Analysis and Discussion

CHAPTER IV

ANALYSIS AND DISCUSSION

This chapter centres around the analysis of the data collected through the questionnaire, distributed to the women entrepreneurs, identified from District Industries Centre, Coimbatore. Questionnaires were distributed to 625 entrepreneurs, out of which only 546 of them responded by filling the questionnaire, with the overall response rate of 87 per cent. The data collected was subjected to statistical analysis with the help of tools in SPSS, to explore the impact of emotional intelligence on work engagement and subjective well-being of women entrepreneurs, in tune with the objectives of the study. Statistical tools that were used for data analysis are Percentage analysis, Friedman's Correlation Rank Test, Means and Standard Deviation, Chi-square analysis, ANOVA, Correlation, Regression, Discriminant Analysis and Structural Equation Modelling.

4.1 Demographic profile of the respondents

The questionnaire had included the following demographic particulars of the respondents: age, education, locality of their residence, nature of residence, marital status, type of family, number of family members, number of earning members, number of children, annual family income, occupation of the spouse, leisure time, activity involved in during leisure time, total time spent for business activity, nature of business, industry involved in, years of experience in business, years of work experience, type of business organisation, source of funds, motivational factor to start business, size of business enterprise and involvement of the business firm in social activities. This particulars will help to understand the demographic profile of the women entrepreneurs.

Age of the respondents were categorised into four categories as below 25 years, 25-35 years, 35-45 years and above 45 years. Educational background was sub-divided into No formal education, school level, under graduate level, post graduate level, diploma holder and professional. Residential locality was sub-divided into rural, urban and sub-urban areas, while residential types were classified into three classes namely own house, rented house and leased house.

Marital status was divided into three groups as unmarried, married and separated. Type of family was categorised as nuclear or joint family. Total members in the family were sorted /into less than 5 members, 5-7 members and more than 7 members. Number of earning members were listed into less than 2 members, 2-4 members and more than 4 members. Number of children in the family was grouped as less than 2 children, 2-4 children and more than 4 children. Annual family income was categorised as less than Rs.5 lakhs, Rs.5-10 lakhs and more than Rs.10 lakhs. Occupation of the spouse was sorted as employed, entrepreneur and professional.

Time spent for leisure activities/day was classified as nil time, less than 2 hours, 2-4 hours and more than 4 hours. Activities performed during leisure time was listed as reading, listening to music, gardening, going out, watching TV, exercises, cooking and others.

Time scheduled for business activity was divided into three heads – less than 5 hours/day, 5-8 hours per day and more than 8 hours per day. Nature of the business done by the respondents were grouped as manufacturing, service and trading. Industry involved in were listed as food, textiles, apparel and accessories, beauty and health care, engineering, computer, mobiles, financial services and others. Years of business experience was categorised as less than 2 years, 2-4 years, 5-7 years, 8-10 years and more than10 years. Years of work experience before venturing into business was divided into nil experience, less than 2 years, 2-4 years, 5-7 years, 7-9 years and more than 10 years.

Type of business organisation was sorted into sole-proprietorship and partnership firms. Source of borrowing was sorted as friends and relatives, co-operative society, banks and financial institutions. Motivational factor for the women entrepreneurs to start the business was listed as previous work experience, passion, successful role model, support from family members and favourable government policy. The level of firm's involvement in social activities was listed as very high level, high level, moderate level, low level and very low level. Size of business enterprise was classified as small scale and medium scale. The frequency and the percent of the demographic details of the respondents taken up for the study are presented in the Table 4.1.

Table 4.1 Demographic profile of the respondents

S.No	Demographic Factors	Categories	Frequency	Percent
1	Age (Years)	Below 25	186	34.1
		25-35	129	23.6
		35-45	**145**	**44.4**
		Above 45	86	16.7
2	Education	No formal education	10	1.8
		School level	74	13.6
		UG level	**252**	**46.2**
		PG level	169	31.0
		Diploma holder	14	2.6
		Professional	27	4.9
3	Residential locality	Rural	87	15.9
		Urban	**357**	**65.4**
		Suburban	102	18.7
4	Residence	**Own house**	**390**	**71.4**
		Rented	128	23.4
		Leased	28	5.1
5	Marital status	Unmarried	6	1.1
		Married	**528**	**96.7**
		Separated	12	2.2
6	Type of family	Joint family	171	31.3
		Nuclear Family	**375**	**68.7**
7	Total members in the family	**Below 5 members**	**384**	**70.3**
		5-7 members	138	25.3
		Above 7 members	24	4.4

S.No	Demographic Factors	Categories	Frequency	Percent
8	Number of earning members	Below 2 members	266	48.7
		2-4 members	**271**	**49.6**
		Above 7 members	9	1.6
9	Number of children	**Less than 2**	**307**	**56.2**
		2-4	225	41.2
		More than 4	14	2.6
10	Annual family income	Below Rs. 5 Lakhs	217	39.7
		Rs.5-10Lakhs	**235**	**43.0**
		Above Rs. 10 Lakhs	94	17.2
11	Occupation of the Spouse	Employed	226	41.4
		Entrepreneur	**248**	**45.4**
		Professional	72	13.2
12	Leisure time / day	Nil time	31	5.7
		Less than 2 hours	**310**	**56.8**
		2-4 hours	181	33.2
		More than 4 hours	24	4.4
13	Activity involved in leisure time	Reading	109	20.0
		Listening to Music	**149**	**27.3**
		Gardening	30	5.5
		Going Out	50	9.2
		Watching TV	74	13.6
		Exercises	12	2.2
		Cooking	93	17.0
		Any others	29	5.3

S.No	Demographic Factors	Categories	Frequency	Percent
14	Time scheduled for business activity	< 5 hours/day	100	18.3
		5-8 hours/day	**293**	**53.7**
		>8 hours/day	153	28.0
15	Nature of the business	Manufacturing	138	25.3
		Service	**295**	**54.0**
		Trading	113	20.7
16	Industry involved in	Food	99	18.1
		Textiles and Apparel	**144**	**26.4**
		Beauty and health care	58	10.6
		Engineering	33	6.0
		Computer related	43	7.9
		Mobile services	22	4.0
		Financial Services	86	15.8
		Any others	61	11.2
17	Years of experience in business	**< 2 Years**	**199**	**36.4**
		2 – 4 Years	120	22.0
		5 – 7 Years	88	16.1
		7 – 9 years	38	7.0
		> 10 Years	101	18.5
18	Years of work experience	**< 2 years**	**297**	**54.4**
		2 – 4 years	158	28.9
		5 – 7 Years	38	7.0
		7 – 9 years	17	31
		Nil	36	6.6

S.No	Demographic Factors	Categories	Frequency	Percent
19	Type of business organization	**Sole Proprietorship**	**358**	**65.6**
		Partnership	188	34.4
20	Type of the business	Family Business	207	37.9
		First generation Entrepreneur	**339**	**62.1**
21	Source of borrowing	Friends and Relatives	181	33.2
		Co-operative society	57	10.4
		Banks	**255**	**46.7**
		Financial institutions	53	9.7
22	Motivational factor to start business	Previous work experience	83	15.2
		Passion	**251**	**46.0**
		Successful role model	28	5.1
		Support from family members	164	30.0
		Favourable government policy	20	3.7
23	Involvement of the firm in social activities	Very strong level	55	10.1
		Strong level	73	13.5
		Moderate	**218**	**39.9**
		Low level	126	23.1
		Very low level	74	13.6
24	Size of the business enterprise	**Small scale**	**356**	**65.2**
		Medium scale	190	34.8

Table-4.1 indicates the demographic profile of the respondents selected in Coimbatore city. It could be observed from the table that 44.4% of the respondents belong to the age group of 35-45 years, completing under-graduation (46.2%), hailing

from urban area (65.4%) and dwelling in own house (71.4%). 96.7% of the respondents are married and have nuclear family (68.7%). 70.3% of the respondents have below 5 members in their family and 49.6% of them have 2-4 members earning in their family. 56.2% has less than 2 children.

Most of the respondent's spouse are entrepreneurs (45.4%) and they earn an annual family income of Rs.5-10lakhs (43%). Nearly 56.8% of the respondents spend less than 2 hours for their leisure activities and out of this, 27.3% spend their leisure time in listening to music. It is also evident that 53.7% of the women entrepreneurs spent 5-8 hours/day for business activity and are involved in services sector (54%). Majority of the respondents own textiles and apparels business (26.4%). 36.4% of the respondents have less than 2 years of experience in business and 54.4% of them have less than 2 years of work experience. Nearly 62% of the respondents are first generation entrepreneurs, managing sole-proprietorship business units (65.6%). Table 4.1 also points out that 46.7% of the respondents borrow funds from banks and their intense passion to do business (46%) served as the motivational factor to start business. 39.9% of them involve moderately in social activities and 65.2% of the respondents own small scale business units.

This finding is in tune with that of Hani (2015) and Shikare, (2015), who also found in their study that majority of the women entrepreneurs belonged to the age group of 35-45 years, are undergraduates, married, live in nuclear family and own sole-proprietorship business units, involved in textiles business. Women entrepreneurs tend to concentrate on sectors that are considered to be less profitable. They are mostly crowded, low order services or manufacturing (Marlow *et al*., 2008). Education can also reduce the pressure for staying at home of social stereotypes and can increase womens' overall confidence when involved in business environments (Budhwar *et al*., 2005). The educated and experienced women are more interested in becoming entrepreneurs than non-educated and inexperienced women (Kavita *et al*., 2008). Most women are in the age of 25 and 45, and support the contention that the people between the age of 25 and 45 are most likely to be involved in entrepreneurial activity (Reynolds *et al*., 2002). Therefore, the profile of the respondents show that most of the women entrepreneurs are inclined towards entrepreneurship. This sample is analysed for further understanding with respect to the objectives of the study.

4.2 Extent of support provided to women entrepreneurs

After understanding the profile of the respondents, this section is concerned with studying the motivational factor and extent of support given to the women entrepreneurs. It is possible for male entrepreneurs to focus exclusively on their business and excel, as they entrust the family responsibility to their life partners at home. In contrast, women entrepreneurs have a multifaceted and dual role to play at home and in the business, in terms of attending to daily household chores, taking care of the family and planning to manage her family, along with managing her business. She cannot compromise either her family or her business. She can be successful in her work-family balance and remain stress free and balanced, only when she gets enough needed support for her success. This analysis was done to understand the motivational factors for the woman to initiate her business and the extent of support received by them to perform well in today's business. Percentage analysis was used to study the motivational factors that encouraged women entrepreneurs to initiate their business. Motivational factors like previous work experience, passion, successful role-model, support from family members and favourable government policy were considered for the study.

Table 4.2 Motivational factor to start business

S.No.	Factors	Frequency	Percent	Cumulative Percent
1	Previous work experience	83	15.2	15.2
2	**Passion**	**251**	**46.0**	61.2
3	Successful role models	28	5.1	66.3
4	Support from family members	164	30.0	96.3
5	Favourable Government policy	20	3.7	100.0
	Total	546	100.0	

It is observed from the table 4.2 that strong passion to start their own business motivated 46 per cent of the respondents, staunch support from the family members motivated 30 per cent of them, their previous work experience motivated 15.2 per cent of

them, inspiration from successful role models motivated 5.1 per cent of them and favourable Government policy motivated 3.7 per cent of the respondents.

Strong passion to start their own business motivated 46 per cent of the respondents (Das, 2000; Lalhunthara, 2015). It is found that majority of the respondents had a strong dream, desire, ambition and interest to initiate their business ventures and contribute to the financial needs of the family and be economically independent. Staunch support from the family members motivated 30 per cent of them to set up their own business enterprises (Hegelsen, 1990; Marlow, 2002; Moore, 2003; Nguyen, 2005). Their support in guiding to manage the business, taking decisions, marketing the products and supporting with finance encouraged women to take up their own ventures.

Many of the respondents felt that their previous work experience (15.2 per cent) motivated them to initiate business firms (Cooper, 1981; Budhwar *et al.*, 2005; Sharif, 2014). Their basic education and previous work experience has given them enough confidence and expertise to delve into business, when there are not enough promotional opportunities in the work place because of glass-ceiling phenomenon. Inspiration from successful role models motivated 5.1 per cent of them to enter into business domain and favourable Government policy motivated 3.7 per cent of the respondents.

Many of the women entrepreneurs took up business initiatives with the government support through entrepreneurship development programs and got benefitted through financial support, incentives and favourable support policies for women entrepreneurs (Das, 2000). In Malaysia, psychological motives such as self-satisfaction, the search for independence, and source of finance have been found to be motivational factors for women entrepreneurs to start-up business (Nordin, 2005).

Non-parametric test using Friedman's Rank Correlation was performed to rank the support factors for women entrepreneurs to manage their business. Six factors were considered like support from spouse, children, friends, relatives, Government and Society. As the significance level was 0 .000, the rank correlation was accepted and the least mean was assigned the first rank.

Table 4.3 Extent of support provided to women entrepreneurs

S.No	Factors	Mean	Rank
1	Support from Spouse	1.98	1
2	Support from Children	3.36	3
3	Support from Friends	2.99	2
4	Support from Relatives	3.51	4
5	support from Government	4.45	5
6	Support from Society	4.71	6

Test Statistics[a]

N	546
Chi-Square	775.347
Df	5
Asymp. Sig.	.000
a- Friedman Test	

It is interpreted from the above table that the women entrepreneurs receive highest level of support from their spouse which is revealed through the lowest mean rank (1.98) derived from Friedman's Rank Correlation test and it is found significant as the significance level is 0 .000. The results proves that the women entrepreneurs receive maximum support and guidance from their spouse in managing the business through giving them business ideas, arranging for finance, tackling situations, dealing with suppliers, work force and customers, expanding the business and so on. They receive the next level of support from their friends (mean rank 2.99), who can provide moral support and contribute business ideas in running the business successfully.

The third level of support is from their relatives (mean rank 3.51), who extend their support through contributing business ideas and finance. The table 4.3 also reveals that children (mean rank 3.36) co-operate with their mothers in managing the business. They understand the situation of their mother and adjust accordingly, which is very much needed for the success of women entrepreneurs. This finding concurs with the study

made among Sylhet women entrepreneurs by Hani (2015) and Zaman *et al*., (2014), which reports that women entrepreneurs are getting enough support and co-operation from their spouse, children and other family members and have low levels of work-family conflict in their spousal or parental roles.

It is also observed that the women entrepreneurs receive less support from the Government (4.45) and Society (mean rank 4.52), when compared to all other factors. It can be said that society is not conducive enough to support the women entrepreneurs in managing the business. According to Nawaz (2009), women entrepreneurs are handicapped by the society as the society binds their role as daughter, wife and mother. Women are treated as home-makers within the four walls. Lack of encouragement hinders their path of success. The conservativeness attitude of the society hinders the mobility of the women entrepreneurs. Women are facing stiff competition and harassment from their male counterparts. Officials may reject their business proposal and their application for granting loan as they are female. Continual gender discrimination can create frustration in the minds of women entrepreneurs.

It is also evident from the above table that the lower level of support is provided by the Government (mean rank 4.62), wherein women entrepreneurs face difficulties in getting licenses, seeking technical and financial support and completing procedural formalities to start the business (Khanka, 2009). Though many financial schemes are announced by the Government, the women entrepreneurs find it difficult to seek the benefits of them owing to low level of awareness among the women folks, procedural difficulties and complexities involved. Unlike Male entrepreneurs, they are not moving forward to take such kind of support. It is also observed in this study among women entrepreneurs that political activity hampers their entrepreneurial activity. Having analysed the motivational and support factors for the study, next analysis is focused on analysing the barriers for women entrepreneurs.

4.3 Barriers faced by women entrepreneurs

Women entrepreneurs have to break their 'glass-ceiling' and come out to prove successful in their business. In the course of their business, they are surmounted with mountains of hurdles that deters them from moving forward. Identifying the barriers and

facing them sternly will help them to strengthen their performance and excel in their business. This study has focused on examining the barriers faced by women entrepreneurs based on earlier studies and used Friedman's rank correlation to rank the barriers faced by them.

The barriers considered were lack of support from family and friends, lack of technical education, non-availability of collateral property for securing loans, difficulty in managing work-family life balance, lack of managerial and marketing skills, poor networking skills, low risk bearing ability, low level of mobility and lack of role-models, mentors and peer support. The factors were subjected to Friedman's Rank correlation test and the mean scores are presented in the table 4.4 along with their significance level and rankings.

Table 4.4 Barriers faced by Women Entrepreneurs

S.No	Barriers	Mean	Rank
1	Lack of support from family and friends	6.14	9
2	Lack of technical education	5.30	7
3	Non-availability of collateral property	5.03	5
4	Difficulty in managing work-family life	4.38	1
5	Lack of managerial and marketing skills	4.48	2
6	Poor networking skills	4.51	3
7	Low risk bearing ability	4.53	4
8	Low level of mobility	5.05	6
9	Lack of role-models, mentors and peer support	5.58	8

Test Statistics[a]	
N	546
Chi-square	207.020
Df	8
Asym sig.	0.000
a- Friedman Test	

Table 4.4 exhibited the barriers in the following order- difficulty in balancing family-work life (mean rank- 4.38), lack of managerial and marketing skills (mean rank-4.48), Poor networking skills (mean rank 4.51), low risk bearing ability (mean rank 4.53), Non-availability of Collateral security for seeking loans (mean rank 5.03), low level of mobility (mean rank 5.05), lack of technical education(mean rank 5.30), lack of role models, mentors and peer support (5.58) and lack of support from family and friends (mean rank 6.14).

