EMOTIONAL INTELLIGENCE AMONG FEMALE BASEBALL PLAYERS: A PSYCHOLOGICAL PROBE

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Abstract. *Purpose*: The present study was conducted to determine the emotional intelligence among Indian female baseball players. *Material*: For the purpose of present study, two hundred (N=200) senior national female baseball players were selected through purposive sampling technique from different regions of India. They were selected from four different regions: A (North region baseball players=50), B (East region baseball players=50), C (West region baseball players=50) and D (South region baseball players=50). To collect the required data for the present study, the questionnaire developed by Hyde et al. (2001) on emotional intelligence was administered. One Way Analysis of Variance (ANOVA) was employed to compare the entire regions. Where 'F' values were found significant, LSD (Least Significant Difference) Post-hoc test was applied to find out the direction and degree of difference. The level of significance was set at 0.05. *Results*: Significant differences were observed among North, East, West and South regions female baseball players on the sub-parameters; empathy, self-development, value orientation and on the parameter Emotional Intelligence (Total). No significant differences were noticed on the sub-parameters; self-awareness, self-motivation, emotional stability, managing relations, integrity, commitment and altruistic behaviour. *Conclusion:* The outcome of results might be due to the fact that East region female baseball players are able to pay attention to the worries and concerns of others, can listen to someone without the urge to say something, can stay focused under pressure, are able to handle multiple demands and able to identify and separate their emotions.
Keywords: Emotional intelligence, female, baseball players, motivation.

Introduction

Emotional intelligence was established as a popular area of research during the 1990s and since then has emerged as an important construct (Meyer & Zizzi, 2007; Petrides et al., 2004). Emotional intelligence is defined as "the ability to perceive, monitor, employ and manage emotions within oneself and in others" (Salovey & Mayer, 1990). Although, the popularity of emotional intelligence begun when Goleman (1995) emphasized the construct being more useful than intelligence quotient (IQ) in the workplace (Mayer et al., 2008). Zizzi et al. (2003) explored relationships between emotional intelligence and baseball performance and found that the emotional intelligence was an important predictor of success for pitchers, though comparatively it was not as strong for batters. They suggested that emotional intelligence for pitchers was higher because they have more time to think of their own emotions and engage in regulatory processes.

Emotional intelligence is a concept that helps out to know how to separate healthy from unhealthy feelings and how to transform negative feelings into positive ones. Goleman (1999) explored the means for managing feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly towards their common goals. According to him, emotional intelligence has proved to be an effective measure of human capabilities and programmes of emotional intelligence have shown to enhance an individual's productivity in different fields of human activities.

Spinoza (1677) revealed that both the emotion and intellect together contribute to the ultimate cognitive tool. He talked about three levels of cognition i.e. emotional cognition, intellectual cognition and a kind of intuition. Emotional intelligence has been accepted by the psychologists as the one which affects human performance. It is one such thing which drives man as a motivational force leading to all his achievements. Therefore, the present days' training is needed to consider this aspect of human psychology for complete preparation of the sportsperson for the competition. For this, the nature in which emotional intelligence affects the sports performance has to be tested with appropriate psychological tools and methods. Baseball was the first sport to successfully employ the league structure (Masteralexis et al., 2009). Baseball, perhaps more than any other sport, combines both individual and team effort. The battle between the pitcher and the batter is an individual one; play in the field is performed by individual players with individual responsibilities yet each man's own effort must be subordinated to that of the team. It is a wonderful game that teaches youngsters how to win their individual battles within a frame work of cooperative enterprise. In baseball the good of the group is always of paramount importance, yet completely dependent upon the individual efforts of each man (Watts, 1964).

Therefore, the purpose of the present study was to investigate the emotional intelligence among female baseball players of India.

Method and procedure

Sample: Two hundred (N=200) senior national female baseball players were selected through purposive sampling technique from different regions of India.They were selected from different regions: A (North region baseball players=50), B (East region baseball players=50), C (West region baseball players=50) and D (South region baseball players=50).

Instrument: The Emotional Intelligence Questionnaire developed by Hyde et al. (2001) was administered.

