variable entered, removal criterion is F-value less than 2.71 associated with a probability of 0.10 or more) have been kept out of the equation.

Multiple R given in the above table explains the multiple correlation coefficient of dependent variable with the set of independent variables which have included in the regression equation. The R value (0.587) has indicated that, there has been a good level of correlation between the dependent variable (Work Performance) and the set of independent variables. However, the F-value (F=44.550) has shown that the model has been statistically significant. The adjusted  $R^2$  value (0.437) obtained when multiplied by 100 gives the percentage of variation in the dependent variable explained by the group of

independent variables in the regression equation. Hence, 43.0 per cent variability in the work performance of teachers has predicted by the independent variables such as 'Social Awareness', 'Interpersonal relationships', 'Self Management', 'Career development', 'Intrinsic to Job' and 'Role stress'.

From the regression table it is found that, all the 6 predictor variables have a significant impact on Work Performance either at 5 per cent or 1 per cent level. Individually, 'Social Awareness', 'Interpersonal relationships' and 'Self Management' have a positive significant influence on the 'Work Performance'. The higher values on these set of variables have also scored higher influence on Work Performance. The other 3 predictor variables included in the equation namely, 'Intrinsic to Job', 'Role stress', and 'Career development' have a negative effect on Work Performance.

The t-test statistics calculated for the regression co-efficient have shown that, all the variables which have finally included in the model have significantly influenced the Work Performance of teachers either at 5 per cent or 1 per cent level.

Standardized regression coefficients (Beta) have been calculated to find the relative contribution of each variable to the dependent variable. Since, the variables included in the model have different units of measurements, their respective regression coefficients cannot be compared directly. These variables have converted in to standardized values which are free from units of measurements and hence, the corresponding regression coefficients (Beta) have taken for comparable. It is noted from the table that, in absolute terms, the contribution of the factor 'social awareness' is high when compared to other variables with a highest beta value of 0.352 followed by 'Interpersonal relationship' with a beta value of 0.241 and 'Self management' with a beta value of 0.226.

The other variables such as 'Career Development', 'role stress' and 'Intrinsic to job' have contributed less to the work performance of teachers. It implies that emotional intelligence can help to reduce the occupational stress and improve the job performance of teachers. Moreover, a good organizational culture with adequate faculty improvement programmes, good pay scale and healthy relationship between colleagues helps in reduction of stress. Furthermore, the academic institutions can create different motives with different methods in employees to recognize their emotional intelligence. Work Performance = 5.606+ .352 (Social awareness) -.363 (Career Development) .241 (Interpersonal relationship) +.226 (Self management) -.295 (Intrinsic of job) -.205 (Role stress)

# **Structural Equation Model**

Structural Equation Modeling (SEM) has been proposed to study the relationship of Emotional Intelligence, Occupational stress and the Work Performance of teachers working in Arts and Science colleges. A research model has been developed based on the items included in the questionnaire which theoretically explains the relationship of Emotional Intelligence, Occupational stress and the Work Performance. Further, the dimensions of Emotional Intelligence, Occupational stress and the Work Performance are as follows:

# I. Emotional Intelligence

- Self Awareness
- Self Management
- Social Awareness
- Relationship Management

# **II.** Occupational Stress

- Intrinsic to Job
- Career development
- Interpersonal relationships
- Work stress
- Role stress
- Organizational climate stress

# **III. Work Performance**

- Punctuality
- Teaching Methodology
- Work Consciousness
- Perseverance

The Occupational stress of teachers has assumed to affect the Emotional Intelligence and Work performance. Hence, Emotional Intelligence mediates the effect of occupational stress and Work performance.

## **Research Model**

The initial proposed research model is shown in the following figure. The latent factors for each dimension namely, Emotional Intelligence, Occupational stress and the work Performance have been measured by the respective leading arrows drawn from these dimensions. 'Self Awareness', 'Self Management', 'Social Awareness' and 'Relationship Management' have been measuring 'Emotional Intelligence with the leading arrows drawn from it. Similarly, 'Intrinsic to Job', 'Career development', 'Interpersonal relationships', 'Work stress', 'Role stress' and 'Organizational climate stress' have been measuring the 'Occupational stress' with the leading arrows drawn from it and 'Punctuality', 'Teaching Methodology', 'Work Consciousness' and 'Perseverance' have been measuring the 'Work Performance' with the leading arrows drawn from it.

- The arrow leading from Occupational Stress to Work performance measures the direct effect of Occupational Stress factors on Work performance factors.
- The arrow leading from Occupational Stress to Emotional Intelligence measures the direct effect of Occupational Stress factors on Emotional Intelligence factors.
- The arrow leading from Emotional Intelligence to Work Performance measures the direct effect of Emotional Intelligence factors to Work Performance factors.
- Besides, the Emotional Intelligence factors act as a mediating variable to measure the indirect effect of Occupational Stress factors on Work performance factors.

The initial proposed model has been developed to achieve the following objectives:

- To examine how the Emotional Intelligence dimension has been explained by the four latent factors namely, 'Self Awareness', 'Self Management', 'Social Awareness' and 'Relationship Management'. It is to assess whether the model consisting of these four factors load on Emotional Intelligence.
- 2. To examine how the Occupational Stress has been explained by the six latent factors namely, 'Intrinsic to Job', 'Career development', 'Interpersonal

relationships', 'Work stress', 'Role stress' and 'Organizational climate stress'. It is to assess whether the model consisting of these six factors load on Occupational Stress.

- 3. To examine how the Work Performance has been explained by the four latent factors namely, 'Punctuality', 'Teaching Methodology', 'Work Consciousness' and 'Perseverance'. It is to assess whether the model consisting of these four factors load on Work Performance.
- To establish a relationship of Emotional Intelligence, Occupational stress and the Work Performance and also, the effect of Occupational stress on Work Performance when mediated by Emotional Intelligence.

Figure 1: Structural Equation Model explaining the relationship of Emotional Intelligence, Occupational stress on the Work Performance of Teachers working in Arts and Science Colleges.



Emotional Intelligence consisted of 38 items which has been explained with the constructs namely, 'Self Awareness' (10 items), 'Self Management' (10 items), 'Social Awareness' (9 items), and 'Relationship Management' (9 items).