Friedman's Correlation Test found the results significant (p< 0.000) and revealed that balancing work and family life (least mean rank 4.38) was the major barrier for the women entrepreneurs in their business. Number of studies (Rangan *et al*., 2010; James *et al*., 2015）support the same reason where women entrepreneurs are found to have major obstacles in balancing their work and family life. They found it very difficult to manage the family chores and business matters simultaneously. They felt stressful if they do not receive the needed support from their family members in fulfilling the domestic commitments. Disturbed state of mind in the family due to unfulfilled responsibilities and promises made to the family members at home, leads women entrepreneurs to confusion in the business performance too. As the result, they lose their business focus, remain agitated in the business, fail to deal with work force properly and take ineffective business related decisions.

The second barrier for women entrepreneurs was the lack of managerial and marketing skills (Nardone *et al*., 2007). As the respondents started their business, out of passion, they were lagging behind with managerial and marketing skills. They found it difficult to manage all the business tasks initially, but with experience they have learned the art of prioritizing the activities and delegating tasks. This made them versatile in handling diverse business related activities. The respondents found it very difficult to understand the demand from customers in the market and plan the production accordingly. They understand the need to update them with market information and trends, which is really a daunting task for them. The critical task for them lies in establishing and maintaining the marketing networks and sustaining them. (Akhalwaya *et al*., 2012).

Unlike the male entrepreneurs, women entrepreneurs are not versatile in networking skills (Ghani *et al.*, 2012; DeWine *et al.*, 1989). Poor networking skills acts as next barrier for their business performance (Marlow *et al.*, 2005; Brush *et al.*, 2002). Owing to their poor mobility and connectivity, they fail to socialize and make new business friends (Rao *et al.*, 2015). Their poor participation in conferences and trade fairs lead to obsoleteness in business practices. Having been in the comfort zone from their young age at home, protected by their family members, many of the respondents experienced low risk bearing ability. They do not divulge into new innovative ideas and instead follow proven business practices.

Some of the respondents also opined that they do not get enough financial support from banks, as they do not have properties in their name for attaching as collateral security to seek financial loans. They need to depend on their father or husband to pledge their property and seek bank loans (James, 2015).

The least barriers were lack of technical education, lack of role models and lack of support from family and friends (Kolstad *et al.*, 2013; Van der Sluis *et al.,* 2005). This proves that most of the entrepreneurs had required technical knowledge and competence to take up their business, had valuable mentors to guide and facilitate them in their business and acquired appreciable support from their spouse, family members, relatives and friends (Kumar, 2006; Khanka, 2010).

This finding is in tune with the study conducted by Rupali (2011) among 700 women entrepreneurs from selected seven regions of Maharashtra, which revealed that 55.42% of the women entrepreneurs resorted to manufacturing, 37.57% of them resorted to services, 11.28% of them are in food processing, 7% of them in trading and 48% in other categories. The study highlighted that 519 women entrepreneurs out of 700 entrepreneurs felt time management and work life balance to be their major problem, 363 of them found it difficult to deal with bureaucratic pressures, 133 of them found they had poor support from family and Government, 88 of them had ambiguity in managing business, 28 of them felt gender biasedness and 8 of them found it difficult to update technology and expand their business. The result in their study indicates that managing family and work life was the major barrier and lack of support from family and friends

was the least barrier for the women entrepreneurs. This is in agreement with the earlier finding from table 4.3, which revealed that level of support for the women entrepreneurs in this research study was high from family (mean rank 1.84), friends (mean rank 2.77) and relatives (3.54).

Therefore, it is imperative that difficulty in managing work-family life is the strong barrier followed by lack of marketing and managerial skills, poor networking skills, low risk bearing ability, non-availability of collateral property as security for getting loans and low level of mobility. The study points out that lack of technical education, lack of role-models, mentors and peer support and the lack of support from family and friends, to be the least barriers for women entrepreneurs in managing their business. Having analysed the barriers for women entrepreneurs, next analysis proceeds with studying the perception of the respondents towards the components of emotional intelligence, work engagement and subjective well-being.

4.4 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being of Women Entrepreneurs

Several research studies point out that managing emotions at work place can improve the performance of work and lead to happiness and satisfaction of the women entrepreneurs. This analysis aims to understand the perception of women entrepreneurs towards the emotional intelligence, work engagement and subjective well-being. In the research study, emotional intelligence was measured using seventy three statements on a five point scale from 1-5, using Emotional Competence Inventory -360, version 2.0 developed by Daniel Goleman, Richard Boyatzis and Hay group.

Work engagement is the extent to which a person is involved and committed in the work and was measured using Utrecht Work Engagement Scale on a seven point scale with the support of seventeen questions dealing with dedication, vigour and absorption. Mean and standard deviation of the components of the two variables are given and discussed below in the table 4.5. Subjective well-being was measured using four statements on a six point scale.

Table 4.5   Over all perception of Emotional Intelligence, Work Engagement and Subjective Well-being of Women Entrepreneurs

The mean values of the variables and their standard deviation was calculated to determine the average scores and the variation in the characteristics and it is depicted in Table 4.5.

Components	Mean	Standard Deviation
Self-awareness	3.4174	0.376
Self-management	3.6462	0.483
Social awareness	3.6509	0.519
Social skills	3.6791	0.538
Emotional Intelligence (in total)	**3.6238**	**0.438**
Dedication	4.8762	1.019
Vigour	4.7110	0.934
Absorption	4.6954	0.998
Work Engagement (in total)	**4.7541**	**0.896**
Subjective Well-being (in total)	**4.6374**	**1.052**

It is observed from Table 4.5 that the mean value for social skills (3.6791) is higher than all other components and it is perceived to be the influential factor in determining the emotional intelligence of women entrepreneurs in the study. It reveals that understanding others and managing social relationship with their business stake-holders is more important for the women entrepreneurs in their business, more than understanding and managing themselves. It emphasises that presence of leadership skills, influencing power, attitude to change, conflict management and team work, can enhance the emotional intelligence of women entrepreneurs and could support them to perform well in their business. The mean value for social awareness is 3.6509, for self-management, it is 3.6462 and 3.4174 for self-awareness, which is all lower than the mean value of social skills.

It is also observed from Table 4.5 that the standard deviation is highest for social skills (0.538) and social-awareness (0.519), which indicates that perception of the respondents towards these variables are highly varying than all other dimensions. Standard deviation is low for self-awareness (0.376) in emotional intelligence, which shows that they are fully aware of themselves.

Table 4.5 also indicates that the mean value of dedication (4.8762) and the standard deviation (1.019) is highest, when compared to vigour and absorption. Dedication is perceived to be the influential factor in influencing the work engagement of women entrepreneurs considered in this research study. This reveals that women entrepreneurs with dedication understand the purpose of their business, accept challenges and love to excel in their performance.

The table also reveals that mean value for subjective well-being is 4.6374 in the scale of 0 to 6 and the standard deviation is 1.052 and this highlights that the respondents have high level of subjective well-being and the happiness towards their business performance. Thus, this analysis reveals that respondents score high in emotional intelligence (social skills), work engagement (dedication) and subjective well-being, which is influential in determining their success in the business. Having a fair understanding of the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being, next analysis is carried out to know the association between different sets of variables using chi-square analysis.

4.5 Testing the association between age of the respondents and their time spent in business activity using Chi square analysis

It is imperative to study the association between the age of the respondents and their time spent in the business activity. It is normally understood that experienced people devote more time in their business and that might be one of the reason for their success. Chi-square, designated by χ^2, is a popular non-parametric statistical test to check the association between the two categorical variables. Here, the association between the age of the respondents and the time spent on business activity is tested. The age of the respondents is categorised into four groups namely- < 25 years, 25-35 years, 36-45 years, and > 45 years. The time spent by the respondents in business activity was classified into three categories namely-< 5 hours/day, 5-8 hours/day and > 8 hours /day.

Hypothesis is stated as:

H_{o1-} **There is no significant association between the age of the respondents and their time spent in business activity.**

H_{a1-} **There is significant association between the age of the respondents and their time spent in business activity.**

The results of the cross table between the age of respondents and the time spent in business activity is presented below in the Table 4.6

Table 4.6 Cross table between Age of the respondents and their Time spent in business activity

Age of the Respondents	Time spent by the firm in business activity			Total
	< 5 hours/day	5-8 hours/day	> 8 hours/day	
Below 25 years	47	85	54	186
25-35 years	19	84	26	129
36-45 years	17	84	44	145
Above 45 years	17	40	29	86
Total	100	293	153	546

It is evident from the table 4.6, that among 546 respondents, 186 of them are below 25 years, 129 of them, are between 25-35 years, 145 of them, are from 36 – 45 years and 17 of them, are above 45 years of age. Among them, 100 respondents spent less than 5 hours per day, 293 respondents spend 5-8 hours per day and 153 of them spend more than 8 hours per day. Unmarried women entrepreneurs are able to spend more time for business, when compared to the married women entrepreneurs. It is in tune with the study made by Reynolds *et al*., 2002, who reported in his finding that most of the women entrepreneurs are in the age of 25 and 45, and support the contention that the people between the age of 25 and 45 are most likely to be involved in entrepreneurial activity.

The table 4.6 also points out that the women entrepreneurs at all age groups spend nearly 5-8 hours/ day in their business activity. As the women entrepreneurs have to play a dual role to perform both, at home and at work place, they need to schedule their time in performing their tasks and plan accordingly. On an average, it is possible for the women entrepreneurs from all age groups, only to spend 5-8 hours in their business schedule and devote rest of their time for family commitments.

Table: 4.7 Chi-square output between Age of the respondents and their time spent in business activity

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.211	6	0.003**
Likelihood Ratio	20.441	6	0.002**
Linear-by-Linear Association	3.344	1	0.067
N of Valid Cases	546		

[**] Significant at 0.01 level

It is observed from the table 4.7 that there is significant association (χ^2 = 20.211, p < 0.05) between the age of respondents and their time spent in business activity. Null hypothesis is rejected, which indicates that there is significant association between age of the respondents and their time spent in business activity. The result confirms that the women entrepreneurs of all age groups have equal chance of spending 5-8 hours/day in their business activity. As they need to take care of their family also, it is evident that the women entrepreneurs of all age groups invariably spend on an average 5-8 hours/ day in their business activity, unlike men, who can devote more time in their business every day. And less number of people who are more than 36 years of age spend less than 5 hours in entrepreneurial activity. This indicates that with age, the entrepreneurial activity also increases. Most of the women entrepreneurs less than 45 years of age spend 5.8 hours of solid time for their business as they are able to afford the same in spite of their family commitments. The test shows a strong association between the age groups and the time spend in business activity.

4.6 Testing the association between the Motivational factor to start a business and the Type of business using Chi square analysis

This study intends to examine the association between the motivational factor for the women entrepreneur to start the business and the type of business to be started. Previous work experience, passion, successful role models, support from family members and favourable government policy were considered as motivational factors in this study, which enables the women entrepreneurs to initiate their business. Type of business was categorised into two as family business and first generation entrepreneurs. Chi-square, designated by χ^2, is a popular non-parametric statistical test to check the association between the motivational factor to start the business and the type of business.

Hypothesis is stated as:

H_{o2}- **There is no significant association between the motivational factor to start a business and the type of business.**

H_{a2}- **There is significant association between the motivational factor to start a business and the type of business.**

The results of the cross table between the motivational factor to start a business and the type of business is presented below in the table 4.8.

Table 4.8 Cross table between the motivational factor to start a business and the type of business

Motivational factors to start the business	Type of business		Total
	Family Business	First generation entrepreneur	
Previous work experience	35	48	83
Passion	76	175	251
Successful role models	13	15	28
Support from family members	79	85	164
Favourable Government policy	4	16	20
Total	207	339	546

It is evident from the table 4.8, that among 546 respondents, 251 respondents have started the business out of their own passion, 164 of them, with the support of family members, 83 of them, out of previous work experience, 28 of them, with inspiration from successful role-models, and 20 of them due to favourable Government policy. The table 4.8 also points out that 207 respondents own family business and 339 are first generation entrepreneurs. It is evident from the table that with the active support given by the government in promoting women entrepreneurship, more and more number of women folks are passionate to start their own business ventures and manage successfully. It portrays that the following factors like self-interest, advent of technology, availability of finance, demand for products and services, innovative minds to come out with new product and services, promising business opportunity, entrepreneurial attitude and motivation has given rise to number of first generation women entrepreneurs.

Table: 4.9 Chi-square output between the Motivational factor to start the business and the type of business

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.773	4	0.001
Likelihood Ratio	18.015	4	0.001
Linear-by-Linear Association	2.697	1	0.101
N of Valid Cases	546		

[**] Significant at 0.01 level

It is observed from the table 4.9 that there is a significant association (χ^2 = 17.773, p < 0.05) between the motivational factor to start the business and the type of business. Hence, null hypothesis is rejected, which indicates that there is a significant association between the motivational factor to start the business and the type of business. The result confirms that more number of first generation entrepreneurs started business out of their own passion and self-interest. The results of this study concurs with the study on women entrepreneurs at Mizoram (Lalhunthara, 2015), which reported that the

passion and ambition to contribute to the financial needs of the family, need for an independent living, improved skillsets, knowledge and training received, motivation from family members, desire to do something positive, managerial talents and abilities in business, and ambitious mind served as motivators to initiate a business venture. Unconditionally, few women entrepreneurs also undertook the responsibility of managing their family business. Therefore the study proved that women entrepreneurs were becoming more passionate, competent, ambitious and confident to exploit their entrepreneurial talents and opportunities through initiating business ventures.

4.7 Testing the association between the Size of the business enterprise and the involvement of the firm in Social activities using Chi square analysis

It is pertinent to study in today's business scenario, the association between the size of the business enterprise and the involvement of the firm in social activities. As the Indian government has made it mandatory only for the corporates, to apportion two per cent of its profit every year on corporate social initiatives, it is a voluntary consciousness for the small firms to spend some amount and involve in social initiatives. It is a social service for the small business firms, if they concentrate on producing a quality product, following ethical business practices, conserving resources and protecting the society with pollution-free environment.

This study tests the association between the size of the business enterprise and their extent of involvement in social activities. The size of the business enterprise was divided into small scale and medium scale business units. The extent of the level of involvement of the firm in social activities was categorised into very high level, high level, moderate level, low level and very low level. Chi-square, designated by χ^2, is a popular non-parametric statistical test to check the association between size of the firm and the involvement of the firm in social activities.

Hypothesis is stated as:

H_{o3} - There is no significant association between the size of the firm and the involvement of the firm in social activities.

H_{a3-} There is significant association between the size of the firm and the involvement of the firm in social activities.

The results of the cross table between size of the firm and the involvement of the firm in social activities is presented below in the Table 4.10

Table 4.10 Cross table between size of the firm and the involvement of the firm in social activities

Size of the firm	Involvement of the firm in social activities					Total
	Very strong	Strong level	Medium level	Low level	Very low level	
Small scale	31	41	134	93	60	359
Medium scale	24	32	84	33	14	187
Total	55	73	218	126	74	546

It is evident from the table 4.10, that among 546 respondents, 359 respondents are involved in small business and 187 respondents are involved in medium-scale business. Out of the total number of respondents, 218 has medium level of involvement, 126 has low level of involvement, 74 women entrepreneurs has very low level of involvement, 73 have strong level of involvement in social activities and 55 women entrepreneurs have very strong level of involvement in social activities. The table 4.10 also points out that both small and medium scale enterprises involve at medium level in social activities.

Table: 4.11 Chi-square output between the size of the firm and their involvement in social activities

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.264^a	4	0.001^{**}
Likelihood Ratio	19.022	4	0.001^{**}
Linear-by-Linear Association	15.940	1	0.000^{**}
N of Valid Cases	546		

[**] Significant at 0.01 level

It is observed from the Table 4.11, that there is significant association (χ^2 = 18.264, p < 0.05) between size of the firm and involvement of the firm in social activities. Hence, Null hypothesis is rejected, which indicates that there is a significant association between size of the firm and involvement of the firm in social activities. The result confirms that small and medium scale firms have medium level of involvement in social activities like tree planting, supporting orphanages and elder homes, providing food and medical care for the poor, supplying free books and scholarships for poor students and developing sanitation and hygiene in rural schools and developing the school infra-structure. Gen Y women entrepreneurs has a high level of social consciousness (Glass, 2007; Shih *et al.,* 2007; Gravett *et al.,* 2007). They desire for volunteering themselves for the social cause. It makes a great sense of obligation to make positive contribution towards society and health of the planet. Hence, this study shows that there is a strong association between the type of the firm owned and involvement of the firm in social activities

4.8 Perception towards Emotional Intelligence, Work Engagement and Subjective well-being based on the demographic and business related factors of the respondents

This study attempts to explore the perception of women entrepreneurs towards their emotional intelligence, work engagement and subjective well-being based on their demographic and business related factors. Age, annual family income and educational level of the women entrepreneurs are the demographic factors considered for the study. Years of experience in business, nature of business and time scheduled for business activity were the business related factors used for studying the perception of the women entrepreneurs towards their emotional intelligence, work engagement and subjective well-being.

4.8.1 Perception towards Emotional Intelligence, Work Engagement and Subjective well-being based on the Age of the respondents

The existing level of emotional intelligence, work engagement and subjective well-being, as per the age of the respondents was compared using analysis of variance (ANOVA) technique. Age of the respondents was classified into four categories namely below 25 years, 25-35 years, 35-45 years and above 45 years. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived.