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Statistical Analysis: One Way Analysis of Variance (ANOVA) was employed to compare the entire regions. Where 'F' values were found significant, LSD (Least Significant Difference) Post-hoc test was applied to find out the direction and degree of difference. The level of significance was set at 0.05.

Ethical Committee: This study was approved by the Joint Research Board (JRB) of Panjab University, Chandigarh (India).

Results

Table 1

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Self-Awareness

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	6.660	3	2.220	.469	.704
Within Groups	927.960	196	4.734		
Total	934.620	199			

$F_{0.05}$ (3,196)

The results depicted in table 1 revealed insignificant differences with regard to the sub-parameter Self-Awareness among North, East, West and South regions female baseball players as the P-value (Sig.) .704 was found higher than 0.05 level of significance ($p>0.05$). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

Table 2

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Empathy

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	162.295	3	54.098	8.932*	.000
Within Groups	1187.100	196	6.057		
Total	1349.395	199			

*****Significant at 0.05 $F_{0.05}$ (3,196)

The results projected in table 2 described significant differences with regard to the sub-parameter Empathy among North, East, West and South regions female baseball players as the P-value (Sig.) .000 was found smaller than 0.05 level of significance ($p<0.05$).

Since the obtained F-value was found significant, therefore, Least Significant Difference (LSD) Post-hoc test was employed to study the direction and significance of differences between paired means among various regions female baseball players on the sub-parameter Empathy. The results of LSD Post-hoc test have been presented in Table 3.

Table 3

Significant differences among North, East, West and South regions female baseball players with regard to the sub-parameter Empathy

Means		Mean Difference	P-value (Sig.)
North [19.84]	East[20.14]	0.30	.543
	West[18.98]	0.86	.082
	South[17.82]	2.02*	.000
East [20.14]	North[19.84]	0.30	.543
	West[18.98]	1.16*	.019
	South[17.82]	2.32*	.000
West [18.98]	North[19.84]	0.86	.082
	East[20.14]	1.16*	.019
	South[17.82]	1.16*	.019
South [17.82]	North[19.84]	2.02*	.000
	East[20.14]	2.32*	.000
	West[18.98]	1.16*	.019

*****Significant at 0.05

The results in table 3 showed insignificant differences between North and East, North and West regions female baseball players as the P-values (Sig.) .543, .082 respectively were found greater than 0.05 of significance level on the sub-parameter Empathy.

The above table showed significant differences between North and South, East and West, East and South, West and South regions female baseball players as the P-values (Sig.) .000, .019, .000, .019 respectively were found lesser than

0.05 of significance level on the sub-parameter Empathy. The graphical representation of mean scores of Empathy among North, East, West and South regions female baseball players has been exhibited in Figure 1.

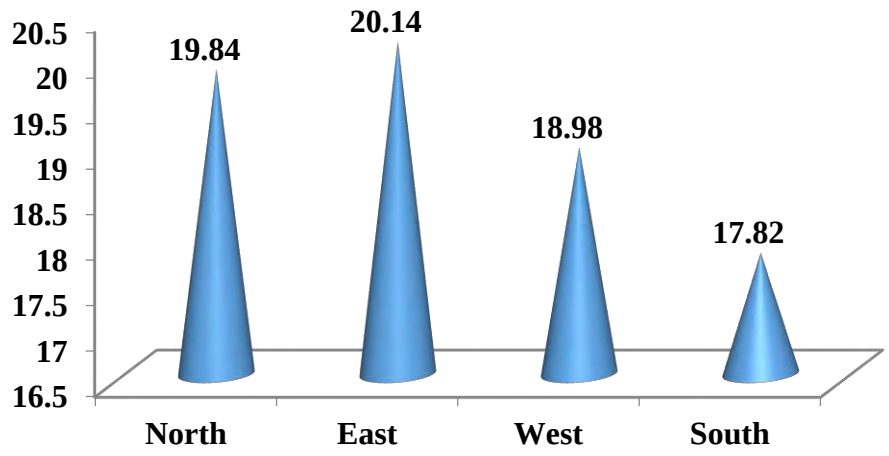

Figure 1. Graphical representation of mean scores with regard to North, East, West and South regions female baseball players on the sub-parameter Empathy

Table 4

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Self-Motivation

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	28.415	3	9.472	1.339	.263
Within Groups	1386.180	196	7.072		
Total	1414.595	199			