Occupational Stress factors consisted of 35 items which has been explained with the constructs namely, 'Intrinsic to Job' (5 items), 'Career development' (7 items), 'Interpersonal relationships' (6 items), 'Work stress' (6 items), 'Role stress' (6 items) and 'Organizational climate stress'(5 items)

Work Performance factors consisted of 23 items which has been explained with the constructs namely, 'Punctuality' (5 items), 'Teaching Methodology' (7 items), 'Work Consciousness' (6 items) and 'Perseverance'( 5 items)

### **Reliability of Constructs**

Initially, the reliability coefficients for all the latent constructs involved in this study have been found out to assess whether the items are consistent with the factors they measure. Cronbach's Alpha has been found out for each construct. The results are given in the following table:

S.No.	Constructs	Number of items	Cronbach's Alpha	Variable Names Given			
	Emoti	onal Intellige	ence factors	·			
1	Self Awareness	10	0.738	q22.1 to q22.10			
2	Self Management	10	0.786	q22.11 to q22.20			
3	Social Awareness	9	0.753	q22.21 to q22.29			
4	Relationship Management	9	0.797	q22.30 to q22.38			
Occupational stress factors							
1	Intrinsic to Job	5	0.877	q24a.1 to q24a.5			
2	Career development	7	0.859	q24a.6 to q24a.12			
3	Interpersonal relationships	6	0.872	q24a.13 to q24a.18			
4	Work stress	6	0.876	q24a.19 to q24a.24			
5	Role stress	6	0.871	q24a.25 to q24a.30			
6	Organizational climate stress	5	0.875	q24a.31 to q24a.35			
	Work	x Performan	ce Factors				
1	Punctuality	5	0.836	q23a.1 to q23a.5			
2	Teaching Methodology	7	0.838	q23a.6 to q23a.12			
3	Work Consciousness	6	0.818	q23a.13 to q23a.18			
4	Perseverance	5	0.820	q23a.19 to q23a.23			

**Table 6.3: Reliability Coefficients for constructs** 

(Source: Computed)

It is seen from the above table that, the reliability coefficient, Cronbach's Alpha has been well above 0.70 for all the constructs which is considered as fairly reliable. (Proposed by Nunnally<sup>1</sup>, 1978)

### **Confirmatory Factor Analysis of factors used in the model**

The research model now consisted of three dimensions. It proposes to explain Occupational stress as independent variable and explain the relationship with endogenous (dependent) factors, 'Emotional Intelligence' and 'Work Performance'. Emotional Intelligence explains the relationship with Work Performance as independent variable and also as a mediating variable. Overall, the research model has been proposed with four latent independent constructs having direct and indirect effects on Work Performance.

Next, Confirmatory Factor Analysis (CFA) has been adopted to validate the constructed scales developed for 'Emotional Intelligence' with four latent constructs, 'Occupational stress' with six latent constructs and 'Work Performance' with four latent constructs. The first step has been considered the fitting of the measurement model.

If the measurement models have been good representation of the respective domains individually, the next step has to develop a second-order factor model to test whether the hypothesized higher order factor has accounted for the relationship among the lower order factors. It results in simplified interpretations of complex structures of the first-order model. The final step is to test for the fitness of the second order factor model and to assess whether each of the three dimensions have been well captured and represented by their respective underlying factors. The data has been analysed by using AMOS version 22.0 where the parameters of the model have estimated by maximum likelihood method.

#### **Measures of Model Fit**

The adequacy of the model fit has been identified on the basis of the chi-square test statistics (given as CMIN in AMOS), that tests whether the population covariance matrix is equal to the model-implied covariance matrix. A significant result indicates, a poor fit (P < 0.05) whereas a non-significant test result indicates that, model fit is good

<sup>&</sup>lt;sup>1</sup> Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.

showing that, the model has been appropriate for the data. However, the chi-square test statistic has been sensitive to the sample size that it tends to give highly significant results in the cases with moderate to large sample size. Hence, apart from chi square test, other goodness-of-fit statistics viz., the ratio of the chi-square value to its associated degrees of freedom (CMIN/df), Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), and Normed Fit Index (NFI) have been used. For a good model fit, the ratio CMIN/df should be less than 3, RMSEA should have a value 0.05 or below and the GFI, CFI and NFI should have values above 0.95. However, the CMIN/df with a value between 3-5, RMSEA between 0.05-0.08 and GFI, CFI and NFI between 0.90-0.95 has been considered to accept the model.

Modification Indices (MI) given by AMOS is to improve the model fit by allowing correlations between error terms and interdependence of the scales used in the analysis. The model fit improves after modification, and hence this has been performed minimally to have a better fit of the model.

Confirmatory Factor Analysis has been applied to each of the factors of three dimensions (Emotional Intelligence, Occupational stress and Work Performance) to measure whether the items listed under each construct have in turn intended to measure what it has to measure. The items of each construct loads well on their respective constructs. The list of the respective item variables has been given.

## **CONFIRMATORY FACTOR ANALYSIS FOR EMOTIONAL INTELLIGENCE**

# I. First Order Confirmatory Factor Analysis (CFA) for Emotional Intelligence dimension.

The factors of 'Emotional Intelligence' have been measured on a five point Likert scale as Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The items related with each construct have loaded high on their respective factors. The first order confirmatory factor analysis has been done to test whether the variables represent their respective factors.

The First Order CFA Model proposed for 'Self Awareness', 'Self Management', 'Social Awareness' and 'Relationship Management' consists of the following items.

## Self Awareness

q22.1: I am aware of my emotions as I experienced them

q22.2: I motivate myself by imagining a good outcome of tasks which I would take on

q22.3:When I am upset I can usually pinpoint why I am distressed

q22.4: When I make mistakes I often shout& criticize myself for my abilities

q22.5: I know my values and beliefs

q22.6:I have self confidence in all situations

q22.7: I tend to over react to problems

q22.8: I know which motivates me

q22.9: I would describe myself as a good judge of character

q22.10: I feel confident about my own skills, talents and abilities

## Self Management

q22.11: I understand to use the self coaching techniques

q22.12: I understand the difference between self esteem and self respect

q22.13: I can able to become an effective role model

q22.14: I can manage my personal changes effectively

q22.15: I set my personal goals and take actions towards them

q22.16: I adopt positive thinking

q22.17: I will and I can be able to successfully overcome my challenges

q22.18: I am able to calm down quickly

q22.19: I will set goals to myself and try to achieve them to my level best

q22.20: I can able to control my anger/frustration

# Social awareness

q22.21: I recognize value difference and similarities between people and cultures

q22.22: I recognize and use empathy effectively

q22.23: I can understand and enter someone else's world

q22.24: I can understand other's feelings

q22.25: I can always welcome the suggestions/recommendations of others

q22.26: I can tell how others feel by the tone of their voices

q22.27: It is easy for me to understand why people feel the way they do

q22.28: I compliment others when they have done something well

q22.29: In my friends group I am generally aware of how each person feels about the other person

## **Relationship management**

q22.30: I actively help others to be more assertive

q22.31: I can establish and build a long term relationship

q22.32: I recognize which drives & motivates others

q22.33: I can develop and maintain openness, trust and honesty

q22.34: I can act as a change catalyst

q22.35: I can collaborate and work in team

q22.36: I can set and achieve goals

q22.37: I am sensitive to others emotions & moods

q22.38: I actively seek solutions & solve problems by knowing when to fight & when to walk away

The factors have been tested with the following hypothesis:

- **H**<sub>01</sub>: "The observed variables q22.1, q22.2, q22.3, q22.4, q22.5, q22.6, q22.7, q22.8, q22.9 and q22.10 load on the factor named as Self Awareness".
- **H**<sub>02</sub>: "The observed variables q22.11, q22.12, q22.13, q22.14, q22.15, q22.16, q22.17, q22.18, q22.19 and q22.20 load on the factor named as Self Management".
- **H**<sub>03</sub>: "The observed variables q22.21, q22.22, q22.23, q22.24, q22.25, q22.26, q22.27, q22.28 and q22.29 load on the factor named as Social Awareness".
- H<sub>04</sub>: "The observed variables q22.30, q22.31, q22.32, q22.33, q22.34, q22.35, q22.36, q22.37 and q22.38load on the factor named as Relationship Management".