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Hypothesis was formulated to test the above parameters and is given below:

H$_{o4-}$ **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the age group of the respondents.**

H$_{a4-}$ **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the age group of the respondents.**

Table 4.12 Test of Homogeneity of Variances

Variables	**Levene Statistic**	df1	df2	**Sig.**
Emotional intelligence	3.305	3	542	0.020**
Work engagement	1.013	3	542	0.387
Subjective well-being	4.785	3	542	0.003**

** indicates significance at .05% level

Table 4.12 indicates that the p value is 0.020 for emotional intelligence and 0.003 for subjective well-being. As the Levene test statistic is significant since p value is less than 0.05, the variances are significantly different. The different age groups vary with emotional intelligence and subjective well-being.

It is also seen from the table 4.12 that Levene test statistic is not significant for work engagement (0.387), as P value is greater than 0.05. Therefore, we assume that variance in work engagement are approximately equal between all age groups. Thus, the assumption of homogeneity of variances was tested and found tenable using Levine's test, and hence, we refer to ANOVA table for studying the mean differences.

It is observed from the Table 4.13 that the mean value is highest for the variables of emotional intelligence, work engagement and subjective well-being, under the age group of 36-45 years. The standard deviation is lowest for emotional intelligence in the age group of less than 25 years (0.3861), which indicates that this group of respondents have similar perception on emotional intelligence. The standard deviation for work engagement is lowest in the age group of 36-45 years (0.8601) and the standard deviation

for subjective well-being is lowest in the age group of more than 45 years (0.8488). The highest mean value for emotional intelligence, work engagement and subjective well-being is in the age group of 36-45 years.

Table 4.13 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being, based on the age of respondents – ANOVA Table

Variables	Age of the Respondents	N	Mean	Standard Deviation	F	P value
Emotional Intelligence	<25 years	186	3.5936	**0.3861**	2.100	0.099
	25-35 years	129	3.5879	0.4768		
	36-45 years	**145**	**3.7008**	0.4458		
	>45 years	86	3.6131	0.4654		
	Total	546	3.6238	0.4387		
Work Engagement	<25 years	186	4.5829	0.8630	5.924	0.001[**]
	25-35 years	129	4.6826	0.9046		
	36-45 years	**145**	**4.9675**	**0.8601**		
	>45 years	86	4.8721	0.9415		
	Total	546	4.7541	0.8968		
Subjective well-being	<25 years	186	4.3723	1.1895	7.578	0.000**
	25-35 years	129	4.6453	0.9528		
	36-45 years	**145**	**4.9000**	0.9848		
	>45 years	86	4.7558	**0.8488**		
	Total	546	4.6374	1.0520		

**- significant at .05% level

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of emotional intelligence, work engagement and subjective well-being on the age of the respondents (N=546). The ANOVA was not significant in emotional intelligence, as F =2.100; P= 0.099, which means that the null hypothesis is accepted and that there is no significant mean differences in the emotional intelligence of women entrepreneurs, based on the age group

of respondents. It reveals that age group of the women entrepreneurs do not have much of difference in their emotional intelligence as it is inherent in a person irrespective of ages. This finding is in tune with that of Kafetsios (2004), who reported that middle aged persons scored higher emotional intelligence than the younger persons. This is in contradiction to the findings of Carstensen *et al.,* (2000) and Charles (2005) who found that optimum emotional intelligence tends to increase with age. The table also revealed that, null hypothesis is rejected, as there is significant mean differences in the work engagement of women entrepreneurs, as $F = 5.924$; $P = 0.001$, and in the well- being as, $F = 7.578$: $P = 0.000$, based on the age group of respondents. It is inferred that work engagement and subjective well-being differs with age group of respondents. Post Hoc tests will reveal the exact difference in the variables over the age groups.

Table 4.14 Post Hoc tests - Homogeneous Subsets - Emotional Intelligence – Tukey's B

| Age of respondents | N | Subset for alpha = 0.05 |
		1
25-35 years	129	3.5879
<25 years	186	3.5936
>45 years	86	3.6131
36-45 years	145	3.7008

The above table 4.14 reveals that mean values for emotional intelligence are relatively the same for all age groups. It does not vary with age groups of the women entrepreneurs. This clearly reveals that emotional intelligence can be developed irrespective of ages and as it is a psychological phenomenon, it is evident that, with the interest of the women entrepreneur, it can be developed at any age. The means of emotional intelligence of women entrepreneurs at all age groups lie above 3.5 in the scale of 5, which indicates a high emotional intelligence among all age groups of women entrepreneurs.

Table 4.15 Post Hoc tests - Homogeneous Subsets - Work Engagement – Tukey's-B

Age of respondents	N	Subset for alpha = 0.05		
		1	2	3
<25 years	186	4.5829		
25-35 years	129	4.6826	4.6826	
>45 years	86		4.8721	4.8721
36-45 years	145			4.9675

The above table 4.15 reveals that perception of the women entrepreneurs towards work engagement differs in the age group of less than 25 years and between 36-45 years. It remains with same perception in the age group of 25-35 years and more than 45 years of age. As respondents in the age group of 25-35 years are in the beginning of their business career, they tend to be focussed in their business and thus need to have more of work engagement.

Similarly, women entrepreneurs of more than 45 years of age have relatively rich business experience, and show keen interest to develop and expand their business, which calls for more work engagement. However, the means of work engagement for all age groups are above 4.5 in a scale of 6, which implies that work engagement is high for all age group of entrepreneurs. Work engagement is found to be high in the age group of 36-45 years of respondents, which clearly shows that women entrepreneurs of this age group, are more committed, involved, dedicated in their work, leading to accomplishment of business success and happiness in their work.

Table 4.16 Post Hoc tests - Homogeneous Subsets – Subjective Well-being – Tukey's B

Age of respondents	N	Subset for alpha = 0.05	
		1	2
<25 years	186	4.3723	
25-35 years	129	4.6453	4.6453
>45 years	86		4.7558
36-45 years	145		4.9000

The above table 4.16 reveals that perception of the women entrepreneurs remains the same in the age group of 25-35 years of age and differs in perception with respondents under 25 years of age, 36-45 years and more than 45 years of age. Highest subjective well-being of 4.9 in the scale of 6 is found among women entrepreneurs in the age group of above36-45 years. This symbolises that they are content and satisfied with their business accomplishments, which translates into their happiness and good health. This is the time, they try to groom their successors, to take the mantle next. The mean value of subjective well-being among all age groups range above 4.3 in the scale of 6, which implies that women entrepreneurs of all age groups have high subjective well-being as a whole, but it is the highest in the age group of 36-45 years.

4.8.2 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being, based on the Education of the respondents

This study brings to focus the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being based on their educational level. Educational level of the respondents was assorted into the following levels- no formal education, school level, under -graduation, post-graduation, diploma and professional level. The existing level of emotional intelligence, work engagement and subjective well-being, as per the education of the respondents was compared using analysis of variance (ANOVA) technique. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived.

Hypothesis was formulated to test the above parameters and is given below:

H_{o5-} **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the education levels of the respondents.**

H_{a5-} **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the education levels of the respondents.**

Table 4.17 Test of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Emotional Intelligence	1.901	5	540	0.092
Work engagement	1.794	5	540	0.112
Subjective well-being	1.914	5	540	0.090

Table 4.17 indicates that the P value is 0.092 for emotional intelligence, 0.112 for work engagement and 0.090 for subjective well-being. As the Levene test statistic is not significant since P value is greater than 0.05, we accept the null hypothesis and hence assume that the variances are approximately equal in the three variables. This implies that irrespective of the education level, the perception of the women entrepreneurs towards emotional intelligence, work engagement and subjective well-being remains the same. The table clearly depicts that the educational qualification has no impact on their emotional intelligence (Ahuja, 2012), work engagement and subjective well-being.

Table 4.18   Perception towards Emotional Intelligence, Work Engagement and Subjective Well-being based on the Education of the respondents – ANOVA table

Variables	Education of the Respondents	N	Mean	Standard Deviation	F	P value
Emotional Intelligence	No formal education	10	3.4370	0.5868	1.344	0.244
	School level	74	3.5365	0.4860		
	UG level	252	3.6533	0.4277		
	PG level	169	3.6341	0.4147		
	Diploma holder	14	3.5274	0.5244		
	Professional	27	3.6423	0.4339		
	Total	546	3.6238	0.4387		

Variables	Education of the Respondents	N	Mean	Standard Deviation	F	P value
Work Engagement	No formal education	10	4.3882	1.0450	3.056	0.010[**]
	School level	74	4.5159	0.8443		
	UG level	252	4.7810	0.8329		
	PG level	169	4.8945	0.9445		
	Diploma holder	14	4.3193	0.9453		
	Professional	27	4.6383	1.0517		
	Total	546	4.7541	0.8968		
Subjective well-being	No formal education	10	4.3250	0.8253	1.569	0.167
	School level	74	4.5169	0.8269		
	UG level	252	4.6200	1.0339		
	PG level	169	4.7589	1.1807		
	Diploma holder	14	4.1250	1.1919		
	Professional	27	4.7500	0.8204		
	Total	546	4.6374	1.0520		

** Significant at 0 .05% level

It is observed from the Table 4.18 that the mean value is highest for emotional intelligence among undergraduates (3.6533), while work engagement (4.8945) and subjective well-being (4.7589) are highest among respondents who are post graduates. The standard deviation is lowest for emotional intelligence among post graduates (0.414), which indicates that this group of respondents have similar perception on emotional intelligence. The standard deviation for work engagement is lowest among undergraduates (0.833), which means that this group of respondents have the same perception towards work engagement when compared to others. The standard deviation for subjective

well-being is lowest among professionals (0.820), which means that this group of respondents have the same perception towards subjective well-being when compared to varying perception on subjective well-being by all the other groups. The highest mean value for emotional intelligence among undergraduates indicate that they are cool and have good control over their emotions. Work engagement and subjective well-being are high among the post graduates, which symbolizes that they are committed, involved and feel satisfied with their work.

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of emotional intelligence, work engagement and subjective well-being on the education of the respondents (N=546). The ANOVA was not significant in emotional intelligence, as F =1.344; P=0.244 and in the subjective well-being, F = 1.569: P=0.167, based on the education level of the respondents, which means that the null hypothesis is accepted and that there is no significant mean differences in the emotional intelligence and subjective well-being of women entrepreneurs, based on their education. The table also revealed that, null hypothesis is rejected, as there is significant mean differences in the work engagement of women entrepreneurs, as F = 3.056; P= 0.010 and is inferred that work engagement differs with education level of respondents and it is high among the women entrepreneurs, who are post -graduates (4.895 in the scale of 6), who has additional expertise when compared to undergraduates and the other groups.

Post Hoc test from the Table 4.19 and 4.20 reveals that groups are not significantly different from one another and therefore, education level of the women entrepreneurs do not have much of differences in their emotional intelligence and subjective well-being, as it is inherent in a person irrespective of education.

Table 4.19 Post Hoc test – Homogenous subset-Emotional intelligence- Tukey's

Educational level of the respondents	N	Subset for alpha = 0.05
No formal education	10	3.4370
Diploma holder	14	3.5274
School level	74	3.5365
Post Graduate level	169	3.6341
Professional	27	3.6423
Under graduate	252	3.6533

Table 4.20 Post Hoc Test – Homogenous subset – Subjective Well-being – Trkey's B

Educational level of respondents	N	Subset for alpha = 0.05
		1
Diploma holder	14	4.3193
No formal education	10	4.3882
School level	74	4.5159
Under Graduates	252	4.7810
Professional	27	4.6383
Post Graduates	169	4.8945

Table 4.21 Post Hoc Test – Homogenous subset – Work Engagement – Trkey's B

Educational level of respondent	N	Subset for alpha = 0.05
		1
Diploma holder	14	4.3193
No formal education	10	4.3882
School level	74	4.5159
Professional	27	4.6383
Under Graduate	252	4.7810
Post Graduate	169	4.8945

Table 4.22 Multiple Comparisons Table - LSD

(I) Educational level of respondent	(J) Educational level of respondent	Mean Difference (I-J)	Std. Error	Sig.
No formal education	School level	-.12766	.29935	.670
	Under Graduate	-.39281	.28649	.171
	Post Graduate	-.50630	.28916	.081
	Diploma holder	.06891	.36787	.851
	Professional	-.25011	.32891	.447
School level	No formal education	.12766	.29935	.670
	UG level	**-.26515***	**.11748**	**.024**
	PG level	**-.37864***	**.12385**	**.002**
	diploma holder	.19657	.25895	.448
	professional	-.12245	.19977	.540
UG level	No formal education	.39281	.28649	.171
	School level	**.26515***	**.11748**	**.024**
	PG level	-.11349	.08834	.199
	Diploma holder	.46172	.24397	.059
	Professional	.14270	.17992	.428
PG level	No formal education	.50630	.28916	.081
	School level	**.37864***	**.12385**	**.002**
	UG level	.11349	.08834	.199
	Diploma holder	**.57521***	**.24710**	**.020**
	Professional	.25619	.18415	.165
Diploma holder	No formal education	-.06891	.36787	.851
	School level	-.19657	.25895	.448
	UG level	-.46172	.24397	.059
	PG level	**-.57521***	**.24710**	**.020**
	Professional	-.31902	.29262	.276
Professional	No formal education	.25011	.32891	.447
	School level	.12245	.19977	.540
	UG level	-.14270	.17992	.428
	PG level	-.25619	.18415	.165

*significant at 0.05% level

The difference in the perception of the respondents across various education levels is observed through Multiple Comparisons Table using LSD in the Table 4.22. The results show that there is significant difference in the perception of the respondents towards work engagement between School level and Under graduate level of respondents (p= 0.024), School level and Post graduate level of respondents (p = 0.002) and between Diploma holders and Post graduate level of respondents (p = 0.020). Perception of women entrepreneurs towards emotional intelligence (Brooks, 2002; Mishra *et al*., 2010 & Rahim, 2010) and subjective well-being remains the same irrespective of the different levels of education, but perception of the respondents towards work engagement differs with different educational levels.

Hence, it is observed that there is a significant difference in the perception of the respondents between three levels of education towards work engagement, but there is no significant difference in the perception of respondents towards emotional intelligence and subjective well-being across different educational levels.

4.8.3 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being, based on the Annual family income levels of the respondents

This analysis helps to have a better understanding of the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being based on the differing annual family income levels. Annual family income levels were identified as below Rs.5 lakhs, Rs.5-10 lakhs and above Rs.5 lakhs. The existing level of emotional intelligence, work engagement and subjective well-being, as per the income levels of the respondents was compared using analysis of variance (ANOVA) technique. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived. Hypothesis was formulated to test the above parameters and is given below:

H_{o6-} **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the income levels of the respondents.**

H_{a6-} **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the income levels of the respondents.**

Table 4.23 Test of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Emotional intelligence	2.577	2	543	0.077
Work engagement	1.171	2	543	0.311
Subjective well-being	2.285	2	543	0.103

Table 4.23 indicates that the P value is 0.077 for emotional intelligence, 0.311 for work engagement and 0.103 for subjective well-being. As the Levene test statistic is not significant since P value is greater than 0.05, the variances are approximately equal.

Thus, the assumption of homogeneity of variances was tested and found tenable using Levine test, and hence, we refer to ANOVA table for studying the mean differences.

Table 4.24 Perception towards Emotional Intelligence, Work Engagement and Subjective Well-being based on the income level of the respondents – ANOVA table

Variables	Income (Rs.)	N	Mean	F	P value
Emotional Intelligence	<Rs.5 lakhs	217	3.5255	12.096	0.000
	Rs.5-10 lakhs	235	3.6539		
	>Rs. 10 lakhs	94	3.7756		
	Total	546	3.6238		
Work Engagement	<Rs.5 lakhs	217	4.6221	7.237	0.001
	Rs.5-10 lakhs	235	4.7625		
	>Rs. 10 lakhs	94	5.0382		
	Total	546	4.7541		
Subjective well-being	<Rs.5 lakhs	217	4.4505	8.467	0.000
	Rs.5-10 lakhs	235	4.6777		
	>Rs. 10 lakhs	94	4.9681		
	Total	546	4.6374		

It is observed from the Table 4.24 that the mean value is highest for the variables of emotional intelligence, work engagement and subjective well-being among the respondents whose income level is above Rs.10 lakhs, which indicates that this group of respondents have similar perception on emotional intelligence, work engagement and subjective well-being.

The highest mean value for emotional intelligence, work engagement and subjective well-being in the income level of more than Rs.10 lakhs, which symbolize that the individuals in this income group are highly aware of themselves, are involved in their work and exhibit happiness in performing their work, owing to their experience in the business.

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of emotional intelligence, work engagement and subjective well-being on the income level of the respondents (N=546). The ANOVA was significant in emotional intelligence, as $F_{(3,543)} = 12.096$; P= 0.000, in work engagement, as $F_{(2,543)} = 7.237$; P= 0.001 and in subjective well-being, as $F_{(2,543)} = 5.924$; P= 0.000, which means that the null hypothesis is rejected and that there is significant mean differences in emotional intelligence, work engagement and subjective well-being of women entrepreneurs, based on the income level of respondents. Post Hoc tests will reveal the exact difference in the variables over the income level of groups.

Table 4.25 Post Hoc Tests - Homogeneous Subsets- Emotional intelligence – Tukey-B

Annual family income	N	Subset for alpha = 0.05		
		1	2	3
<Rs.5 lakhs	217	3.5255		
Rs.5-10 lakhs	235		3.6539	
>Rs. 10 lakhs	94			3.7756

The above table 4.25 reveals that perception towards emotional intelligence of the women entrepreneurs differs with the different level of income of the respondents. Emotional intelligence is found to be high among the women entrepreneurs earning an annual family income of more than Rs.10 lakhs per year. Rich years of business

experience might have supported them to do better business and thereby earn the better income in the business. This stability in business performance should have led them towards higher emotional intelligence.