$F_{0.05}$ (3,196)

It is evident from table 4 that insignificant differences were found with regard to the sub-parameter Self-Motivation among North, East, West and South regions female baseball players as the P-value (Sig.) .263 was found higher than 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

Table 5

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Emotional Stability

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	40.740	3	13.580	2.362	.073
Within Groups	1126.760	196	5.749		
Total	1167.500	199			

$F_{0.05}$ (3,196)

The results presented in table 5 showed insignificant differences with regard to the sub-parameter Emotional Stability among North, East, West and South regions female baseball players as the P-value (Sig.) .073 was found higher than 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, Post-hoc test has not been applied.

Table 6

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Managing Relations

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	14.695	3	4.898	.861	.462
Within Groups	1114.860	196	5.688		
Total	1129.555	199			

$F_{0.05}$ (3,196)

Table 6 showed insignificant differences with regard to the sub-parameter Managing Relations among North, East, West and South regions female baseball players as the P-value (Sig.) .462 was found higher than the 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

Table 7

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Integrity

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	9.695	3	3.232	.820	.484
Within Groups	772.260	196	3.940		
Total	781.955	199			

$F_{0.05}$ (3,196)

It appears from table 7 above that insignificant differences were found with regard to the sub-parameter Integrity among North, East, West and South regions female baseball players as the P-value (Sig.) .484 was found higher than the 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

Table 8

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Self-Development

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	38.775	3	12.925	4.783*	.003
Within Groups	529.620	196	2.702		
Total	568.395	199			

*****Significant at 0.05 $F_{0.05}$ (3,196)

The results in table 8 explored significant differences with regard to the sub-parameter Self-Development among North, East, West and South regions female baseball players as the P-value (Sig.) .003 was found smaller than 0.05 level of significance (p<0.05).

Since the obtained F-value was found significant, therefore, Least Significant Difference (LSD) Post-hoc test was employed to study the direction and significance of differences between paired means among various regions female baseball players on the sub-parameter Self-Development. The results of LSD Post-hoc test have been presented in Table 9.

Table 9

Significant difference among North, East, West and South regions female baseball players with regard to the sub-parameter Self-Development

Means		Mean Difference	P-value (Sig.)
North [7.56]	East[8.44]	0.88*	.008
	West[7.30]	0.26	.430
	South[7.48]	0.08	.808
East [8.44]	North[7.56]	0.88*	.008
	West[7.30]	1.14*	.001
	South[7.48]	0.96*	.004
West [7.30]	North[7.56]	0.26	.430
	East[8.44]	1.14*	.001
	South[7.48]	0.18	.585
South [7.48]	North[7.56]	0.08	.808
	East[8.44]	0.96*	.004
	West[7.30]	0.18	.585

*****Significant at 0.05

Table 9 demonstrated significant differences between North and East, East and West, East and South regions female baseball players as the P-values (Sig.) .008, .001, .004 respectively were found lesser than 0.05 of significance level on the sub-parameter Self-development.

Insignificant differences were found between North and West, North and South, West and South regions female baseball players as the P-values (Sig.) .430, .808, .585 respectively were found higher than 0.05 of significance level on the sub-parameter Self-development. The graphical representation of mean scores of Self-Development among North, East, West and South regions female baseball players has been exhibited in Figure 2.