The confirmatory factor models have been tested for the goodness of fit and the results are exhibited in the following table:

Factor	Hypothesis	Indicator variables	Chi- Square	P value	CMIN/df	GFI	NFI	CFI	RMSEA
Self Awareness	$H_{01}$	q22.1 to q22.10	161.788	P<0.01	4.403	0.932	0.935	0.962	0.072
Self Management	H <sub>02</sub>	q22.11 to q22.20	167.371	P<0.01	3.923	0.942	0.891	0.910	0.064
Social Awareness	H <sub>03</sub>	q22.21 to q22.29	117.282	P<0.05	4.087	0.947	0.893	0.912	0.065
Relationship Management	H <sub>04</sub>	q22.30 to q22.38	93.465	P<.05	3.739	0.956	0.962	0.972	0.070

 Table 6.4: First Order Confirmatory Factor Analysis (CFA) for

 Emotional Intelligence

(Source: Computed)

The model test results in the above table have shown that, the chi–square value has been significant for the factors 'Self Awareness', 'Self Management', 'Social Awareness' and 'Relationship Management'. However, the Chi square values have been greatly influenced by the sample size and hence, the CMIN/df has taken as a measure of fit. It shows that, for all the significant factors, the CMIN/df values have been below 5. The goodness of fit statistics GFI, NFI and CFI has been above 0.90 for all the factors. The RMSEA values have been below 0.08 for all the factors. The model fit statistics have shown that, all the measures of fit are within acceptable limits and it can be inferred that, the variables load on their respective factors. Hence, the hypotheses H<sub>01</sub> to H<sub>04</sub> have been accepted.

## Second Order Factor Model for Emotional Intelligence

The factor models have been measurement models explaining the relationship between the four latent constructs namely, 'Self Awareness', 'Self Management', 'Social awareness' and 'Relationship management' and their respective indicator variables have been considered appropriate with their hypotheses accepted. The goodness of fit indices for these measurement models has been adequate. To fit a second order factor model, the latent factors obtained in the first order CFA models, have to represent the respective dimension individually. To test for the fit of the second-order factor model considering the four hypothesized factors together where only if these constructs (latent factors) have been highly correlated in the first-order factor model, a second-order factor model which is more parsimonious and interpretable could be obtained. The second order factor model with the four factors of Emotional Intelligence with their respective indicator variables has proposed initially in figure and has tested with the following null hypothesis:

# H<sub>0</sub>: "The Emotional Intelligence have been adequately explained by the four factors namely, Self Awareness, Self Management, Social awareness and Relationship management"

The following figure shows the initially obtained second order factor model for Emotional Intelligence factor.



Figure 2: Second Order CFA Model for Emotional Intelligence factors

### **Modification Indices for Co-variances**

The modification indices computed for the measurement models has suggested that, there has been scope for improvement in the model fit. The Modification Indices will show how much the chi square value would reduce, if the error terms are allowed to correlate. The M.I has suggested that, allowing the error terms e3-e4, e4-e7 for self awareness, e16-e17, for self management, e22-25, e27-e29, e28-e29 for social awareness and e31-32, e37-e38 for relationship management to correlate would greatly decrease the CMIN value of the respective factor model. The M.Is used initially in the measurement model helps to improve the model fit.

The figure shows the initially obtained second order factor model for 'Emotional Intelligence' which consists of measurement models obtained in the first order factor model. The second order factor model shown in the figure has suggested that, the model has been satisfactory since, all the fit statistics have been below the admissible limits.

The CMIN/df value has been found below the admissible level of 5, the other measures namely, the GFI, NFI and CFI values have been above 0.90 and the RMSEA value has been 0.63, which makes the model satisfactorily acceptable as the value is below 0.08. Since the model has been acceptable no further improvements in the model has been necessary and thereby the hypothesis has been accepted wherein the four latent factors namely, Self Awareness, Self Management, Social awareness and Relationship management explains the higher order factor namely, Emotional Intelligence.

### Factor loadings

The figure shows the standardized estimates for the observed factors as well as indicator variables. These weights are independent of the units with which the variables have been measured and compared. The standardized regression weights for observed variables of each factor and the respective factors have given with the leading arrows, higher the loading, better the variable explain about the factor. The path shows that, the variable q22.8 (I know which motivates me) loads higher on 'Self Awareness' with 0.70 loading factor compared to other variables. Similarly, the variable q22.15(I set my personal goals and take actions towards them) loads higher on 'Self Management' with factor loading of 0.71 compared to other variables, the variable q22.24(I can understand

other's feelings) with a value of 0.71 loads higher on the factor 'Social awareness' and the variable q22.33 (I recognize which drives & motivates others) and q22.36 (I can collaborate and work in team)with a value of 0.82 loads higher on the factor 'Relationship management'.

Factor wise for the dimension Emotional Intelligence, the path for Relationship management loads higher (0.54) on Emotional Intelligence compared to other factors. The factor Social awareness has lesser loading (0.20) compared to other factors.

The following table shows the un-standardised regression coefficients of the paths developed for the model.

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Self Awareness	<	Emotional Intelligence	1.000			
Self Management	<	Emotional Intelligence	1.942	.250	7.764	**
Social Awareness	<	Emotional Intelligence	1.246	.166	7.509	**
Relationship Management	<	Emotional Intelligence	1.269	.179	7.094	**

**Table: Regression Weights for Emotional Intelligence factors** 

(\*\* - Significant at 1% level)

It is observed from the table that, the above estimates have been un-standardised regression estimates of the corresponding independent variables. For example, 1.000 under the column estimate denotes that as the value of Emotional Intelligence goes up by 1, the value of Self Awareness also increases by 1.000. The values given above have been the regression estimates of the corresponding independent variables. S.Es has been the Standard Errors of respective regression coefficients. C.R (Critical ratio) has been the ratio of regression estimate values to S.E. Probability (P) shows that the regression coefficients have been significantly contributing to the dependent variable.

It is found from the figure that, with four latent factors, it can generate a model of respectable fit. The model shows that, the CMIN/df value being 4.687 and RMSEA value being 0.73 which have been at the acceptable level. The GFI, NFI and CFI have been above 0.90 and the hypothesis has been accepted with the four latent constructs namely,

'Self Awareness', 'Self Management', 'Social awareness' and 'Relationship management' shows a significant representation of Emotional Intelligence.

# CONFIRMATORY FACTOR ANALYSIS FOR OCCUPATIONAL STRESS FACTORS

### II. First Order Confirmatory Factor Analysis (CFA) for Occupational stress factors

The proposed model of Occupational stress factors have been analysed to determine if the items measure the factors that they have intended to measure it. It is expected that, the items related with each factor have loaded high on their respective factors and has assumed that these items would not cross loaded on other factors.