Table 4.26 Post Hoc Tests - Homogeneous Subsets- Work Engagement – Tukey-B

Annual family income	N	Subset for alpha = 0.05	
		1	2
<Rs.5 lakhs	217	4.6221	
Rs.5-10 lakhs	235	4.7625	
>Rs. 10 lakhs	94		5.0382

The above table 4.26 reveals that perception towards work engagement of the women entrepreneurs differs with the different level of income of the respondents. Work engagement is found to be high among the women entrepreneurs earning an annual family income of more than Rs.10 lakhs per year. Years of rich business experience might have made the women entrepreneurs earn more, leading to higher work engagement.

Table 4.27 Post Hoc Tests - Homogeneous Subsets- Subjective Well-being – Tukey-B

Annual family income	N	Subset for alpha = 0.05	
		1	2
<Rs.5 lakhs	217	4.4505	
Rs.5-10 lakhs	235	4.6777	
>Rs. 10 lakhs	94		4.9681

The above table 4.27 reveals that perception towards subjective well-being of the women entrepreneurs differs with the different level of income of the respondents. Subjective well-being is found to be high among the women entrepreneurs earning an annual family income of more than Rs.10 lakhs per year. Higher profits and sales volume would have resulted in happiness and contentment in business, leading to higher subjective well-being of women entrepreneurs. Hence, null hypothesis is rejected and the

perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being differ with their annual income levels and is highest among the women entrepreneurs whose annual family income is above Rs.10 lakhs.

4.8.4 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being, based on the Years of business experience of women entrepreneurs

This analysis is imminent to study the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being based on the years of business experience of women entrepreneurs. Years of business experience are sorted into five categories like less than 2 years, 2-4 years, 5-7 years, 8-10 years and more than 10 years. The existing level of emotional intelligence, work engagement and subjective well-being, as per the years of business experience of the respondents was compared using analysis of variance (ANOVA) technique. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived. Hypothesis was formulated to test the above parameters and is given below:

H_{o7} **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the years of business experience of the respondents.**

H_{a7} **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the years of business experience of the respondents.**

Table 4.28 Tests of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Emotional intelligence	7.002	4	541	0.000**
Work engagement	0.744	4	541	0.562
Subjective well-being	5.113	4	541	0.000**

Table 4.28 indicates that the P value is 0.000 for emotional intelligence and subjective well-being. As the Levene test statistic is significant since P value is less than 0.05, the variances are significantly different and are not equal. It is also seen from the

table 4.26 that Levene test statistic is not significant for work engagement (0.562) and as P value is greater than 0.05 and therefore, we assume that variance are approximately equal in their case. Thus, the assumption of homogeneity of variances was tested and found tenable using Levine's test, and hence, we refer to ANOVA table for studying the mean differences.

Table 4.29 **Perception towards emotional intelligence, work engagement and subjective well-being based on the years of business experience of the respondents – ANOVA table**

Variables	Years of experience	N	Mean	F	P value
Emotional Intelligence	<2 years	199	3.5929	1.971	0.098
	2-4 years	120	3.5620		
	5-7 years	88	3.6655		
	8-10 years	38	3.7004		
	>10 years	101	3.6929		
	Total	546	3.6238		
Work Engagement	<2 years	199	4.6648	4.569	0.001[**]
	2-4 years	120	4.6191		
	5-7 years	88	4.7714		
	8-10 years	38	4.7508		
	>10 years	101	5.0769		
	Total	546	4.7541		
Subjective well-being	<2 years	199	4.4560	5.748	0.000[**]
	2-4 years	120	4.5125		
	5-7 years	88	4.6818		
	8-10 years	38	4.9868		
	>10 years	101	4.9728		
	Total	546	4.6374		

** Significant at 0.05% level

It is observed from the table 4.29 that the mean value is highest for emotional intelligence (3.700) and subjective well-being (4.980) among the women entrepreneurs with 8-10 years of business experience. The mean value for subjective well-being (5.070) was found to be higher for women entrepreneurs with more than 10 years of business experience.

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of emotional intelligence, work engagement and subjective well-being based on years of business experience of women entrepreneurs (N=546). The ANOVA was not significant in emotional intelligence, as F =1.971; P= 0.098, which means that the null hypothesis is accepted and that there is no significant mean differences in the emotional intelligence of women entrepreneurs, based on years of business experience of women entrepreneurs. It reveals that years of business experience of the women entrepreneurs do not have much of differences in their emotional intelligence as it is inherent in a person irrespective of business experience.

The Table 4.29 also revealed that, null hypothesis is rejected, as there is significant mean differences in the work engagement of women entrepreneurs, as F= 4.569; P= 0.001, and in the well- being as, F =5.748: P=0.000, based on years of business experience of women entrepreneurs. It is inferred that work engagement and subjective well-being differs with years of business experience of respondents. Post Hoc tests will reveal the exact difference in the variables over different years of business experience.

Table 4.30 Post Hoc Tests - Homogeneous Subsets- Emotional intelligence – Tukey-B

Years of experience in business	N	Subset for alpha = 0.05
		1
2-4 years	120	3.5620
< 2 years	199	3.5929
5-7 years	88	3.6655
>10 years	101	3.6929
8-10 years	38	3.7004

The above Table 4.30 reveals that mean values for emotional intelligence are relatively the same for all groups of entrepreneurs. The table reveals that the perception among women entrepreneurs about emotional intelligence does not vary with years of business experience. The table shows that women entrepreneurs with 8-10 years of experience have high emotional intelligence, when compared to all others. This might be due to their seasoned business experience leading to good understanding of their business practices and subsequent translation of it into business results.

Table 4.31 Post Hoc Tests - Homogeneous Subsets- Work engagement – Tukey-B

Years of experience in business	N	Subset for alpha = 0.05	
		1	2
2-4 years	120	4.6191	
<2 years	199	4.6648	
8-10 years	38	4.7508	4.7508
5-7 years	88	4.7714	4.7714
>10 years	101		5.0769

The above table 4.31 reveals that perception towards work engagement of the women entrepreneurs differs with years of business experience of the women entrepreneurs, especially with less than 2 years, 2-4 years and more than 10 years of business experience. The perception of work engagement was found to be the same among women entrepreneurs with 5-7 and 8-10 years of business experience. The results highlight that work engagement to be high (5.0769 in the scale of 6) among the women entrepreneurs who have more than 10 years of business experience. Rich business experience and understanding of business strategies should have supported them to get more committed, involved and engaged in their business.

Table 4.32 Post Hoc Tests - Homogeneous Subsets- Subjective well-being – Tukey-B

Years of experience in business	N	Subset for alpha = 0.05	
		1	**2**
<2 years	199	4.4560	
2-4 years	120	4.5125	
5-7 years	88	4.6818	4.6818
>10 years	101		4.9728
8-10 years	38		4.9868

The above table 4.32 reveals that perception of the women entrepreneurs towards subjective well-being differs with years of business experience of the women entrepreneurs, especially with less than 2 years, 2-4 years, 8-10 and more than 10 years of business experience. The perception of subjective well-being was found to be the same among women entrepreneurs with 5-7 years of business experience. The analysis has revealed that subjective well-being was high (4.9868 in the scale of 6) among the women entrepreneurs who have more than 8-10 years of business experience. Years of business experience should have helped the women entrepreneurs to understand the tactics of their business, to feel satisfied and get content in their business performance.

4.8.5 Perception of Emotional Intelligence, Work Engagement and Subjective Well-being, based on the time scheduled for business activity by the respondents

This study attempts to analyse the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being based on their time scheduled for business activity. Time scheduled for business activity was sorted into less than 5 hours/day, 5-8 hours/day and more than 8 hours/day. The existing level of emotional intelligence, work engagement and subjective well-being, as per the time scheduled for business activity, was compared using analysis of variance (ANOVA) technique. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived.

Hypothesis was formulated to test the above parameters and is given below:

H_{o8}- **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the time scheduled for business activity by the respondents.**

H_{a8}- **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on the time scheduled for business activity by the respondents.**

Table 4.33 Tests of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Emotional intelligence	5.206	2	543	0.006**
Work engagement	1.352	2	543	0.260
Subjective well-being	1.287	2	543	0.277

** indicates significance at 0.05% level

Table 4.33 indicates that the P value is 0.006 for emotional intelligence. As the Levene test statistic is significant since P value is less than 0.05, the variances are significantly different among groups and they are not equal. It is also seen from the table 4.33 that Levene test statistic is not significant for work engagement (0.387) and subjective well-being (0.277) and as P value is greater than 0.05 and therefore, we assume that variance are approximately equal in their case. Thus, the assumption of homogeneity of variances was tested and found tenable using Levine's test, and hence, we refer to ANOVA table for studying the mean differences.

It is observed from the table 4.34 that the mean value is highest for emotional intelligence, work engagement and subjective well-being among entrepreneurs who schedule more than 8 hours for business activity. The highest mean value for emotional intelligence, work engagement and subjective well-being among the women entrepreneurs spending more than 8-10 hours for business activity, symbolize these entrepreneurs are highly aware of themselves, are involved in their work and exhibit happiness in performing their work, owing to their time spend in the business activity.

Table 4.34   Perception towards Emotional Intelligence, Work Engagement and Subjective Well-being based on the time scheduled for business activity by the respondents – ANOVA table

Variables	Time spent for business	N	Mean	F	P value
Emotional Intelligence	<5 hours/day	100	3.5841	0.839	0.433
	5-8 hours/day	293	3.6203		
	>8 hours/day	153	3.6564		
	Total	546	3.6238		
Work Engagement	<5 hours/day	100	4.6235	6.293	0.002[**]
	5-8 hours/day	293	4.6876		
	>8 hours/day	153	4.9669		
	Total	546	4.7541		
(Subjective well-being)	<5 hours/day	100	4.5550	0.518	0.596
	5-8 hours/day	293	4.6365		
	>8 hours/day	153	4.6928		
	Total	546	4.6374		

**indicates significance at .05% level

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of emotional intelligence, work engagement and subjective well-being among the entrepreneurs based on their time spent on business activity (N=546). The ANOVA was not significant in emotional intelligence, as F = 0.839; P=0.433, and on subjective well-being as, F = 0.518: P= 0.596, which means that the null hypothesis is accepted and that there is no significant mean differences in the emotional intelligence and subjective well-being of women entrepreneurs, based on their time spent in business activity. It reveals that the perception of women entrepreneurs towards emotional intelligence and subjective well-being remains the same irrespective of the time spent in business activity.

The Table 4.34 revealed that, null hypothesis is rejected, as there is significant mean differences in the work engagement of women entrepreneurs, as F= 6.293; P= 0.002, based on their time spent in business activity. It is inferred that perception of women entrepreneurs towards work engagement differs with their time spent in business activity. Post Hoc tests will reveal the exact difference in the variables over the time spent in business activity.

Table 4.35 Post Hoc Tests - Homogenous Subsets- Emotional intelligence – Tukey-B

Time spent for business activity	N	Subset for alpha = 0.05
		1
<5 hours/day	100	3.5841
5-8 hours/day	293	3.6203
>8 hours/day	153	3.6564

The above Table 4.35 reveals that perception of women entrepreneurs towards emotional intelligence are relatively the same for all groups. It does not vary with time spent in business activity by the women entrepreneurs. And emotional intelligence is high in the case of women entrepreneurs who spend more than 8 hours per day. As they spend sufficient hours to manage their business, they remain cool and balanced in their business affairs leading to high emotional intelligence.

Table 4.36 Post Hoc Tests - Homogeneous Subsets- Work engagement – Tukey-B

Time spent for business activity	N	Subset for alpha = 0.05	
		1	2
<5 hours/day	100	4.6235	
5-8 hours/day	293	4.6876	
>8 hours/day	153		4.9669

The above Table 4.36 reveals that perception towards work engagement of the women entrepreneurs differs with time spent for business activity by the women

entrepreneurs. The perception of work engagement was found to be the same among women entrepreneurs who spend less than 5 hours and 5-8 hours per day. The results highlight that work engagement to be high among the women entrepreneurs who spend more than 8 hours of time for business activity. Rich business experience and understanding of business strategies should have supported them to get more committed, involved and engaged in their business.

Table 4.37 Post Hoc Tests - Homogeneous Subsets- Subjective well-being – Tukey-B

Time spent for business activity	N	Subset for alpha = 0.05
		1
< 5 hours per day	100	4.5550
5-8 hour per day	293	4.6365
> 8 hours per day	153	4.6928

The above Table 4.37 reveals that mean values for subjective well-being are relatively the same for all groups. Result highlights that subjective well-being does not vary with time spent by the women entrepreneurs in business activity. Subjective well-being is high among women entrepreneurs who spent more than 8 hours/day for their business activity.

4.8.6 Perception of emotional intelligence, work engagement and subjective well-being, based on nature of the business of the respondents

This analysis supports the study to analyse the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being, based on the nature of the business carried out. Nature of business taken up is classified into manufacturing, trading and service sectors. The existing level of emotional intelligence, work engagement and subjective well-being, as per their nature of business, was compared using analysis of variance (ANOVA) technique. Post-hoc tests were performed at 0.05 level of significance, where statistically significant differences were perceived. Hypothesis was formulated to test the above parameters and is given below:

H$_{o9}$- **There is statistically no significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on nature of the business of the respondents.**

H$_{a9}$- **There is statistically significant difference in the perception of emotional intelligence, work engagement and subjective well-being, based on nature of the business of the respondents.**

Table 4.38 Test of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Emotional intelligence	0.755	2	543	0.470
Work engagement	2.186	2	543	0.113
Subjective well-being	0.987	2	543	0.373

Table 4.38 indicates that the P value is 0.470 for emotional intelligence, 0.113 for work engagement and 0.373 for the subjective well-being of women entrepreneurs. It is also seen from the table 4.38 that Levene test statistic is not significant, as P value is greater than 0.05 and therefore, we accept null hypothesis and assume that variance are approximately equal in all the three variables. Thus, the assumption of homogeneity of variances was tested and found tenable using Levine test, and hence, we refer to ANOVA table for studying the mean differences.

It is observed from the Table 4.39 that the mean value is highest for emotional intelligence, work engagement and subjective well-being, among women entrepreneurs operating in service industry. The highest mean value for emotional intelligence, work engagement and subjective well-being among women entrepreneurs in service industry symbolize that the individuals in this sector are highly aware of themselves, are involved in their work and exhibit happiness in performing their work, owing to their ease of business in service sector when compared to manufacturing sector.

Table 4.39   Perception towards Emotional Intelligence, Work Engagement and Subjective Well-being based on the Nature of the business of the respondents – ANOVA table

Variables	Nature of business	N	Mean	F	P value
Emotional intelligence	Manufacturing	138	3.6282	0.263	0.769
	Service	295	3.6319		
	Trading	113	3.5973		
	Total	546	3.6238		
Work engagement	Manufacturing	138	4.6718	1.736	0.177
	Service	295	4.8199		
	Trading	113	4.6830		
	Total	546	4.7541		
Subjective well-being	Manufacturing	138	4.5217	2.580	0.077
	Service	295	4.7314		
	Trading	113	4.5332		
	Total	546	4.6374		

A one-way analysis of variance was conducted to evaluate the null hypothesis that there is no significant mean differences in the perception of women entrepreneurs towards emotional intelligence, work engagement and subjective well-being based on the nature of business (N=546). The ANOVA was not significant in emotional intelligence, as F = 1.971; P= 0.098, work engagement (F = 4.569; P= 0.177) and subjective well-being (F =5.748: P=0.077), which means that the null hypothesis is accepted and that there is no significant mean differences in the emotional intelligence, work engagement and subjective well-being of women entrepreneurs, based on the nature of business. It reveals that nature of business taken up by the women entrepreneurs do not have much of differences in their emotional intelligence as it is inherent in a person irrespective of ages.

The result points out that women entrepreneurs have the same perception towards emotional intelligence (3.6319 in the scale of 5), work engagement (4.8199 in the scale of 6) and subjective well-being (4.7314 in the scale of 6) as the mean value is high in the case of women entrepreneurs who undertake business in service sector. Women entrepreneurs are in the need to keep their mental balance and remain cool in dealing with customers, unlike those involved in manufacturing and trading business. This may be because, the service sector demands direct relationship and connection with the customers for ensuring customer satisfaction and delight.

4.9 Association between Emotional Intelligence, Work Engagement and Subjective Well-being among Women entrepreneurs

The research has progressed based on the assumption that emotional intelligence has an impact on work engagement and subjective well-being. Therefore, it was examined if there was any significant relationship and association between these variables. Emotional intelligence is measured using the components- self-awareness, self-management, social awareness and social skills. Work engagement is measured through three components-dedication, absorption and vigour. The relationship between the constructs is described by the concept of association which is represented by the correlation coefficient. Pearson correlation was used to assess the correlation among emotional intelligence, work engagement and subjective well-being.

Hypothesis is stated as

Ho_{10}: There is no significant correlation between components of emotional intelligence, work engagement and subjective well-being of women entrepreneurs.

Ha_{10}: There is significant correlation between components of emotional intelligence, work engagement and subjective well-being of women entrepreneurs.

The impact of emotional intelligence on work engagement and subjective well-being, was analysed using correlation co-efficient and the results are presented in the Table 4.36.