The First Order Factor Model has consisted of several indicator variables which explain the latent constructs that represent the following items:

### **Intrinsic to Job**

- q24a.1: Is the working atmosphere cause stress
- q24a.2: The pay scale/ package/ remuneration lead to stress
- q24a.3: Social status of the job increases stress
- q24a.4: Does ambiguity in work sharing causes stress
- q24a.5: Stress due to excessive work pressure

### **Career development**

- q24a.6: I am facing my hurdles in developing career
- q24a.7: I feel that I am not fully qualified to handle the job
- q24a.8: My job tends to interfere with my personal life
- q24a.9: Inadequate faculty improvement programmers
- q24a.10: Lack of frequent promotional programs
- q24a.11: Discriminated felicitation for extra work by colleagues/ superiors

# q24a.12: Extra efforts I need to take to prove myself and my role puts pressure on me

#### **Interpersonal relationships**

q24a.13: Affectionate behavior from my colleagues is unimaginable to me

q24a.14: Advice from my colleagues when I am in trouble is sanity in my life

q24a.15: My relationship with my superior causes a great deal of anxiety

q24a.16: The faith bestowed on me by the superior is encouraging

q24a.17: My sub-ordinates feel free to discuss their personal problems with me

q24a.18: Extracting work from my sub ordinates is an ordeal for me

## Work stress

q24a.19: The complex nature my work does not confuse me

q24a.20: I am waiting for the day to come when I can relax

q24a.21: I am fed up by keeping myself busy all the times to meet deadlines

q24a.22: Most of the time I have to force myself to start work

q24a.23: The norms and expectations put a curb on my enthusiasm

q24a.24: The time passes without my notice each day at my work

# **Role stress**

q24a.25 : I need to sacrifice my values in meeting my role obligations

q24a.26: I am constrained in my role fulfillment, due to lack of knowledge & skill

q24a.27: I feel concerned due to poor information inflow which restricts my output

q24a.28: I get baffled with the contradictory instruction given by different members in the organization regarding my work

q24a.29: I am exposed to opportunities to enhance my efficiency

q24a.30: Repeated incidents where my contributions are taken very lightly put me off

### **Organizational climate stress**

q24a.31: Lack of my involvements in decision making in the organization reduces responsibilities in my shoulders

q24a.32: My point of view is ignored in the organization

q24a.33: I found that the monarchal organizational system which I belong to; suffocating its function

q24a.34: The sub-ordination I am subjected to in my role in the organization gives me an unpleasant feeling

q24a.35: Considerable environment tolerance that persist in my organization makes me irritated

The factors models have been tested with the following hypothesis:

- **H**<sub>01</sub>: "The observed variables q24a.1, q24a.2, q24a.3, q24a.4 and q24a.5load on the factor named as Intrinsic to Job"
- **H**<sub>02</sub>: "The observed variables q24a.6, q24a.7, q24a.8, q24a.9, q24a.10, q24a.11 and q24a.12load on the factor named as Career development"
- **H**<sub>03</sub>: "The observed variables q24a.13, q24a.14, q24a.15, q24a.16, q24a.17 and q24a.18 load on the factor named as Interpersonal relationships"
- **H**<sub>04</sub>: "The observed variables q24a.19, q24a.20, q24a.21, q24a.22, q24a.23 and q24a.24 load on the factor named as Work stress"
- **H**<sub>05</sub>: "The observed variables q24a.25, q24a.26, q24a.27, q24a.28, q24a.29 and q24a.30load on the factor named as Role stress"
- H<sub>06</sub>: "The observed variables q24a.31, q24a.32, q24a.33, q24a.34 and q24a.35 load on the factor named as Organizational climate stress"

The confirmatory factor models have been tested for the goodness of fit and the results are depicted in the following table:

Factor	Hypothesis	Indicator variable	Chi- Square	P value	CMIN/df	GFI	NFI	CFI	RMSEA
Intrinsic to Job	$H_{01}$	q24a.1 to q24a.5	3.235	P>.05	1.618	.997	.987	.999	.068
Career development	H <sub>02</sub>	q24a.6 to q24a.12	45.099	P<.01	3.074	.971	.977	.983	.072
Interpersonal relationships	H <sub>03</sub>	q24a.13 to q24a.18	25.577	P<.01	4.263	.981	.980	.984	.070
Work stress	H <sub>04</sub>	q24a.19 to q24a.24	44.307	P<.01	3.923	.968	.973	.979	.066
Role stress	H <sub>05</sub>	q24a.25 to q24a.30	29.100	P<.01	4.157	.978	.983	.987	.076
Organizational climate stress	H <sub>06</sub>	q24a.31 to q24a.35	27.965	P<.01	4.061	.975	.984	.988	.073

Table: First Order Confirmatory Factor Analysis (CFA) for Occupational Stress Factors

(Source: Computed)

The model test results in the table have shown that, the chi–square value has been significant for the factors, 'Career development', 'Interpersonal relationships' 'Work stress' 'Role stress' 'Organizational climate stress' and insignificant for the factor 'Intrinsic To Job'. However, the Chi square values have been greatly influenced by the sample size and hence, the CMIN/df has been taken as a measure of fit. It shows that, for all the six factors the CMIN/df values have been below 5. The goodness of fit statistics GFI, NFI and CFI has been above 0.90 for all the factors. The RMSEA values have been below 0.08 for all the factors. The model fit statistics shows that, all the measures of fit are within acceptable limits and it can be inferred that, the variables load on their respective factors. Hence, the hypotheses Ho1 to Ho6 have been accepted.

#### Second Order Factor Model for Occupational stress factors

The factor models are measurement models which explains the relationship between the six latent constructs namely 'Intrinsic To Job', 'Career development', 'Interpersonal relationships' 'Work stress' 'Role stress' 'Organizational climate stress' and their respective indicator variables which have been considered as appropriate with the hypotheses accepted in the first order model. The goodness of fit indices for these measurement models is adequate. To fit a second order factor model, the latent factors obtained in the first order CFA models have to represent the respective dimensions individually. To test for the fit of the second-order factor model, the six hypothesized factors have to be considered together, where only if these constructs (latent factors) are highly correlated in the first-order factor model, a second-order factor model which is more parsimonious and interpretable model could be obtained. The second order factor model with the six latent constructs of occupational stress factors with their respective indicator variables has been proposed initially in figure and has tested with the following hypothesis:

# H<sub>0</sub>: "The indicators of Occupational stress factor have been adequately explained by the six factors namely, Intrinsic To Job, Career development, Interpersonal relationships, Work stress, Role stress and Organizational climate stress"

The following figure shows the initially obtained second order factor model for Occupational stress factors



Figure 3: Second Order CFA Model for Occupational stress factors



173

# **Modification Indices for Co-variances**

The modification indices computed for the measurement models has suggested that, there has been scope for improvement in the model fit. The Modification Indices will show how much the chi square value would reduce, if the error terms are allowed to correlate. The M.I has suggested that, allowing the error terms e1-e3, e2-e4 for Intrinsic to Job,e10-e11,e7-e10 for Career development e15-e18, e17-e18, e14-e15 for Interpersonal relationships, e25-e28, e27-e28 for Role stress to correlate would greatly decrease the CMIN value of the respective factor model. The M.Is used initially in the measurement model helps to improve the model fit.

The CMIN/df value has been found to be below the admissible level of 5, the other measures namely the GFI, NFI and CFI values have been above 0.90 and the RMSEA value has been 0.072, which makes the model satisfactorily acceptable as the value is below 0.08. Since, the model has been acceptable and no further improvements in the model is necessary and thereby, the hypothesis has been accepted wherein the four latent factors viz., Intrinsic to Job, Career development, Interpersonal relationships, Work stress, Role stress and Organizational climate stress explains the higher order factor namely, Occupational stress factors.

#### **Factor loadings**

The figure shows the standardized estimates for the observed factors as well as indicator variables. These weights are independent of the units with which the variables have been measured and compared. The standardized regression weights for the observed variables of each factor and the respective factors have been given with the leading arrows, higher the loading, better the variable explain about the factor. The path shows that the variable q24a.3 loads higher on Intrinsic to Job with 0.81 loading factor compared to other variables. Similarly, the variable q24a.9 loads higher on career development with factor loading of 0.87 compared to other variables, the variable q24a.15 with a value of 0.82 loads higher on the factor interpersonal relationships, the variable q24a.30 with a value of 0.83 loads higher on the factor role stress and the variable q24a.33 with a value of 0.89 loads higher on the factor Organizational climate stress.

Factor wise for the Occupational stress dimension, the path for career development shows higher loading (0.88) on Occupational stress compared to other dimensions. The factor Organizational climate stress has lesser loading (0.73) compared to other factors.

The following table shows the un-standardised regression coefficients of the paths developed for the model.

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Intrinsic to Job	<	Occupational stress	1.000			
Career development	<	Occupational stress	.889	.065	13.722	**
Interpersonal relationships	<	Occupational stress	.775	.066	11.729	**
Work stress	<	Occupational stress	.479	.054	8.936	**
Role stress	<	Occupational stress	.905	.074	12.200	**
Organizational climate stress	<	Occupational stress	.923	.073	12.635	**

**Table: Regression Weights for Occupational Stress Factors** 

(\*\* - Significant at 1 per cent level)

It is found from the table that, the estimates are un-standardised regression estimates of the corresponding independent variables. For example, 0.889 under the column estimate denotes that as the value of Occupational stress factor increases by 1, the value of Career development increases by 0.889.S.Es has been the Standard Errors of respective regression coefficients. C.R (Critical ratio) has been the ratio of regression estimate values to S.E. Probability (P) shows, which regression coefficients have been significantly contributing to the dependent variables.

It is observed from the figure that, with four latent factors a model can generated with the respectable fit. The model shows that, the CMIN value being 4.966 and RMSEA value being 0.72 both have been at the acceptable level. The GFI, NFI and CFI values have been above 0.90 and the hypothesis has been accepted with the four latent constructs namely, Intrinsic to Job, Career development, Interpersonal relationships, Work stress, Role stress and Organizational climate stress have shown a significant representation of Occupational stress factors.

#### **CONFIRMATORY FACTOR ANALYSIS FOR WORK PERFORMANCE FACTORS**

### II. First Order Confirmatory Factor Analysis (CFA) for Work Performance factors

The proposed model of Work Performance factors have been analysed to determine if the items measure the factors that they have intended to measure it. It is expected that, the items related with each factor have loaded high on their respective factors and has assumed that these items would not cross loaded on other factors. The First Order Factor Model has consisted of several indicator variables which explain the latent constructs that represent the following items:

## Punctuality

q23a.1: I usually enter the class room well in advance

q23a.2: I complete my portions in stipulated time

q23a.3: I usually insist the students to be punctual

q23a.4: I regularly evaluate students performance in diversified fields

q23a.5: I maintain timely and accurate records of students performance in cocurricular and extracurricular activities

## **Teaching Methodology**

q23a.6: I always explain the concepts with the help of teaching aids

q23a.7: I usually prepare well to an organized presentations

q23a.8: I devote an adequate time for work assignments & resources allocations

q23a.9: I am confident on my comprehensive knowledge and mastery of subject matters

q23a.10: I motivate my students towards their career development

q23a.11: I always encourage the students to dream their higher thoughts

q23a.12: I always suggest the students to have a role model in their career/life

# Work Consciousness

q23a.13: I serve as a resource person, providing consultancy to the needy in which I am specialized

q23a.14: I dedicate most of my time to the students community

q23a.15: I serve completely among all departmental faculties in completing college/university responsibilities

q23a.16: I am always being more attentive/responsive to which I am paid

q23a.17: I always show a strong sense of responsibility when a task is assigned to me

q23a.18:I usually avoid any kind of favoritism

### Perseverance

q23a.19: I continue to put a special effort on slow learners

q23a.20: I am able to achieve and fulfill my goals by perseverance

q23a.21: I face challenge to device the novel methods in practical oriented studies

q23a.22: I work hours together to build the students career and to compete present economic and technological advancements

q23a.23: I face lot of difficulties to look after my own words career

The factors have been tested with the following hypothesis:

- **H**<sub>01</sub>: "The observed variables q23a.1, q23a.2, q23a.3, q23a.4 and q23a.5 load on the factor named as Punctuality".
- **H**<sub>02</sub>: "The observed variables q23a.6, q23a.7, q23a.8, q23a.9, q23a.10, q23a.11 and q23a.12load on the factor named as Teaching Methodology".
- **H**<sub>03</sub>: "The observed variables q23a.13, q23a.14, q23a.15, q23a.16, q23a.17 and q23a.18load on the factor named as Work Consciousness ".
- **H**<sub>04</sub>: "The observed variables q23a.19, q23a.20, q23a.21, q23a.22 and q23a.23 load on the factor named as Perseverance".

The confirmatory factor models have been tested for the goodness of fit and the results are depicted in the following table:

Factor	Hypothesis	Indicator variable	Chi- Square	P value	CMIN/df	GFI	NFI	CFI	RMSEA
Punctuality	H <sub>01</sub>	q23a.1 to q23a.5	12.660	P<.05	4.220	.988	.982	.986	.077
Teaching Methodology	H <sub>02</sub>	q23a.6 to q23a.12	74.414	P<.01	3.201	.955	.949	.956	.040
Work Consciousness	H <sub>03</sub>	q23a.13 to q23a.18	31.481	P<.01	3.935	.975	.958	.968	.073
Perseverance	H <sub>04</sub>	q23a.19 to q23a.23	20.509	P<.01	4.254	.982	.971	.973	.047

 Table: First Order Confirmatory Factor Analysis (CFA) for Work performance

 Factors

(Source: Computed)

The model test results in the table have shown that, the chi–square value has been significant for the factors 'Punctuality', 'Teaching Methodology', 'Work Consciousness' 'Perseverance'. However, the Chi square values have been greatly influenced by the sample size and hence, the CMIN/df has been taken as a measure of fit. It shows that, for all the six factors the CMIN/df values have been below 5. The goodness of fit statistics GFI, NFI and CFI has been above 0.90 for all the factors. The RMSEA values have been below 0.08 for all the factors. The model fit statistics shows that, all the measures of fit are within acceptable limits and it can be inferred that, the variables load on their respective factors. Hence, the hypotheses H<sub>01</sub> to H<sub>04</sub> have been accepted.