Table 4.40   Correlation among Emotional Intelligence, Work Engagement and Subjective Well-being

Variables	Self-aware-ness	Self manage-ment	Social aware-ness	Social Skill	Dedication	absorption	Vigour	Subjective well-being
Self Awareness	1							
Self Management	0.588^{**}	1						
Social Awareness	0.531^{**}	$\mathbf{0.695^{**}}$	1					
Social Skill	0.584^{**}	$\mathbf{0.829^{**}}$	$\mathbf{0.696^{**}}$	1				
Dedication	0.449^{**}	0.553^{**}	0.567^{**}	0.536^{**}	1			
Absorption	0.487^{**}	0.559^{**}	0.544^{**}	0.541^{**}	$\mathbf{0.771^{**}}$	1		
Vigour	0.428^{**}	0.525^{**}	0.525^{**}	0.505^{**}	$\mathbf{0.702^{**}}$	$\mathbf{0.772^{**}}$	1	
Subjective well-being	0.317^{**}	0.441^{**}	0.434^{**}	0.430^{**}	0.475^{**}	0.471^{**}	0.455^{**}	1

** Correlation is significant at the 0.01 level (2-tailed test)

The entire constructs positively correlates with each other at 0.01 level of significance as shown in the table 4.40. Correlation Co-efficient measures the strength of a linear association between emotional intelligence, work engagement and subjective well-being of women entrepreneurs. The correlation coefficients are higher between self-management and social skills (0.829), followed by the association between vigour and absorption (0.772) and between absorption and dedication (0.771). The strongest statistically significant correlation between self-management and social skills reveals that women entrepreneurs can be successful in their business, if they are aware of their innate potential and strike better relationship with their stakeholders in their business.

The next stronger link between vigour and absorption, absorption and dedication and vigour and dedication, reveals that the women entrepreneurs can be better engaged when they exhibit vigour and involvement in their business dealings. The table 4.40 reveals a weak association between subjective well-being & self-awareness, self-management, social awareness and social skills. When compared to the components of emotional intelligence, subjective well-being shows a better association with dedication,

absorption and vigour. It is interpreted that when the respondents are happy and satisfied, they work with dedication, vigour and absorption (Sarangi *et al*, 2015). However, though the degree of association varies, all the constructs are statistically significant at 0.01 level for the entire sample of the women entrepreneurs.

Thus, the study points out that all the constructs involved are significantly influencing the triad- emotional intelligence, work engagement and subjective well-being of women entrepreneurs. This is in tune with the findings of Bagshaw (2002) and Choong *et al.,* (2014), who found that emotional intelligence of students correlated well with subjective well-being. The correlation between self-management & social skills, vigour & absorption, absorption & dedication and vigour & dedication are found to be high among women entrepreneurs taken up in this study, which is influential in determining their success in the business. When the respondents are able to manage their emotions, they are focussing more on developing relationships, and are likely to persevere for meeting their business targets and thereby, remain committed towards their business. The findings reveal that managing emotions can help them to face the critical situations, enhance empathy and develop social skills in business (Mishra *et al*., 2009). This will positively trigger positive vigour, dedication and absorption in women entrepreneurs.

Having understood the relationship among the variables that influences the emotional intelligence, work engagement and subjective well-being, regression analysis done next, can support in establishing the impact of emotional intelligence on work engagement and subjective well-being of women entrepreneurs.

4.10 Impact of Emotional Intelligence on Work Engagement of Women entrepreneurs

The work engagement of women entrepreneurs can be enhanced if the components of emotional intelligence like self-awareness, self-management, social awareness and social skill are focussed and enhanced. This section analyses the influence of emotional intelligence on the work engagement of women entrepreneurs and examines the extent to which these characteristics influence work engagement. The extent of impact of emotional intelligence on work engagement was studied using multiple regression co-efficient with emotional intelligence components as independent variable or predictor variable and work engagement as dependent variable or criterion variable.

The results are presented as model summary,

Table 4.41 Regression Analysis - Model Summary of the impact of Emotional Intelligence on Work Engagement

Dependent variable: Work engagement

Model	R	R square	Adjusted R square	S.E. of the estimate
1	0.664[a]	0.441	0.437	0.6727

a. Predictors: (Constant), social skill, self-awareness, social awareness, self-management

It could be observed from the Table 4.41 that the adjusted R square value of 0.437 indicates that around 43.7 per cent of the independent variable (emotional intelligence) have impact on work engagement.

Coefficient of determination (R^2) describes the variability in work engagement, accounted for by the regression which is found to be statistically significant. This implies that predicted constructs have a significant impact on the work engagement of women entrepreneurs and have significant explanatory power of the regression equation. Therefore, improvement in the work engagement of women entrepreneurs can be achieved by focussing on these components of emotional intelligence. The study points out that the engaged respondents in work experience a pleasurable emotional state at work, and are more satisfied with their job (Biswas *et al.,* 2013).

Table 4.42 Linear Regression-ANOVA[a] – Impact of Emotional Intelligence on Work Engagement

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	193.518	4	48.379	106.901	0.000[b]
Residual	244.836	541	0.453		
Total	438.354	545			

a. Dependent variable: Work engagement

b. Predictors: (Constant), social skill, self-awareness, social awareness, self-management

The above Table 4.42 indicates that there is a significant relationship between independent variable and dependent variable. Therefore, it could be known that

components of emotional intelligence have an impact on work engagement. The unstandardized co-efficient obtained in Table 4.42, was used to derive the regression equation (4.1) which may be used to estimate the work engagement.

Table 4.43 Regression Co-efficient of the impact of Emotional Intelligence on Work Engagement

Model	Unstandardized co-efficient		Standardised co-efficient	t	Sig.
1	B	S.E.	Beta		
(Constant)	-0.456	0.278		-1.643	0.101
Self-awareness	0.371	0.098	0.156	3.787	0.000**
Self-management	0.405	0.113	0.218	3.573	0.000**
Social awareness	0.499	0.082	0.289	6.102	0.000**
Social skill	0.174	0.101	0.105	1.720	0.086

a. Dependent variable: Work engagement

**indicates significance at 0.05% level

It could be observed from the above table 4.43, that self-awareness (β = 0.156, t = 3.787, p<0.001), self-management (β = 0.218, t = 3.573, p < 0.001) and social awareness(β = 0.289, t = 6.102, p< 0.001) have significant impact on the dependent variable, work engagement of women entrepreneurs as their level of significance is less than 0.05. Social skills do not have significant impact on work engagement as their significance level is 0 .086, which is below the significance level. From the above findings, the following regression model can be developed. The impact of self-awareness, self-management, social awareness and social skills on work engagement is given by the regression variate**:**

Work engagement = - 0.456 + 0.371 (Self-awareness) + 0.405 (self-management)   (4.1)
+ 0.499 (social awareness) + 0.174 (social skill)

Hence, the predictors identified to enhance the work engagement of women entrepreneurs are self-awareness, self-management and social awareness as their significance level is below 0.05 level of significance. The components of emotional intelligence are able

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to explain the work engagement of women entrepreneurs and the model is valid as the significant value is below 0 .05 level of significance.

Thus, this study points out that there is a significant impact of emotional intelligence on work engagement of women entrepreneurs, as they explain a statistically significant percent (44 per cent) of variance in work engagement of women entrepreneurs. This was demonstrated through the R^2 value obtained through regression. Three components namely self-awareness, self-management and social awareness are found to explain the work engagement to the extent of 44 per cent for the full sample.

Further from the table 4.44, Regression done on the components of emotional intelligence over the components of work engagement reveals that Self-awareness, Self-management and Social awareness have an impact on vigour, dedication and adsorption components of work engagement, as their significant value is less than 0.05. Three components of Self-awareness, Self-management and Social-awareness are found to explain dedication to the extent of 37 per cent, vigour to the extent of 33 per cent and adsorption to the extent of 38 per cent. This was demonstrated through the R^2 value obtained through regression (Table 4.44)

Table 4.44 Impact of Emotional Intelligence Components on Work engagement components

Dependent Variable	R^2	AdjustedR^2	Self-Awareness	Self-Management	Social awareness	Social skills Management
Dedication	0.384	0.379	β = 0.118	β = 0.194	β = 0.303	β = 0.096
			t = 2.725	t = 3.019	t = 6.084	t = 1.504
			p = 0.007**	**p = 0.003****	**p= 0.000****	p = 0.133
Vigour	0.338	0.333	β = 0.121	β = 0.200	β = 0.261	β = 0.087
			t = 2.703	t = 3.002	t = 5.062	t = 1.314
			p= 0.007**	**p = 0.003****	**p = 0.000****	p = 0.189
Adsorption	0.386	0.382	β = 0.183	β = 0.204	β = 0.234	β = 0.103
			t = 4.242	t = 3.181	t = 4.702	t = 1.616
			p =0.000**	**p = 0.002****	**p = 0.000****	p = 0.107

** indicates significance at 0.05% level

Strengthening the identified components of emotional intelligence like self-awareness, self-management and social awareness can certainly enhance the work engagement of women entrepreneurs. Several studies point out that engaged entrepreneurs are optimistic (Mauno *et al*., 2007), more efficient and productive (Xanthopoulou, 2007), can perform well (Schaufeli, 2006; Gierveld *et al*., 2005), have high energy (Turner *et al*., 2002) and can easily cope up with challenges (Rothmann *et al.,* 2003) in the business.

The result from the Linear Regression analysis between eighteen competencies of four emotional cluster in the Table 4.45 reveals that the following competencies of emotional intelligence belonging to the clusters like Self-Awareness **(Self-assessment and Self-confidence),** Self-Management **(Adaptability, Optimism and Trustworthiness) and** Social Awareness (**Empathy, Service Orientation and Organisational awareness) enhance the work engagement of women entrepreneurs as their level of significance is less than 0.05 % level.** Several studies point out that engaged entrepreneurs are optimistic (Mauno *et al.*, 2007), more efficient and productive (Xanthopoulou, 2007), can perform well (Schaufeli, 2006; Gierveld *et al*., 2005), have high energy (Turner *et al.,* 2002) and can easily cope up with challenges (Rothmann *et al.,* 2003) in the business.

Table 4.45 Emotional Competencies that influence Work engagement – Regression analysis

Emotional Cluster	Emotional Competency	β value	t value	significance
Self-awareness	**Accurate self-assessment**	0.246	6.462	p <0.001
	Self Confidence	0.422	10.90	p <0.001
Self-Management	**Optimism**	0.265	7.070	p <0.001
	Adaptability	0.152	3.342	p <0.001
	Trustworthiness	0.332	7.500	p <0.001
Social Awareness	**Empathy**	0.255	6.940	p <0.001
	Service Orientation	0.344	8.809	p <0.001
	Organisational awareness	0.190	4.940	p <0.001

4.11 Impact of Emotional Intelligence on Subjective Well-being of Women entrepreneurs

The subjective well-being of women entrepreneurs can be enhanced if the components of emotional intelligence like self-awareness, self-management, social awareness and social skill are focussed and enhanced. This section analyses the influence of emotional intelligence on the subjective well-being of women entrepreneurs and examines the extent to which these characteristics influence subjective well-being.

The extent of the impact of emotional intelligence on the subjective well-being was studied using multiple regression co-efficient with emotional intelligence components as independent variable or predictor variable and subjective well-being as dependent variable or criterion variable. The results are presented as model summary in the table 4.46.

Table 4.46 Model summary of the impact of Emotional Intelligence on Subjective Well-being

Model 1	R	R square	Adjusted R	S.E. of estimate	Sig. F
1	0.481[a]	0.231	0.225	0.92599	0.000**

a. Predictors: (Constant), emotional intelligence, self-awareness, social awareness, self-management

** indicates significance at 0.05 level

It could be observed from the table 4.44, that the adjusted R square value of 0.225 indicates that around 22.5 per cent of the independent variable (emotional intelligence) have impact on the subjective well-being of women entrepreneurs. Co-efficient of determination (R^2) describes the variability of subjective well-being, accounted for by the regression, which is found to be statistically significant. This implies that the predicted constructs have a significant impact on the subjective well-being of women entrepreneurs and have significant explanatory power of the regression equation. Therefore, improvement in the subjective well-being of women entrepreneurs can be achieved by focussing on these components of emotional intelligence.

Table 4.47 Linear Regression - ANOVA^{a}- Impact of Emotional Intelligence on Subjective Well-being

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	139.316	4	34.829	40.619	0.000^{b}
Residual	463.882	541	0.857		
Total	603.198	545			

a. Dependent variable: Subjective well-being

Predictors: (Constant), emotional intelligence, self-awareness, social awareness, self-management and social skills

The above table 4.47 indicates that there is a significant relationship between independent variable and dependent variable. Therefore, it could be known that components of emotional intelligence have an impact on subjective well-being. The unstandardized co-efficient obtained in Table 4.47, was used to derive the regression equation (4.1) which may be used to estimate the subjective well-being.

Table 4.48 Regression Coefficients of impact of Emotional Intelligence on Subjective Well-being

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.517	0.382		1.353	0.177
Self-awareness	-0.013	0.157	-0.005	-0.086	0.932
Self-management	0.164	0.266	0.075	0.615	0.539
Social awareness	0.324	0.145	0.160	2.227	0.026**
Social-skill	0.659	0.407	0.275	1.617	0.107

a. Dependent Variable: Subjective well-being

** indicates significance at .05% level

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It could be observed from the above table 4.48, that self-awareness (β = -0.005, t = -0.086, p>0.001), self-management (β = 0.075, t = 0.615, p >0.001) and social skill (β = 0.275, t = 1.617, p>0.001) have no significant impact on the subjective well-being of women entrepreneurs as their level of significance is more than 0.05. Social awareness (β = 0.160, t = 2.227, p<0.001) has a significant impact on subjective well-being of women entrepreneurs, as their significance level is 0.026, which is below the 0.05 significance level. From the above findings, the following regression model can be developed.

The impact of self-awareness, self-management, social awareness and social skills on work engagement is given by the regression variate:

Subjective well-being = 0 .517 + (-0.013) (self-awareness) + 0.164 (self-management)   (4.2)
+ 0.324 (Social awareness) + 0.659 (social skill)

Hence, the predictor identified to enhance the subjective well-being of women entrepreneurs is social awareness as their significance level is below 0 .05 % level of significance. The components of emotional intelligence are able to explain 23% of the subjective well-being of women entrepreneurs and the model is valid as it is below 0.05 level of significance.

Thus, this study points out that there is a significant impact of emotional intelligence on subjective well-being, such that they explain a statistically significant per cent of variance in subjective well-being. This was demonstrated through the R^2 value obtained through regression. Social awareness component in emotional intelligence is found to explain subjective well-being to the extent of 23 per cent for the full sample.

Further, analysis through linear regression revealed that the **three competencies of social awareness like empathy (β = 0.164, t = 3.973 p = 0.000), service orientation (β = 0.271, t = 6.188 p = 0.000) and organisational awareness (β = 0.137, t = 3.165, p = 0.000) has an impact on the subjective well-being of women entrepreneurs**. Strengthening the social awareness of entrepreneurs by increasing their empathy, organisational awareness and service orientation, can enhance the subjective well-being of women entrepreneurs. Furthermore, optimism, entrepreneurship, emotional stability

and self-esteem are the other personality characteristics that are found to be related with subjective well-being (Hefferon *et al.*, 2011).

Subjective well-being, if enhanced can result in effective leadership, increased productivity and performance (Keyes, 2003; Harter *et al.*, 2009) at work , enhanced creativity, more satisfying social relationships (Kringelbachand *et al.*, 2010), a higher self-esteem (Gloria *et al.*, 2005; Ojeda *et al.,* 2011; Suldo *et al.*, 2008), and more appreciation of others, as well as happiness (Diener, *et al* 1999) and a reduction to mental illness (Eid *et al.*, 2008) and increase in life expectancy (Steptoe *et al.*, 2012).

4.12 Identifying characteristics that distinguish highly engaged women entrepreneurs from less engaged women entrepreneurs using discriminant analysis

With the objective of identifying the variables that are specific in leading to work engagement, this section focusses on identifying the specific indicators or items that discriminate the highly engaged women entrepreneurs from less engaged women entrepreneurs. Identification of specific factors of emotional intelligence can support to develop highly engaged women entrepreneurs.

Discriminant analysis was used to discriminate the highly engaged women entrepreneurs from the less engaged entrepreneurs. The women entrepreneurs were grouped apriori as highly engaged entrepreneurs when their mean score for work engagement was greater than or equal to 5 and low, when their mean score for work engagement was less than 5. The 73 scale items pertaining to emotional intelligence were used in the prediction of two groups. Few variables were identified to discriminate the two groups as high engaged and low engaged and a discriminant function was arrived.

The Eigen value or the latent root criteria is the most commonly used technique. The rationale for this technique is that any individual factor should account for the variance of at least single variable. Using the Eigen value for establishing a cut-off is the most reliable parameter. (Hair *et al.,* 2013).

Table 4.49 Eigen value, Canonical Correlation and Wilk's Lambda of Work Engagement

Eigen Value	Canonical correlation	Wilk's lambda	Chi-square	Df	Sig.
0.756	0.656	0.569	285.777	73	0.000

The Eigen value of 0.756 in table 4.49 shows an association with the function. The canonical correlation of 0.656 indicates that functions discriminate well. Wilk's Lambda is the ratio of within groups, sum of squares to the total sum of squares. This is the proportion of the total variances in the discriminant scores not explained by differences among groups. Wilk's lambda indicates the significance of the discriminant function. Wilk's Lambda value of 0.569 indicates that group means appear to differ. The associated significance value indicates a highly significant function (p < 0.005). Here, the lambda of 0.569 has a significant value (sig. = 0.000) and provides the proportion of total variability of 56% not explained i.e. it is the converse of the squared canonical correlation. The discriminant weight or the discriminant co-efficient relates to the discriminatory power of the independent variable across the groups of the independent variables. Independent variable with large discriminatory power has large weights, and those with little discriminatory power usually have little weights. Based on the discriminant weights, the variables were grouped into highly engaged or less engaged women entrepreneurs in their business.

13 items were identified to be discriminating the two groups. SOS5, SOA6, SOA12, SM14, SM29, SA38, SOS39 SM40, SM49, SOS51, SOS64, SM68 AND SOS72 hold a discriminant value higher than 0.4, depicting that these items discriminate the groups substantially. The description of these items and their order of discriminating power is represented as rank. It can be observed that the discriminating items belong to the constructs- Self-confidence, adaptability, service orientation, trustworthiness, team work and collaboration, optimism, emotional self-control and developing others. Therefore, these factors may be identified as those that discriminate highly engaged women entrepreneurs from less engaged group of women entrepreneurs.

Table 4.50 Discrimination of Work Engagement based on the Indicators of EI

S.No.	Item No.	Item description and construct	W	L	Rank
1	Q5	I set challenging goals.(Self Confidence)	0.162	**0.436**	**5**
2	Q6	I listen attentively. (Adaptability)	0.193	**0.421**	**9**
3	Q12	I match customer needs to products. (Service Orientation)	0.164	**0.426**	**6**
4	Q14	I act on m values even when there is a significant risk. (Trustworthiness)	0.079	**0.423**	**8**
5	Q29	I apply standard procedures. (Adaptability)	0.103	**0.417**	**10**
6	Q38	I believe that I am capable for a job. (Self-Confidence)	0.253	**0.505**	**1**
7	Q39	I establish and maintain close relationship at work. (Team Work and Collaboration)	0.049	**0.425**	**7**
8	Q40	I give timely constructive feedback. (Trustworthiness)	0.240	**0.471**	**2**
9	Q49	I believe that the future will be better than the past. (Optimism)	0.119	**0.450**	**3**
10	Q51	I am friendly and co-operative. (Team work and Collaboration)	0.098	**0.406**	**12**
11	Q64	I monitor customer satisfaction. (Service Orientation)	0.004	**0.426**	**6**
12	Q68	I stay composed and positive even in trying moments. (Emotional Self-Control)	0.162	**0.410**	**11**
13	Q72	I recognize specific strengths of others. (Developing Others)	0.035	**0.447**	**4**
Constant			-7.646		

*Statistically significant discriminant loading

W – Discriminant weight or discriminant co-efficient

L – Discriminant loadings

Rank- Discriminating power of the identified variable

A discriminant function was derived based on their unstandardized discrimination coefficients or the discrimination weights.

Discriminant function, Z = - 7.646 + 0.162 Q5 + 0.193 Q6 + 0.164 Q12 + 0.079   (4.3)
Q14 + 0.103 Q29 + 0.253 Q38 + 0.049 Q39 + 0.240 Q40 + 0.119 Q49 + 0.098
Q51 + 0.004 Q64 + 0.162 Q68 + 0.035 Q72.

Yet another way of interpreting the results of discriminant analysis is to describe each group in terms of its profile, using the group means of the predictor variables. These group means are called centroids. These are displayed in the group centroids table 4.45. In this study, less engaged women entrepreneurs have a mean of - 0.815, while highly engaged women entrepreneurs produce a mean of 0.924. Cases with scores near to a centroid are predicted as belonging to that group.

Table 4.51 Functions at Group Centroids

Group	Function 1
0	-0.815
1	0.924

Unstandardized canonical discriminant functions evaluated at group means

The Hit ratio (Percentage correctly classified) revealed that the discriminant function has correctly classified 80.2% of the original group cases and 73.1% of the cross-validated group cases. Therefore, the items that have discriminated the groups have obtained a valid ratio for the original grouped cases and the cross validated grouped cases.

To validate the discriminant function, a respondent whose profile was not added to the discrimination analysis, was chosen and the discriminant function value was calculated. The calculated score was 0.399, which was higher than the low engaged group mean of - 0.815, which was the basis for separating the groups into highly engaged women entrepreneurs for analysis. Cases with scores near to a centroid are predicted as belonging to that group.

The Thirteen emotional competencies pertaining to Self-awareness (**self-confidence**), Self-management (**emotional self-control, trustworthiness, adaptability, optimism,),** Social-awareness (**service orientation**) and Social skill (**developing others and team work and collaboration**) were found to be discriminating the highly engaged and less engaged women entrepreneurs.

4.13 Identifying characteristics that distinguish women entrepreneurs with high subjective well-being from women entrepreneurs with low subjective well-being

With the objective of identifying the variables that are specific in leading to subjective well-being, this section focusses on identifying the specific indicators or items that discriminate the women entrepreneurs with high subjective well-being from women entrepreneurs with low subjective well-being. Discriminant analysis was used to discriminate the women entrepreneurs with high subjective well-being from women entrepreneurs with low subjective well-being. The women entrepreneurs were grouped apriori as possessing high subjective well-being, when their mean score for subjective well-being was greater than or equal to 5 and with low subjective well-being, when their mean score for subjective well-being was less than 5. The 73 scale items pertaining to emotional intelligence were used in the prediction of two groups. Few variables were identified to discriminate the two groups as entrepreneurs with high subjective well-being and those with low subjective well-being and a discriminant function was arrived.

The Eigen value or the latent root criteria is the most commonly used technique. The rationale for this technique is that any individual factor should account for the variance of at least single variable. Using the Eigen value for establishing a cut-off is the most reliable parameter. (Hair *et al.,* 2013).

Table 4.52 Eigen value, Canonical Correlation and Wilk's Lambda of Subjective well-being

Eigen Value	Canonical correlation	Wilk's lambda	Chi-square	Df	Sig.
0.657	0.630	0.603	256.32	73	0.000

The Eigen value of 0.657 in table 4.52 shows an association with the function. The canonical correlation of 0.630 indicates that functions discriminate well. Wilk's Lambda is the ratio of within groups, sum of squares to the total sum of squares. This is the proportion of the total variances in the discriminant scores not explained by differences among groups. Wilk's lambda indicates the significance of the discriminant function.

Wilk's Lambda value of 0.603 indicates that group means appear to differ. The associated significance value indicates a highly significant function ($p < 0.05$). Here, Wilk's lambda of 0.603 has a significant value (sig. = 0.000) and provides the proportion of total variability of 60% not explained i.e. it is the converse of the squared canonical correlation.

The discriminant weight or the discriminant co-efficient relates to the discriminatory power of the independent variable across the groups of the independent variables. Independent variable with large discriminatory power has large weights, and those with little discriminatory power usually have little weights. Based on the discriminant weights, the variables were grouped into women entrepreneurs with high subjective well-being from women entrepreneurs with low subjective well-being.

12 items were identified to be discriminating the two groups. Q6, Q12, Q14, Q23, Q27, Q38, Q39, Q40, Q42, Q46, Q51 and Q64 hold a discriminant value higher than 0.4, depicting that these items discriminate the groups substantially. The description of these items and their order of discriminating power is represented as rank.

It can be observed that the discriminating items belong to the constructs- service orientation, trustworthiness, team work and collaboration, adaptability, empathy, influence, inspirational leadership and self-confidence. Therefore, these factors may be identified as those that discriminate the women entrepreneurs with high subjective well-being from those with low subjective well-being.

Table 4.53 Discrimination of Subjective well-being based on the Indicators of EI

S.No	Item No.	Item description and construct	W	L	Rank
1	Q6	I listen attentively. (Empathy)	0.209	**0.430**	**6**
2	Q12	I match customer needs to products. (Service Orientation)	0.014	**0.418**	**8**
3	Q14	I act on my values even when there is a significant risk. (Trustworthiness)	0.255	**0.476**	**2**
4	Q23	I can make work exciting. (Inspirational Leadership)	-0.005	**0.416**	**9**
5	Q27	I make myself available to customers / clients. (Service Orientation)	0.325	**0.496**	**1**
6	Q38	I believe that I am capable for a job. (Self-Confidence)	0.091	**0.408**	**10**
7	Q39	I establish and maintain close relationship at work. (Team Work and Collaboration)	0.046	**0.434**	**4**
8	Q40	I give timely constructive feedback. (Trustworthiness)	0.206	**0.452**	**3**
9	Q42	I smoothly juggle multiple demands. (Adaptability)	0.168	**0.432**	**5**
10	Q46	I respect and relate well to people of diverse backgrounds. (Influence)	0.205	**0.423**	**7**
11	Q51	I am friendly and co-operative. (Team Work and Collaboration)	0.244	**0.430**	**6**
12	Q64	I monitor customer/client satisfaction. (Service Orientation)	0.047	**0.400**	**11**
Constant			-7.669		

*Statistically significant discriminant loading

W – Discriminant weight or discriminant co-efficient

L – Discriminant loadings

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Rank- Discriminating power of the identified variable

A discriminant function was derived based on their unstandardized discrimination coefficients or the discrimination weights.

Discriminant function, $Z = -7.669 + 0.209Q6 + 0.014Q12 + 0.255Q14 + (-0.005)$ (4.4)
$Q23 + 0.325Q27 + 0.091Q38 + 0.046Q39 + 0.206Q40 + 0.168Q42 + 0.205Q46$
$+ 0.244Q51 + 0.047Q64$

Yet another way of interpreting the results of discriminant analysis is to describe each group in terms of its profile, using the group means of the predictor variables. These group means are called centroids. These are displayed in the group centroids table 4.53. In this study, women entrepreneurs with low subjective well-being have a mean of -0 .887 while women entrepreneurs with high subjective well-being produce a mean of 0.738. Cases with scores near to a centroid are predicted as belonging to that group.

Table 4.54 Functions at Group Centroids

Group	Function 1
0	-0.887
1	0.738

Unstandardized canonical discriminant functions evaluated at group means

The Hit ratio (Percentage correctly classified) revealed that the discriminant function has correctly classified 78.6% of the original group cases and 69.6% of the cross-validated group cases. Therefore, the items that have discriminated the groups have obtained a valid ratio for the original grouped cases and the cross validated grouped cases.

To validate the discriminant function, a respondent whose profile was not added to the discrimination analysis, was chosen and the discriminant function value was calculated. The calculated score was – 0.785, which was lower than low engaged group mean of - 0.887, which was the basis for separating the groups into the women entrepreneurs with high subjective well-being and women entrepreneurs with low subjective well-being, for analysis. Cases with scores near to a centroid are predicted as belonging to that group.

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The eight competencies pertaining to Self-awareness **(self-confidence),** Self-management **(trustworthiness and adaptability)** Social awareness (**empathy and service orientation**), and Social skills (**influence, inspirational leadership, team work and collaboration**) were found to be discriminating the women entrepreneurs with high subjective well-being with those possessing low subjective well-being.

4.14 Exploring the impact of Emotional Intelligence on Work Engagement and Subjective Well-being of Women Entrepreneurs using Structural equation modelling

Structural Equation Modelling (SEM) is "a collection of statistical techniques that allow a set of relationships between one or more independent variables, either continuous or discrete, and one or more dependent variables, either continuous or discrete, to be examined". SEM has become an important tool for analysis that is widely used in academic research. SEM is a statistical test that helps to determine the significance of the analysis to determine the adequacy of the model fit to the data. It has become one of the popular techniques for researchers across all disciplines and particularly in social sciences (Hooper *et al.,* 2008).

SEM starts with the structure modelling in which latent and observed variables are linked in the directions in which they affect each other (Kline, 2005). In the estimation process, SEM produces regression weights, variances, covariance and correlations in its iterative procedures converged on a set of parameter estimates (Holmes-Smith *et al.,* 2004). Chi square test is a fundamental measure in SEM and the other three measures namely, absolute measures, incremental measures and parsimony measures are also developed to assess the goodness of fit of a specific model (Raykov *et al.,* 2006).

The primary purpose of SEM is to explain the pattern of a series of interrelated dependence relationships simultaneously between a set of latent or unobserved constructs, each measured by one or more observed variable. It is also efficient for other types of analyses including estimating variance and covariance, test hypotheses, conventional linear regression, and confirmatory factor analysis.

SEM is a confirmatory method providing "a comprehensive means for assessing and modifying theoretical models". Therefore, researchers in social science research have

found SEM to be an appropriate technique to examine their hypothesized models. SEM also has the ability to assess the uni-dimensionality, and reliability and validity of each individual construct. Further, it provides an overall test of model fit and individual parameter estimate tests simultaneously, thus, providing the best model fits to the data adequately. In this study, SEM using confirmatory factor analysis, therefore, has been conducted.

Structural equation modelling software AMOS 20 (Analysis of Moment Structures) was used to explore statistical relationships among the items of each factor and between the factors of independent (i.e., Work engagement and well-being) and dependent variables (i.e., Emotional intelligence). Further, the researcher can specify, estimate, assess, and present the model in a causal path diagram to show hypothesized relationships among variables. The empirical model can be tested against the hypothesized model for goodness of fit. Any causal paths that do not fit with the original model can be modified or removed.

Latent and Observed Variables

With regard to the measurement instrument, the variables are classifies as latent and observed variables. Latent variables are not observed directly. They are operationally defined in terms of behavior believed to represent it. The measured scores (measurements) are termed as observed or manifest variables, and they serve as indicators of the underlying construct which they presume to represent. Hence one latent variable has three or four statements (observed variables) to represent it.

Exogenous and Endogenous construct

Exogenous variables are equivalent to independent variables, not explained by any other construct or variable.

Endogenous variables are equivalent to dependent variables, which are theoretically determined by factors within the model.

Fit Indices

Chi Square (x^2) Goodness of Fit

The Chi square goodness of fit metric is used to assess the correspondence between theoretical specification and empirical data in a CFA. It is used to compare the observed and estimated covariance matrices. By default, the null hypothesis of SEM is that the observed sample and SEM estimated covariance matrices are equal, meaning perfect fit. The chi-square value increases as differences (residuals) are found when comparing the two matrices. With the chi-square test, the statistical probability that the observed sample and SEM estimated covariance matrices are equal is assessed. The probability is the traditional p- value associated with parametric statistical tests.

ABSOLUTE FIT INDICES

It **is** a direct measure of how well the model specified by the researcher reproduces the observed data (Hair et al., 2006). It shows how well a researcher's theory fits the sample data. An absolute fit indices like Goodness of Fit index (**GFI**), Adjusted goodness of fit index (**AGFI**), Root Mean Square Residual (**RMR**) and CMIN/DF is a measure of overall goodness of fit in the model.

The Goodness-of-fit Index (GFI and AGFI)

The goodness-of-fit index (GFI) was the very first standardized fit index (Joreskog *et al.*, 1981). It is analogous to a squared multiple correlation, except that the GFI is a kind of matrix proportion of explained variance. Thus, GFI = 1.0 indicates perfect model fit, GFI > .90 may indicate good fit, and values close to zero indicate very poor fit. However, values of the GFI can fall outside the range 0-1.0. Values greater than 1.0 can be found with just identified models or with over identified models with almost perfect fit; negative values are most likely to happen when the sample size is small or when model fit is extremely poor.

Another index originally associated with AMOS is the adjusted goodness-of-fit index -AGFI (Joreskog *et al.*, 1981). It corrects downward the value of the GFI based on model complexity; that is, there is a greater reduction for more complex models. The AGFI differs from the GFI only in the fact that it adjusts for the number of degrees of

freedom in the specified model. The GFI and AGFI can be classified as absolute indices. The parsimony goodness-of-fit index (PGFI; Mulaik *et al.,* 1989) corrects the value of the GFI by a factor that reflects model complexity, but it is sensitive to model size.

INCREMENTAL FIT INDEX

It measures the proportionate improvement in fit by comparing a target model with a more restricted, nested baseline model. A null model is which all the observed variables are uncorrelated. It is the most typically used baseline model. It includes indices like Normed fit index (**NFI),** Relative Fit Index **(RFI),** Comparative Fit Index **(CFI)** and Turlur Lewis index (**TLI) (**Tabachnick *et al.,* 2007, Hair *et al.,* 2006).

Normed Fit Index (NFI)

The NFI is one of the original incremental fit indices introduced by Bentler *et al.,* (1980). It is a ratio of the difference in the x^2 value for the fitted model and the null model divided by the value for the null model. It ranges between zero to one. A Normed fit index of one indicates perfect fit.

Relative Fit Index (RFI)

The relative Fit Index (RFI; Bollen, 1986) represents a derivative of the NFI; as with both the NFI and CFI, the RFI coefficient values range from zero to one with values close to one indicating superior fit (Hu *et al*., 1999).

Comparative Fit Index (CFI)

The CFI is an incremental fit index that is an improved version of the NFI (Bentler, 1990; Bentler *et al*., 1980; Hu *et al*., 1999). The CFI is Normed so that values range between zero to one, with higher values indicating better fit. Because the CFI has many desirable properties, including its relative, but not complete, insensitivity to model complexity, it is among the widely used indices. CFI values above 0.90 are usually associated with a model that fits well. But a revised cut off value close to 0.95 was suggested by Hu *et al*. (1999).

Tucker Lewis Index (TLI)

The Tucker Lewis Index (Tucker *et al*., 1973) is conceptually similar to the NFI, but varies in that it is actually a comparison of the Normed chi-square values for the null and specified model, which to some degree takes into account model complexity. Models with good fit have values that approach one (Hu *et al*., 1999), and a model with a higher value suggests a better fit than a model with a lower value.