### Second Order Factor Model for Work Performance

The factor models have been measurement models explaining the relationship between the four latent constructs namely, 'Punctuality', 'Teaching Methodology', 'Work Consciousness' and 'Perseverance' and their respective indicator variables have been considered appropriate with their hypotheses accepted. The goodness of fit indices for these measurement models has been adequate. To fit a second order factor model, the latent factors obtained in the first order CFA models, have to represent the respective dimension individually. To test for the fit of the second-order factor model considering the four hypothesized factors together where only if these constructs (latent factors) have been highly correlated in the first-order factor model, a second-order factor model which is more parsimonious and interpretable could be obtained. The second order factor model with the four factors of Work Performance with their respective indicator variables has proposed initially in figure and has tested with the following null hypothesis:

**H**<sub>0</sub>: "The Work Performance have been adequately explained by the four factors namely, Punctuality, Teaching Methodology, Work Consciousness and Perseverance"

The following figure shows the initially obtained second order factor model for Work Performance.



Figure 4: Second Order CFA Model for Work performance factors

Chi.Sq=1309.313 p=.000 CMIN/df=6.006 GFI=.888 NFI=.869 CFI= .899 RMSEA=.071

# **Modification Indices for Co-variances**

The modification indices computed for the measurement models has suggested that, there has been scope for improvement in the model fit. The Modification Indices will show how much the chi square value would reduce, if the error terms are allowed to correlate. The M.I has suggested that, allowing the error terms e1-e4, e1-e5 for punctuality, e6 -e12, e7-e12 for teaching methodology e14-e17 for work consciousness

and, e19-e23, e21-e23, e20- e23 for perseverance to correlate would greatly decrease the CMIN value of the respective factor model. The M.Is used initially in the measurement model helps to improve the model fit.

The figure shows the initially obtained second order factor model for 'Work Performance' which consists of measurement models obtained in the first order factor model. The second order factor model shown in the figure 6.2 has suggested that, the model has been satisfactory since, all the fit statistics have been below the admissible limits.

The CMIN/df value has been found below the admissible level of 5, the other measures namely, the GFI, NFI and CFI values have been above 0.90 and the RMSEA value has been 0.71, which makes the model satisfactorily acceptable as the value is below 0.08. Since the model has been acceptable no further improvements in the model has been necessary and thereby the hypothesis has been accepted wherein the four latent factors namely, Punctuality, Teaching Methodology, Work Consciousness and Perseverance explains the higher order factor namely, Work Performance.

### Factor loadings

The figure shows the standardized estimates for the observed factors as well as indicator variables. These weights are independent of the units with which the variables have been measured and compared. The standardized regression weights for observed variables of each factor and the respective factors have given with the leading arrows, higher the loading, better the variable explain about the factor. The path shows that, the variable q23a.5 (I maintain timely and accurate records of students performance in co-curricular and extracurricular activities) loads higher on 'Punctuality' with 0.80 loading factor compared to other variables. Similarly, the variable q23a.12(I always suggest the students to have a role model in their career/life) loads higher on 'Teaching Methodology' with factor loading of 0.81 compared to other variables q23a.17(I always show a strong sense of responsibility when a task is assigned to me) with a value of 0.81 loads higher on the factor 'Work Consciousness' and the variable q23a.20 (I am able to achieve and fulfill my goals by perseverance) with a value of 0.74 loads higher on the factor 'Perseverance'.

Factor wise for the dimension Work Performance, the path for Perseverance loads higher (0.91) on Work Performance compared to other factors. The factor Punctuality has lesser loading (0.79) compared to other factors.

The following table shows the un-standardised regression coefficients of the paths developed for the model.

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Punctuality	<	Work Performance	1.000			
Teaching Methodology	<	Work Performance	1.680	0.200	8.410	**
Work Consciousness	<	Work Performance	1.510	0.204	7.412	**
Perseverance	<	Work Performance	1.804	0.206	8.762	**

**Table: Regression Weights for Work Performance factors** 

(\*\* - Significant at 1% level)

It is observed from the table that, the above estimates have been un-standardised regression estimates of the corresponding independent variables. For example, 1.000 under the column estimate denotes that as the value of Work Performance goes up by 1, the value of Work Performance also increases by 1.000. The values given above have been the regression estimates of the corresponding independent variables. S.Es has been the Standard Errors of respective regression coefficients. C.R (Critical ratio) has been the ratio of regression estimate values to S.E. Probability (P) shows that the regression coefficients have been significantly contributing to the dependent variable.

It is found from the figure 6.4 (a) that, with four latent factors, it can generate a model of respectable fit. The model shows that, the CMIN/df value being 6.006 and RMSEA value being 0.78 which have been at the acceptable level. The GFI, NFI and CFI have been above 0.90 and the hypothesis has been accepted with the four latent constructs namely, 'Punctuality', 'Teaching Methodology', 'Work Consciousness' and 'Perseverance' shows a significant representation of Work Performance.

# STRUCTURAL EQUATION MODEL OF EMOTIONAL INTELLIGENCE, OCCUPATONAL STRESS AND WORK PERFORMANCE OF TEACHERS WORKING IN ARTS AND SCIENCE COLLEGES

The objective of the study is to understand the relationship among Emotional intelligence, Occupational stress and Work performance *inter se*. Among these factors, occupational stress has assumed as independent variable, Emotional intelligence has assumed to mediate the effect on work performance. The following hypotheses have been framed based on the conceptual research model and the objectives given at the beginning of SEM discussion.

H<sub>01</sub>: "Occupational stress has a direct positive effect on Work Performance"

- H<sub>02</sub>: "Emotional Intelligence has a direct positive effect on Work Performance"
- H<sub>03</sub>: "Occupational Stress has a direct positive effect on Emotional Intelligence"
- H<sub>04</sub>: "There has been a mediation effect played by Emotional Intelligence between Occupational Stress and Work performance"

After attaining an acceptable level of fit with the measurement models for Occupational stress, Emotional intelligence and Work Performance, the data has been used for construction of full scale Structural Equation Model based on the hypotheses from H<sub>01</sub> to H<sub>04</sub>.

### **Structural Equation Model of Occupational stress and Work Performance**

It has been assumed that, occupational stress has an impact on Work Performance of Teachers working in Arts and Science Colleges. The following figure depicts the direct relationship of Occupational stress and Work Performance. The path coefficients have been standardised regression weights.

The model fit statistics shows that, the CMIN/df value being 4.672 which has been less than the admissible limit of 5. The RMSEA value (0.063) has also been found to be less than the maximum admissible value of 0.08. The goodness of fit indices namely, GFI, NFI and CFI have been above 0.90, which indicates that the model has been acceptable. The standardised regression weight shows that, there has been a direct inverse relationship between Occupational stress and Work performance. Hence, the hypothesis H<sub>01</sub> has been rejected.



Figure 5: Structure Equation Model of Occupational stress and Work Performance

The standardized regression weights and the corresponding multiple correlations are shown in the model. The regression weight has shown that there is a negative relationship between occupational stress and work performance.