PARSIMONY-ADJUSTED MEASURE

It provides information about which model among set of competing models is best, considering its fit relative to its complexity. It includes indices like Root mean square error approximation **(RMSEA),** Root Mean Square Residual **(RMR),** Parsimony close **(PCLOSE),** and Parsimony comparative fitness index **(PCFI).**

Root Mean Square Error of Approximation (RMSEA)

Root Mean Square Error Approximation (RMSEA) was first proposed by Steiger *et al*., (1980). It is one of the most widely used measures that attempts to correct for the tendency of the GOF test statistic to reject models with a large sample or a large number of observed variables. Thus it better represents how well a model fits a population, not just the sample used for estimation. Lower RMSEA values indicate better fit. Earlier research suggest values of <0.05. (Browne, 1993), Hu *et al*., (1999) have suggested value of <0.06 to be indicative of good fit.

Root Mean Square Residual (RMR)

The Root Mean Square Residual represents the average residual value derived from the filling of the variance- covariance matrix for the hypothesized model to the variance covariance matrix of the sample data (S). Therefore, the RMR is the square root of the mean of the standardized residuals. Lower RMR values represent better fit and higher values represent worse fit. Recommended value of RMR is < 0.02.

Measures of a Good Model (Hair *et al.*., 2006; Tabachnic *et al.*., 2007; Chow *et al.*., 2008; Harrington, 2009; Byrne, 2010; Schumacher *et al.*., 2010):

• CMIN/DF	- Less than 5
• P value	- Less than 0.05 indicates poor fit
• GFI, AGFI, CFI, NFI, TLI	- Above 0.9
• PCFI	- Equal to or above 0.8
• PCLOSE	- Above 0.5
• RMSEA and RMR	- Between 0.03 and 0.08

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a theory testing model, where the researcher starts with a hypothesis prior to the analysis. Structural Equation Modelling is used to perform Confirmatory Factor Analysis. It is a qualitative data analytical technique that tests the theoretical relationship between the observed (endogenous) variables and latent (exogenous) variables. (Byrne, 2010).

Emotional intelligence is an endogenous construct or dependent variable, which is determined by the exogenous construct or independent variables namely self-awareness, self-management, social awareness and social skills. Each of these construct was examined in the measurement model. Previously developed items are observed variables and appear as rectangles. There are single headed arrows linking the factors (also called latent variables) to their items (indictors), and single headed arrows linking the error terms to their respective indicators. Further analysis were conducted to evaluate and the standardized parameter estimates also called factor loadings on the arrows connecting factors within their items. Furthermore, the fit of the model using goodness of fit indices, has confirmed construct validity. The next stage is to perform the analysis of the structural model.

As CFA is a part of model estimation using AMOS, the theoretical model with constructs like emotional intelligence, work engagement and subjective well-being are to

be estimated and for that AMOS is used. The first step in CFA is to draw the exogenous construct with the required number of indicators. Then, name the exogenous construct, the indicators and the error terms. The next step is to define the data set and map the data to the respective indicators and finally save the model. Further, click on the 'view', then analysis properties, and click the output tab and a dialog box opens, in which , if clicked, will lead to minimization history, standard estimates, squared multiple correlations, residual moments and modification indices. After that, click on analyse tab followed by calculate estimates. In order to know the output, click view and then text output to get the results. The output dialog box gives the Chi-square, degrees of freedom, p value, standard estimates, CMIN/df, GFI, TFI, CFI, NFI, RMSEA, RMR, PCLOSE value and modification indices value. All these values are checked for their standard or acceptance level.

The indicators with loading values above 0.5 are retained. The values below 0.5 are deleted. The modification indices are checked and double arrows are connected to indicators within a construct that indicate the high Modification indices value. Again the model is saved and run again to check for the acceptance level of Modification indices. Co-variances through double arrows between indicators can be drawn to a maximum of four times. Values of Modification indices are checked. The degrees of freedom should always be positive and chi-square should have the possible minimum value. If all these values are at the acceptable level, then the construct is found to be valid and a good model fit is arrived. The same is repeated for all the constructs and loadings below 0.5 are removed and particular co-variances are added by checking the modification value.

Confirmatory Factor Analysis for Self-awareness

CFA is administered to confirm the items categorized under self-awareness construct. Self -awareness cluster is represented by three competencies namely accurate self-awareness, emotional awareness and self-confidence. Self-awareness consisting of three measured variables namely emotional awareness (three items), accurate self-assessment (four items) and self-confidence (four items) has a total of eleven items included in it. The items whose standard estimates value are represented by the path diagram in the figure 4.1. The factor loadings of these items should be above 0.5, which indicates that higher the loadings, better is the explanation given by the items to the self-

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awareness construct. The standard estimates of these items are the standardized regression weights for each of observed variables of self-awareness that are mentioned with the leading arrows.

Table 4.55 Estimate, Standard Error and Critical Ratio of Self-awareness

Items	Estimate	Standard Error	Critical Ratio	P
SA	0.515	0.214	2.404	.06
e1	0.639	0.169	3.794	***
e2	0.662	0.127	5.197	***
e3	1.218	0.255	4.772	***
e4	1.193	0.225	5.296	***
e5	0.868	0.170	5.093	***
e6	1.175	0.216	5.429	***
e7	0.839	0.158	5.310	***
e8	1.194	0.256	4.655	***
e9	0.816	0.156	5.242	***
e10	0.884	0.184	4.810	***
e11	0.438	0.094	4.632	***

It is evident from the figure that the construct self-awareness is measured through eleven items from SA1 to SA 11. When the model is run, it shows that the chi-square value to be 68.45, p value is 0.066, which is more than 0.05 and CMIN value of 1.556, which is less than 5.
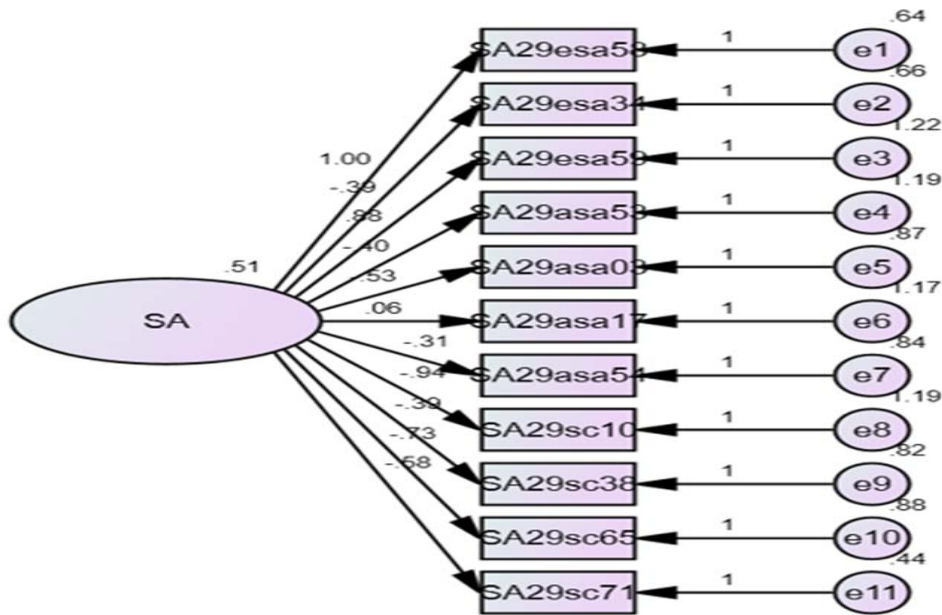
Figure 4.1 CFA Measurement Model of Self-Awareness

Indices	GFI	AGFI	NFI	CFI	RMSEA	TLI	p	Chi-square	C Min
SA	0.835	0.753	0.453	0.652	0.097	0.565	0.011	68.45	1.556

Confirmatory Factor Analysis of Self-Management

The Self-Management construct consists of six observed variables namely Adaptability (SM1), Emotional self-control (SM2), Initiative (SM3), Achievement Orientation (SM4), Trustworthiness (SM5) and Optimism (SM6). These items measure the unobserved variable namely self-management. The model with standard estimates and squared multiple correlations are shown in the figure 4.2. It is seen that all the standard estimates of the respective items are above the value of 0.5, ranging from 0.92 to 2.36. It is obvious that these items load better on the construct named self-management. The variables namely, e1, e2, e3, e4, e5 and e6 are the error terms depicted in the Figure 4.2. It is found that from the results in the model that chi-square value 1.725 is significant with the probability value 0.09, which is above the value of 0.05. This probability value indicates that is a good fit model. CMIN/df value is 1.636, which is well below the limit of 5. Goodness of fit indices like GFI, NFI, CFI and TLI are above 0.9. These statistics indicate that the model fit satisfies the goodness of fit criteria.
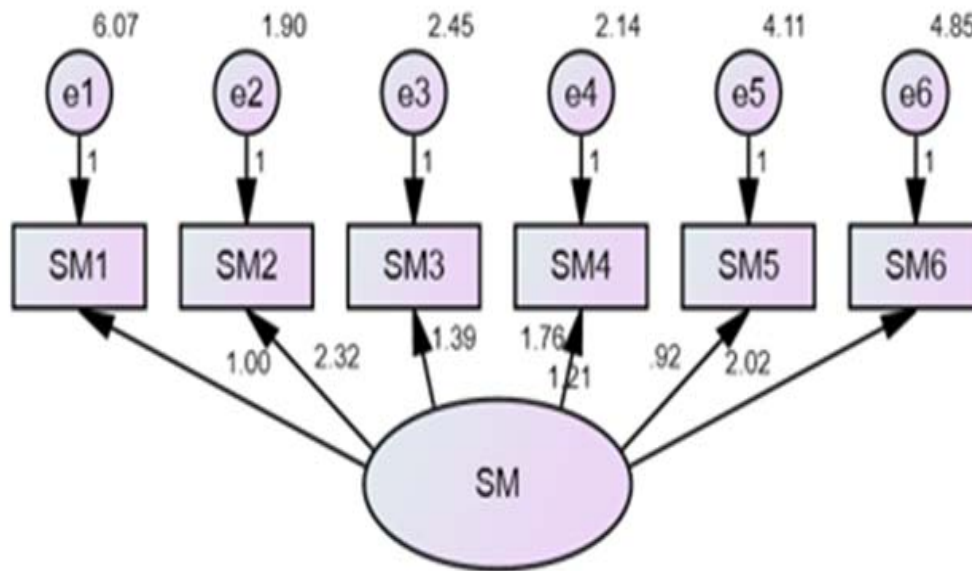
Figure 4.2 CFA for Self-management – Emotional intelligence construct

Indices	GFI	AGFI	NFI	CFI	TLI	RMSEA	p	Chi-square	C Min
SM	0.926	0.827	0.895	0.954	0.923	0.104	0.099	14.725	1.636

Confirmatory Factor Analysis of Social-awareness

The Social awareness construct consists of three observed variables namely Empathy (SOA1), Service orientation (SOA2) and Organizational awareness (SOA3). These items measure the unobserved variable namely Social awareness. The model with standard estimates and squared multiple correlations are shown in the figure 4.3. It is seen that all the standard estimates of the respective items are above the value of 0.5, ranging from 0.83 to 1.00. It is obvious that these items load better on the construct named self-management. The variables namely, e1, e2, e3, e4, e5 and e6 are the error terms depicted in the Figure 4.3. It is found that from the results in the model that chi-square value is not significant with the probability value 0.000, which is below the value of 0.05. This probability value indicates that is not a good fit model. CMIN/df value is 14.627, which is well above the limit of 5. Goodness of fit indices like GFI, NFI, CFI and TLI are above 0.9.
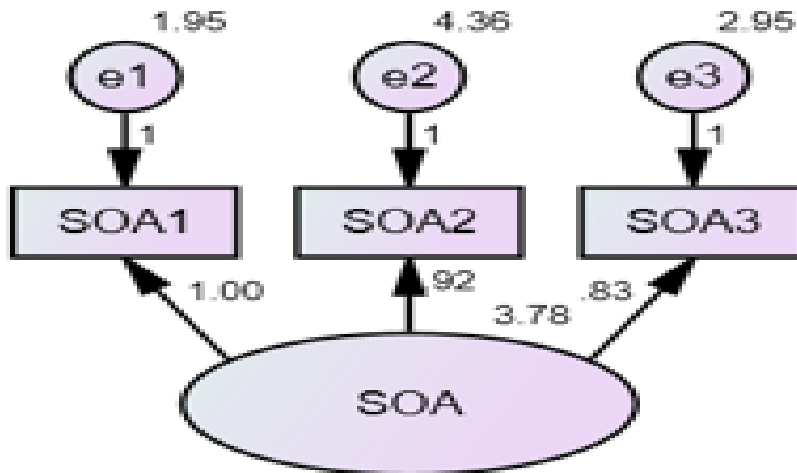
Figure 4.3 CFA for Social awareness – Emotional intelligence construct

Indices	GFI	AGFI	NFI	CFI	RMSEA	p	Chi-square	C Min
SoA	1.000	1.000	1.000	1.000	0.481	0.000	0.000	14.627

Confirmatory Factor analysis for Social skills management / Relationship Management

The Social skills construct consists of six observed variables namely inspirational leadership (SoS1), developing others (SoS2), change catalyst (SoS3), conflict management (SoS4), influence (SSM5) and Team work & collaboration (SoS6). These items measure the unobserved variable namely social skills management. The model with standard estimates and squared multiple correlations are shown in the figure 4.4. It is seen that all the standard estimates of the respective items are above the value of 0.5, ranging from 0.48 to 1.05. It is obvious that these items load better on the construct named social skills / relationship management. The variables namely, e1, e2, e3, e4, e5 and e6 are the error terms depicted in the Figure 4.4. It is found that from the results in the model that chi-square value is18.965 with the probability value of 0.025. CMIN/df value is 2.107, which is well below the limit of 5. Goodness of fit indices like GFI, NFI, CFI and TLI are above 0.9.
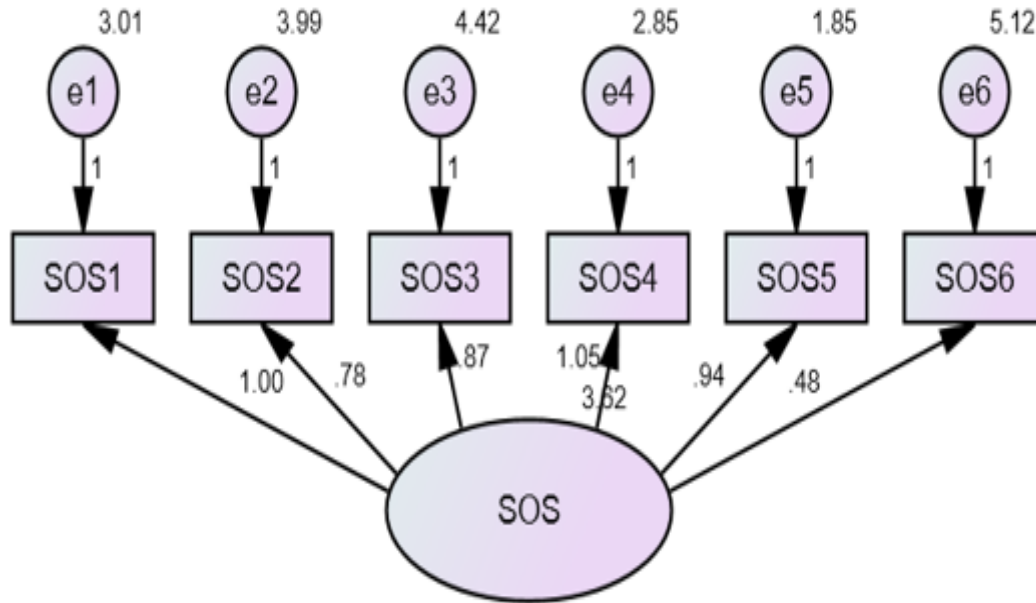
Figure 4.4 CFA for social skills management – Emotional intelligence construct

Indices	GFI	AGFI	NFI	CFI	RMSEA	p	Chi-square	C Min
SoS	0.907	0.783	0.852	0.912	0.137	0.000	18.965	2.107

Confirmatory Factor Analysis done earlier, through the above analysis, individually for self-awareness, self-management, social awareness and social skills management to measure emotional intelligence construct reveals that goodness of fit in the model, cannot be improved as modification indices do not permit introducing co-variances between the variables, to be done. Moreover, self-awareness and social awareness competencies each possess only three constructs, while self-management and social skills management has six constructs. As it is acceptable to have more than three constructs to have a good fit in the model, the less number of constructs than the acceptable number, can be the reason for the poor fit of the model in these two variables namely self-awareness and social awareness. As a result, attempt is made in this analysis to construct a next order model for emotional intelligence using the four variables namely self-awareness, self-management, social awareness and social skills management relationship management together.

Estimation of 'Emotional Intelligence' Construct as a model

The Emotional intelligence construct consists of four observed variables namely Self-awareness, self-management, social awareness and social skills management. These variables measure the unobserved variable namely emotional intelligence. The model with standard estimates and squared multiple correlations are shown in the figure 4.1. It is seen that all the standard estimates of the respective items are above the value of 0.5, ranging from 1.00 to 4.56. It is obvious that these items load better on the construct named emotional intelligence. The variables namely, e1, e2, e3 and e4 are the error terms depicted in the Figure 4.5.

It is found that from the results in the model that chi-square value is 4.204 with the probability value of 0.012. CMIN/df value is 2.102, which is well below the limit of 5. Goodness of fit indices like GFI, NFI, CFI and TLI are above 0.9. Smaller chi-square value, CMIN value of less than 5, and acceptable limits of indices reveal that this model fit is good.

Table 4.56 Factor loadings of emotional intelligence

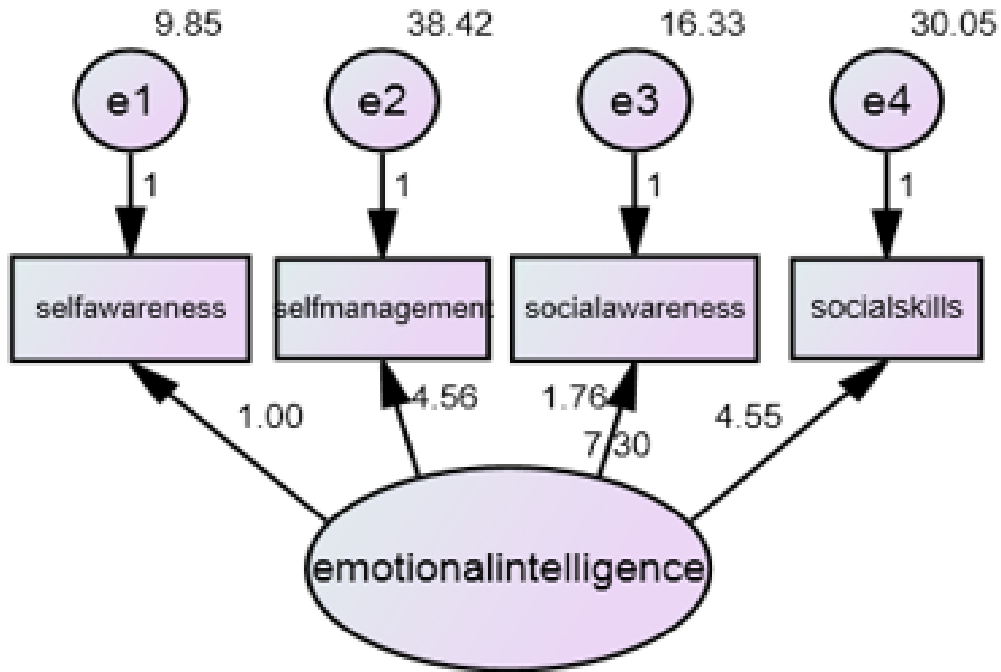| S.No.	Emotional intelligence	Factor Loadings
1	Self-awareness	1.00
2	Self-management	4.56
3	Social awareness	1.76
4	Social skills	4.55

Figure 4.5 Estimation of Measurement Model of Emotional Intelligence

Table 4.57 Results of Goodness of fit test for Emotional Intelligence model

Indices	GFI	AGFI	NFI	CFI	RMSEA	Chi-Square	CMIN/DF	P
Critical limits	> 0.9	> 0.9	> 0.9	> 0.9	0.03-0.08	LOW	< 5	> 0.05
Actual values	0.996	0.981	0.997	0.998	0.045	4.204	2.102	0.122

The table 4.57 exhibits the indices used in measuring the model of emotional intelligence. The results of the estimated model has provided evidence to prove that the model is fit. The standardized parameters estimate shows that all indicators were statistically significant (P>0.05) and loaded on the emotional intelligence. The result showed that chi-square was significant (4.204) and as the probability value was greater than 0.05, the hypothesized model is a good fit. The factor loadings of all the indicators is above 0.05 as seen in the table 4.56.

- When considering the other goodness-of-fit measures, the ratio of Chi-square / df (CMIN) value of 2.102 indicates that the construct, emotional intelligence has fitted well with the data.

- The other goodness-of-fit measures namely GFI (0.996), NFI (0.981), AGFI (0.981), CFI (0.998) are above the limit of 0.9 and RMSEA value (0.045) and RMR (0.465) is above the admissible limits. (Between 0.03 to 0.08).

The modification indices are within the level of permissible limits and hence, the model is said to be fit.

Estimation of the Model depicting the impact of Emotional Intelligence on Work Engagement and Subjective Well-being of Women Entrepreneurs through Structural Equation Modelling

The impact of emotional intelligence on work engagement and subjective well-being is assessed using AMOS and is performed to analyze if the model is fit or not. AMOS is the software used for model estimation. A Model is a specified set of dependence relationships that can be tested empirically. The Purpose of a model is to concisely provide a comprehensive representation of the relationships to be examined. The model is formalized in a path diagram which gives the graphic portrayal of the complete set of relationships among the model's constructs.

Path analysis is a method that employs simple bivariate correlations to estimate the relationships in a system of structural equations. It is a procedure for empirical estimation of the strength of each relationship or path depicted in the path diagram. When employed with multiple relationships among latent constructs and a measurement model, it is termed as Structural Equation Modelling. This is a multivariate technique combining multiple regression and factor analysis to estimate a series of interrelated dependence relationships simultaneously (Hair *et al.,* 2003).

In this study, the constructs- emotional intelligence, work engagement and subjective well-being has been portrayed in the model given below in the figure 4.6. Emotional intelligence is the latent variable, which is related to four components namely self-awareness, self-management, social awareness and social skills. The impact of

exogenous construct namely, emotional intelligence over endogenous variable namely work engagement and subjective well-being is marked with a single arrow mark. The error terms for seven variables are introduced and is subjected to final analysis. The SEM model depicting the relationships between emotional intelligence, work engagement and subjective well-being is given in the figure 4.6.
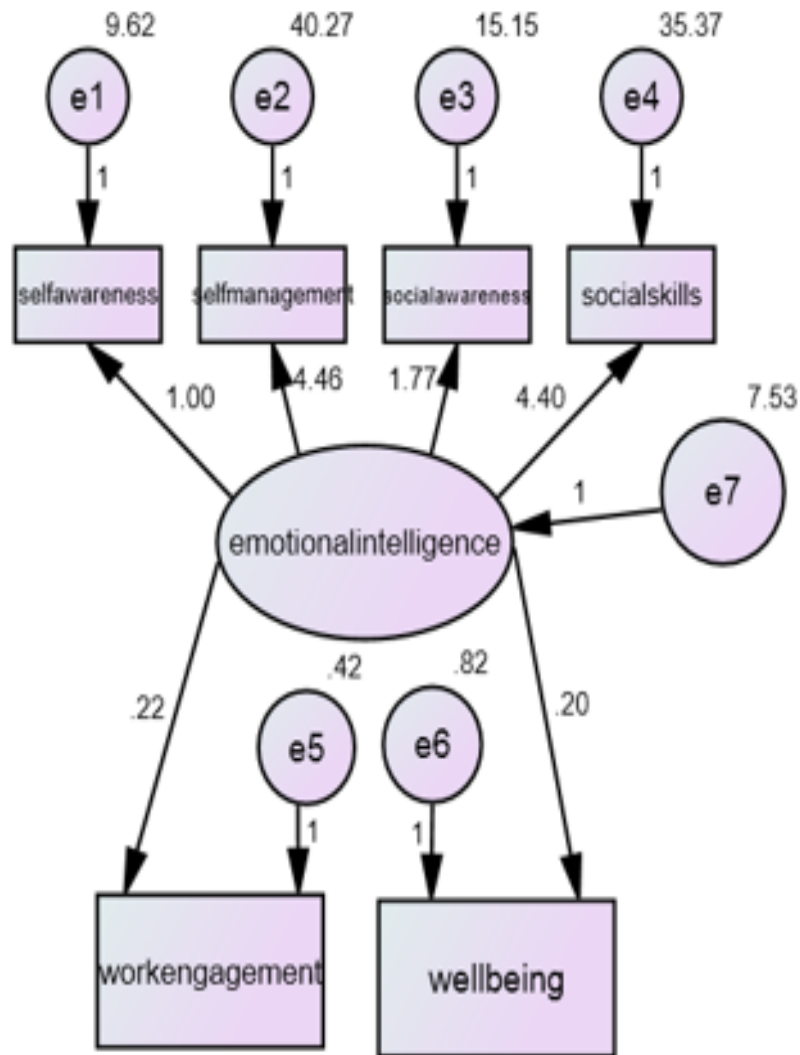

Figure 4.6 Model showing the variables- Emotional Intelligence, Work Engagement and Subjective Well-being

Table 4.58 Results of Goodness of fit test for the hypothesis model

Indices	GFI	AGFI	NFI	CFI	RMSEA	CHI-SQUARE	CMIN/DF	P
CRITICAL LIMITS	> 0.9	> 0.9	> 0.9	> 0.9	0.03-0.08	LOW	< 5	> 0.05
ACTUAL VALUES	0.954	0.892	0.958	0.963	0.116	74.607	8.290	0.000

Table 4.58 depicts the result of the model linking the constructs like emotional intelligence, work engagement and subjective well-being. The standardized parameters estimate shows that all indicators were statistically significant and has loaded well on emotional intelligence. Chi-square value was 74.607, which was statistically significant (P= 0.000). The factor loadings of all the indicators is above 0.5.

When considering other goodness -of-fit measures, CMIN value of 8.290 indicates that the construct –emotional intelligence has not fitted the data well since CMIN value is greater than 5. The other goodness-f-fit measures namely GFI (0.954), NFI (0.958) and CFI (0.963) are found to be above 0.9, whereas AGFI (0.892) is below 0.9 and RMSEA value (0.116) is below the admissible limits.

Though, GFI, NFI and CFI values are above 0.9, RMSEA value is below the permissible limit. Hence, the construct has to be refined and the model fit has to be enhanced. Modification indices given by AMOS helps to improve the model fit by allowing correlations between error terms and interdependence of the scale in the analysis.

The model fitting could be improved after modification, and hence this has been performed in the study to have a better fit. The modification indices computed for the default model suggests that there is scope for improvement in the fit of the model. The arrow marks joining the error variables indicate how much the chi-square value would reduce if the error terms are allowed to correlate. Par change gives the expected change in the parameter estimates.

The higher value of the Modification index would greatly reduce the CMIN values. Therefore, the par change of the covariance between e2 and e4 proves to be higher and therefor the error variables e2 and e4 are correlated in order to get the reduced value of chi-square. Table 4.59 shows the covariance of the error variables. It is found from the table that, e2 and e5 are having the higher modification index and therefore, they are correlated.

Table 4.59 Covariance between the variables

Co-variances			Modification index	Par Change
e5	<-->	e6	39.378	11.297
e4	<-->	e6	4.794	-2.482
e4	<-->	e5	12.517	-12.416
e3	<-->	e5	11.490	6.899
e2	<-->	e6	4.038	-2.376
e2	<-->	e5	4.286	-7.592
e2	**<-->**	**e4**	**11.505**	**7.277**
e2	<-->	e3	5.218	-2.997

Therefore, a model of good fit is arrived by the purification of the items and correlation of error variables. The revised model is further improved by using modification indices. The error terms are correlated in order to get the reduced value of Chi-square. Table 4.59 shows that e2 and e4 can be correlated as their modification index are higher. After correlating the error variables the model is improved, which is shown in the figure 4.7.
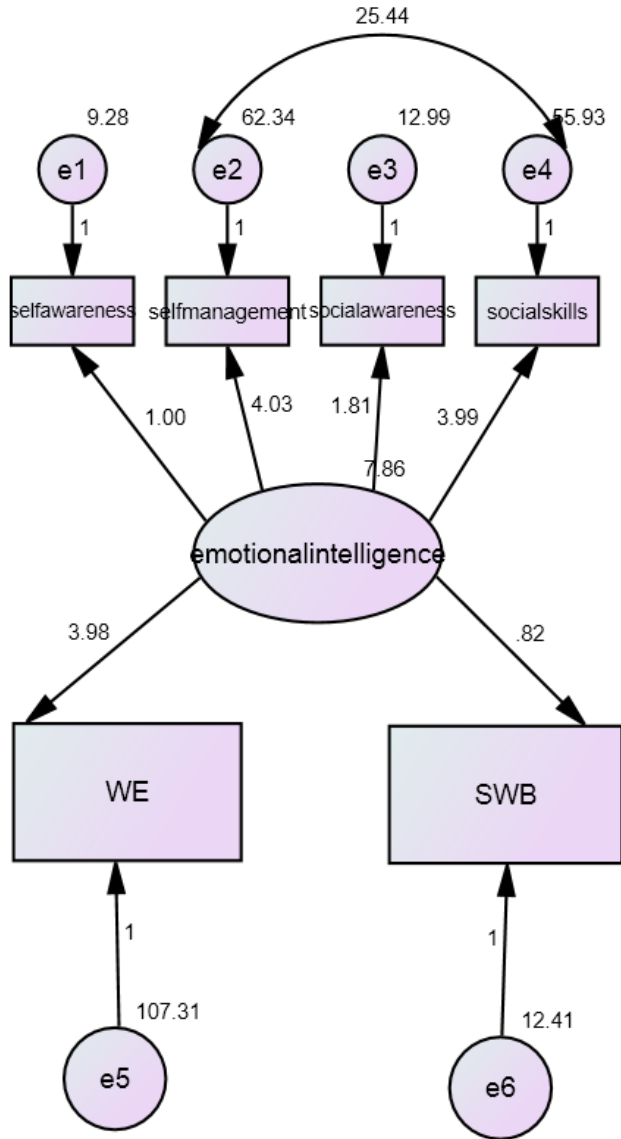
Figure 4.7 SEM Model showing the relationship between Emotional Intelligence, Work Engagement and Subjective Well-being

Hence, the model of good fit is arrived after correlating the error variables e2 and e4. The model fit parameters very much qualify for the best fit and the Modification indices are presented in the Table 4.60.

Table 4.60 Results of Goodness of fit test for the hypothesis model

Indices	GFI	AGFI	NFI	CFI	RMSEA	CHI-SQUARE	CMIN/DF	P
CRITICAL LIMITS	> 0.9	> 0.9	> 0.9	> 0.9	0.03-0.08	LOW	< 5	> 0.05
ACTUAL VALUES	0.978	0.943	0.979	0.984	0.080	36.515	4.564	0.000

Table 4.60 depicts the result of the hypothesis model. The standardized parameters estimate shows that all indicators were statistically significant and has loaded well on emotional intelligence. Chi-square value was 36.515, which was statistically significant (P= 0.000). The factor loadings of all the indicators is above 0.5.

When considering other goodness -of-fit measures, CMIN value of 4.564 indicates that the construct –emotional intelligence has fitted the data well since CMIN value is less than 5. The other goodness-f-fit measures namely GFI (0.978), NFI (0.979) and CFI (0.984), AGFI (0.943) and RMSEA value (0.080) is as per the critical limits.

Hence, the modification indices and all other parameters fall according to the accepted limits. These values revealing the results of the proposed model fall well within the generally accepted limits. This confirms that the available data set aptly fit into the proposed structural model.

Testing Structural Relationships

The hypothesized research model exhibited good fit with observed data as mentioned above. Of greater interest for validity is the path estimates in the structural model and variance explained in each dependent variable. All the six hypothesized paths are significant (p value <0.001), and hence supported. The standardized regression weights of the output and result of the hypotheses testing providing support for hypotheses H1 to H6 is presented in table 4.61.

Table 4.61 AMOS Output Extract: Standardized Regression Estimates of the Hypotheses Tested

No.	Hypotheses	Standardized Regression Weights	Supported / Not supported
H$_1$	Self-awareness positively influences emotional intelligence.	0.677	Supported
H$_2$	Self-management positively influences emotional intelligence.	0.820	Supported
H$_3$	Social awareness positively influences emotional intelligence.	0.816	Supported
H$_4$	Social skills positively influences emotional intelligence.	0.831	Supported
H$_5$	Emotional intelligence positively influences work engagement.	0.733	Supported
H$_6$	Emotional intelligence positively influences subjective well-being.	0.546	Supported

In summary, it has been empirically and theoretically found that the best parsimonious model was achieved after introducing the covariance between error e2 and e4. It is found from the Table 4.61, that all the six hypotheses were supported as they were found to be significant as their p value was 0.000. Hence, it is observed that self- awareness, self-management, social awareness and social skills influences emotional intelligence to the extent of 67%, 82%, 81% and 83%. Work engagement influences emotional intelligence to the extent of 73.3 per cent, while, subjective well-being influences emotional intelligence to the extent of 54.6 per cent. The remaining percentage of the variance is accounted by the unique factor e1, e2, e3, e4, e5 and e6 as shown in the figure 4.7.

Table 4.62 Results of the final hypothesis model

Hypothesis number and path			Unstandardised estimate	Standardized estimate	S.E.	C.R.	P
EI	<---	SA	1.000	0.677	0.000	0.000	***
EI	<---	SM	4.462	0.828	0.249	16.201	***
EI	<---	SOA	1.773	0.816	0.111	16.313	***
EI	<---	SOS	4.400	0.831	0.243	16.401	***
EI	<---	WE	0.225	0.733	0.265	15.019	***
EI	<---	WB	0.196	0.546	0.11	11.530	***

The final structural model was therefore accepted and the structural equation of the conceptual model is given as from the Table 4.62:

Emotional intelligence is given by

$$= 0.0677 \times SA + 0.828 \times SM + 0.816 \times SOA + 0.831 \times SOS + 0.733 \times WE + 0.546 \times WB$$

This structural equation explores the relationship among emotional intelligence as endogenous or dependent variable for work engagement and subjective well-being, which act as exogenous or independent variables. As the modification indices are within the acceptable limits and the SEM model is found to be fit, it is concluded that self-awareness, self-management, social awareness and social skills do positively influence emotional intelligence, and emotional intelligence in turn has a positive impact on work engagement and subjective well-being.