The magnitude and direction of relationship between occupational stress and work performance with the regression weight is shown in the table given below.

### **Model Estimation**

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Work performance	<	Occupational stress	-0.382	.052	-7.483	**

#### Table: Regression Weights for occupational stress and work performance.

(Source: Computed Ns- Not Significant \*\*- Significant at 1% level)

### **Estimate of regression weight**

The unstandardised regression estimate is given above for occupational stress which has the direct effect on work performance. S.E is the Standard Error of respective regression coefficient. C.R (Critical ratio) is the ratio of regression estimate values to S.E. Probability (P) shows which regression coefficient is significantly contributing to the dependent variable (\*\* indicates the respective regression weight is significant at less than 1 per cent level).

It is observed from the table that the regression weight of occupational stress on work performance is -0.382 which is found to be significant at 1 per cent level. It indicates that, there exists a direct negative relationship between occupational stress and Work Performance. That is when occupational stress on work performance increases (positively) by one unit, the work performance of teachers decreases by -0.382. Hence, the hypotheses,  $H_{01}$  ("There has been a direct positive significant relationship between Occupational stress and Work Performance") have been rejected.

### **Structural Equation Model of Occupational stress and Emotional Intelligence**

It has been assumed that, occupational stress influences emotional intelligence of teachers working in Arts and Science Colleges. The following figure depicts the direct relationship of Occupational stress and Emotional Intelligence. The path coefficients have been standardized regression weights.

The model fit statistics shows that, the CMIN/df value being 4.621 which has been less than the admissible limit of 5. The RMSEA value (0.070) has also been found to be less than the maximum admissible value of 0.08. The goodness of fit indices namely, GFI, NFI and CFI have been above 0.90, which indicates that the model has been acceptable. The standardised regression weight shows that, there has been a direct inverse relationship between Occupational stress and Emotional Intelligence. Hence, the hypothesis H<sub>03</sub>has been rejected.



Figure 6: Structure Equation Model of Occupational stress and Emotional Intelligence

The standardized regression weights and the corresponding multiple correlations are shown in the model. The regression weight has shown that there is a negative relationship between occupational stress and emotional intelligence.

The magnitude and direction of relationship between occupational stress and emotional intelligence with the regression weight is shown in the table given below.

# **Model Estimation**

Table 6.6 (a): Regression Weights for occupational stress and work performance.

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Emotional Intelligence	<	Occupational stress	210	.017	.583	*

(Source: Computed Ns- Not Significant \*- Significant at 5% level)

### **Estimate of regression weight**

The unstandardised regression estimate is given above for occupational stress which has the direct effect on emotional intelligence. S.E is the Standard Error of respective regression coefficient. C.R (Critical ratio) is the ratio of regression estimate values to S.E. Probability (P) shows which regression coefficient is significantly contributing to the dependent variable (\* indicates the respective regression weight is significant at 5 per cent level).

It is observed from the table that the regression weight of occupational stress on emotional intelligence is -0.210 which is found to be significant at 5 per cent level. It indicates that, there exists a direct negative relationship between occupational stress and emotional intelligence. That is when occupational stress on emotional intelligence increases (positively) by one unit, the emotional intelligence of teachers decreases by -0.210. Hence, the hypotheses,  $H_{03}$  ("There has been a direct positive significant relationship between Occupational stress and Emotional Intelligence") have been rejected.

### **Structural Equation Model of Emotional Intelligence and Work Performance**

It has been assumed that, emotional intelligence has an impact on Work Performance of Teachers working in Arts and Science Colleges. The following figure depicts the direct relationship of emotional intelligence and Work Performance. The path coefficients have been standardised regression weights.

The model fit statistics shows that, the CMIN/df value being 4.026 which has been less than the admissible limit of 5. The RMSEA value (0.054) has also been found to be less than the maximum admissible value of 0.08. The goodness of fit indices namely, GFI, NFI and CFI have been above 0.90, which indicates that the model has been acceptable. The standardised regression weight shows that, there has been a direct positive relationship between emotional intelligence and Work performance. Hence, the hypothesis  $H_{02}$  has been accepted.



Figure 7: Structure Equation Model of Emotional Intelligence and Work Performance

The standardized regression weights and the corresponding multiple correlations are shown in the model. The regression weight has shown that there is a positive relationship between emotional intelligence and work performance.

The magnitude and direction of relationship between emotional intelligence and work performance with the regression weight is shown in the table given below.

# **Model Estimation**

Table:	Regression	Weights for	• Emotional	Intelligence an	d work	performance.
						1

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Work performance	<	Emotional Intelligence	.730	.109	6.687	**

(Source: Computed Ns- Not Significant \*\*- Significant at 1% level \*- Significant at 5% level)

### **Estimate of regression weight**

The unstandardised regression estimate is given above for emotional intelligence which has the direct effect on work performance. S.E is the Standard Error of respective regression coefficient. C.R (Critical ratio) is the ratio of regression estimate values to S.E. Probability (P) shows which regression coefficient is significantly contributing to the dependent variable (\*\* indicates the respective regression weight is significant at less than 1 per cent level).

It is observed from the table that the regression weight of emotional intelligence on work performance is 0.730 which is found to be significant at 1 per cent level. It indicates that, there exists a direct positive relationship between emotional intelligence and Work Performance. That is when emotional intelligence on work performance increases (positively) by one unit, the work performance of teachers increases by 0.730. Hence, the hypotheses,  $H_{02}$  ("There has been a direct positive significant relationship between emotional intelligence and Work Performance") have been accepted.

# Structure Equation Model of Occupational Stress, Emotional Intelligence and Work Performance

The structural Equation Model given in the above figure depicts the direct relationship between Occupational stress and Work Performance, Emotional Intelligence and Work performance and Occupational stress and Emotional Intelligence individually establishing a significant direct relationship with Work performance when there has been no mediating variable. However, it has been assumed that, the Occupational stress factor also has an indirect effect on Work Performance viz., the study attempts to find out whether Emotional Intelligence has a significant mediation effect between Occupational Stress and Work Performance.

The following figure shows that, the direct relationship of Occupational stress with Emotional Intelligence and Work Performance. The path coefficients have been standardised regression coefficients. The regression estimates produced by AMOS for un-standardised regression have been given below. The model fit statistics shows that, all the goodness of fit indices namely, GFI, NFI and CFI have satisfied the criterion value of being above 0.90, the CMIN value has been within the admissible limit of 5 and the

RMSEA value falls between 0.05 and 0.08. The model shown in the following figure gives the standardized regression weights of the corresponding variables and also squared multiple correlations. The regression coefficient shows that, these coefficients have been comparable as they are the independent of units of measurement. Among the variables, the direct effects of Occupational stress on Emotional Intelligence and Work Performance have an inverse relationship. The regression coefficient shows that, the direct effect of Occupational stress on Emotional Intelligence with a regression weight of -0.27 explains more compared to the direct effect of Occupational stress on Work Performance (-0.05).

# Figure 8: Structure Equation Model of Occupational Stress, Emotional Intelligence and Work Performance



The magnitude and direction of relationship between all the dimensions have been studied in detail with the un-standardised regression weights. The results produced by AMOS have been given in the following table:

### **Model Estimation**

# Table: Regression Weights for Occupational Stress, Emotional Intelligence and WorkPerformance

Variable To	Path	Variable from	Estimate	S.E.	C.R.	Р
Work Performance	<	Occupational stress	-0.087	0.040	1.264	Ns
Emotional Intelligence	<	Occupational stress	-0.341	0.151	-8.141	**
Work Performance	<	Emotional Intelligence	0.633	0.089	7.428	**

(\*\* - Significant at 1per cent level, Ns- Not Significant)

### **Estimate of Regression Weights**

The estimates given in the above table have been the un-standardised regression estimates of the corresponding independent variables. S.Es has been the Standard Errors of respective regression coefficients. C.R (Critical ratio) has been the ratio of regression estimate values to S.E. Probability (P) shows which regression coefficients have been significantly contributing to the dependent variables (\*\*indicates the respective regression weights are significant at less than 1 per cent respectively).

The table further shows that, The regression weight of Occupational stress on Work Performance is -0.087 which has found to be not significant at 1per cent level or 5 per cent level. Hence, the hypothesis  $H_{01}$  ("Occupational stress has a direct positive effect on Work Performance") has been rejected.

Occupational stress has a higher direct effect on Emotional Intelligence (-0.341) compared to the direct effect it has on work performance -0.087 which reveals that there exist a mediation effects between Occupational stress and Work performance. Hence, the hypothesis  $H_{04}$  ("There has been a mediation effect played by Emotional Intelligence between Occupational stress and Work performance") has been rejected.

Occupational stress has a direct negative effect on Emotional Intelligence at 1 per cent level of significance. Hence, the hypothesis  $H_{03}$  ("Occupational stress has a direct positive effect on Emotional Intelligence") has been rejected.

Emotional Intelligence has a direct positive effect on Work Performance at 1 per cent level of significance. Hence, the hypothesis  $H_{02}$  ("Emotional Intelligence has a direct positive effect on Work Performance") has been accepted.

	Direct Effects					
	Occupational Stress	Emotional Intelligence	Work Performance			
Emotional Intelligence	-0.341					
Work Performance	-0.087	0.633				
	Indirect Effects					
Emotional Intelligence						
Work Performance	-0.215					
	Total Effects					
Emotional Intelligence	-0.341					
Work Performance	-0.302	0.633				

Table: Direct, Indirect and Total Effects - Un-standardised

(Source: computed)

## **Direct Effects – Estimates**

The coefficients associated with the single-headed arrows in a path diagram are called as direct effects. In un-standardised model, for instance, Emotional Intelligence has a direct positive effect on Work Performance (0.633). It indicates that, the Emotional Intelligence factor increases by 1, the Work Performance also increases by 0.633. Similarly, Occupational Stress has a direct negative effect on Emotional Intelligence (-0.341) which indicates that, Occupational Stress factor increases by 1, the Emotional Intelligence decreases by -0.341. The direct effect of Occupational Stress factor on Work Performance has been -0.087 which infers that, Occupational Stress factor increases by 1, the Work Performance decreases by -0.087. It is found that, the direct effect of Emotional Intelligence factors on Work Performance (0.633) is found to be positive. It has also been found that, the existence of mediation effect of Emotional Intelligence between Occupational stress and Work performance.

### **Indirect Effects – Estimates**

The table also describes the indirect effect of each of the column variable on each row variable. The table shows that, Emotional Intelligence factor has no indirect effect on Occupational Stress. It is found that, Occupational Stress factor has a negative indirect effect on Work Performance (-0.215). Similarly, Emotional Intelligence factor has no indirect effect on Work Performance.

In the previous model, where the mediation effect of Emotional Intelligence has not been introduced and only the direct relationship between Occupational stress and Work performance have been studied. The result has shown that, occupational stress has shown a significant negative and direct effect (-0.382) on work Performance. However, in the latter model when the mediation of Emotional Intelligence has introduced between Occupational stress and Work Performance, the direct effect of Occupational stress on Work Performance has reduced to (-0.087) and found to be not significant.

Thus, the indirect effect of Occupational stress on Work Performance has shown a negative effect in the relationship when mediated by Emotional Intelligence. The result has suggested that, there has been a significant mediation effect of Emotional Intelligence between Occupational stress and Work Performance. Hence, the hypothesis  $H_{04}$  ("There has been a mediation effect played by Emotional Intelligence between Occupational stress and Work Performance Intelligence between Occupational stress and Work Performance.

### **Total Effects – Estimates**

The total effect has been the combined direct and indirect effect of each column variable on each row variable. The total effect of Occupational Stress factor on Work Performance has been -0.302, which has been the sum of the direct and indirect effect it has on Work Performance. It is due to both direct (unmediated) and indirect (mediated) effects of Occupational Stress factor on Work Performance. It reveals that, if Occupational Stress factor increases by 1, the Work Performance decreases by -0.302. Similarly, the total effect of Emotional Intelligence factor on Work Performance has been 0.633, which has been the sum of the direct (unmediated) and indirect (mediated) effects of Work Performance. It is due to both direct (unmediated) and indirect has been the sum of the direct and indirect effect that it has on Work Performance. It is due to both direct (unmediated) and indirect (mediated) effects of Work Performance. It is due to both direct (unmediated) and indirect (mediated) effects of 0.633, which has been the sum of the direct and indirect effect that it has on Work Performance. It is due to both direct (unmediated) and indirect (mediated) effects of

Emotional Intelligence factor on Work Performance and reveals, that if Emotional Intelligence factor increases by 1, the Work Performance increases by 0.633.

The model has also observed that the direct relationship between Occupational Stress, Emotional Intelligence and Work Performance. The total effect indicates that, the independent variables namely, Occupational Stress, Emotional Intelligence have both positive and negative effect on Work Performance and implies that, Emotional Intelligence factors facilitate the Work Performance where the Occupational Stress factors impede the Work Performance .

	Direct Effects					
	Occupational Stress	Emotional Intelligence	Work Performance			
Emotional Intelligence	-0.270					
Work Performance	-0.052	0.513				
	Indirect Effects					
Emotional Intelligence						
Work Performance	-0.134					
	Total Effects					
Emotional Intelligence	-0.270					
Work Performance	-0.186	0.513				

Table: Direct, Indirect and Total Effects – Standardised

(Source: Computed)

Similar to un-standardised regression weights, relative contribution of the standardised direct, indirect and total effects of each column variable on each row variable have been given in the table. The direct effect of Occupational stress on Emotional Intelligence -0.270 have been comparatively higher than the direct effect of Occupational stress on Work Performance -0.052. The indirect effect of Occupational stress on Work Performance has been -0.134 which is somewhat higher than the respective direct effect.

Finally, the study has revealed that, teachers who adopt positive thinking in the organization culture, who always welcome suggestions/recommendations of others and who maintains healthy interpersonal relationship with their sub-ordinates improves their work performance. On the other side, Stress due to excessive work pressure, facing hurdles in developing their career and teachers who are exposed to opportunities to enhance their efficiency has resulted in impediment of Work performance.