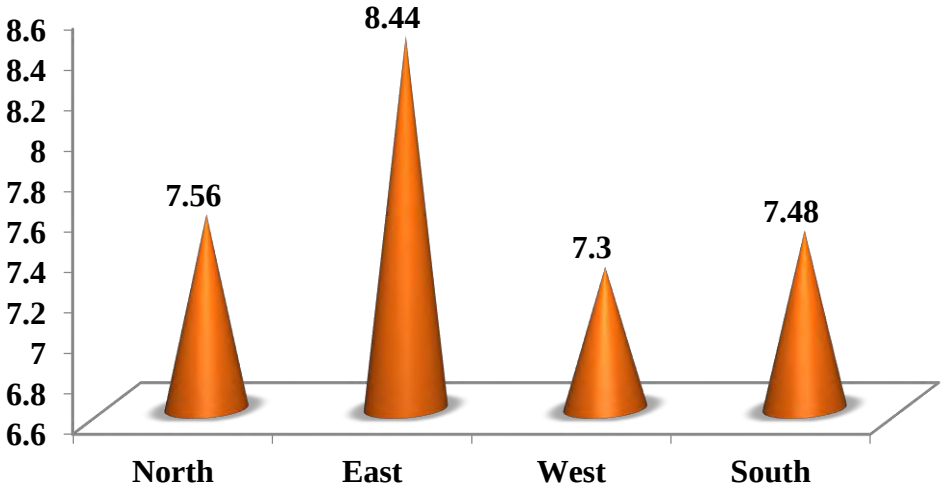

Figure 2. Graphical representation of mean scores with regard to North, East, West and South regions female baseball players on the sub-parameter Self-Development

Table 10

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Value Orientation

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	24.695	3	8.232	3.975*	.009
Within Groups	405.900	196	2.071		
Total	430.595	199			

*Significant at 0.05 $F_{0.05}$ (3,196)

It is evident from table 10 that significant differences were found with regard to the sub-parameter Value Orientation among North, East, West and South regions female baseball players as the P-value (Sig.) .009 was found smaller than 0.05 level of significance ($p<0.05$).

Since the obtained F-value was found significant, therefore, Least Significant Difference (LSD) Post-hoc test was employed to study the direction and significance of differences between paired means among various regions female baseball players on the sub-parameter Value Orientation. The results of LSD Post-hoc test have been presented in Table 11.

Table 11

Significant difference among North, East, West and South regions female baseball players with regard to the sub-parameter Value Orientation

Means		Mean Difference	P-value (Sig.)
North [8.22]	East[8.26]	0.04	.890
	West[7.96]	0.26	.367
	South[7.38]	0.84*	.004
East [8.26]	North[8.22]	0.04	.890
	West[7.96]	0.30	.299
	South[7.38]	0.88*	.003
West [7.96]	North[8.22]	0.26	.367
	East[8.26]	0.30	.299
	South[7.38]	0.58*	.045
South [7.38]	North[8.22]	0.84*	.004
	East[8.26]	0.88*	.003
	West[7.96]	0.58*	.045

*Significant at 0.05

Table 11 demonstrated significant differences between North and South, East and South, West and South regions female baseball players as the P-values (Sig.) .004, .003, .045 respectively were found lesser than 0.05 of significance level on the sub-parameter Value Orientation.

Insignificant differences were found between North and East, North and West, East and West regions female baseball players as the P-values (Sig.) .890, .367, .299 respectively were found higher than 0.05 of significance level on the sub-parameter Value Orientation. The graphical representation of mean scores of Value Orientation among North, East, West and South regions female baseball players has been exhibited in Figure 3.

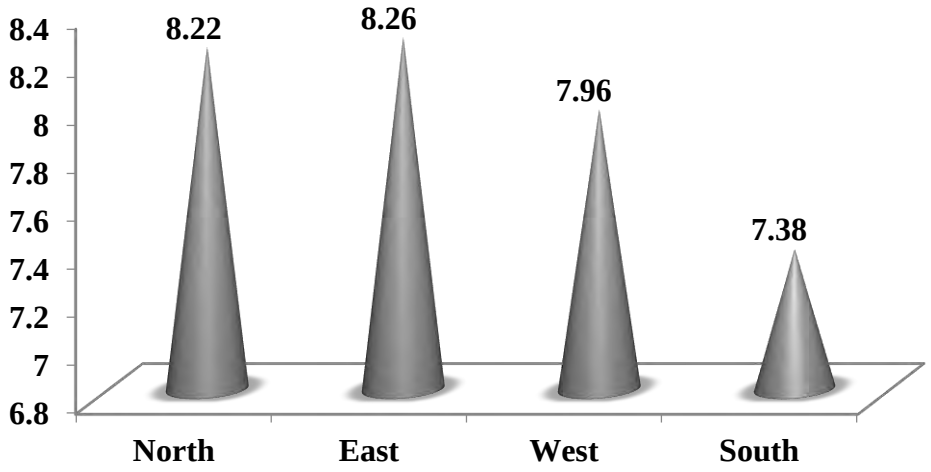

Figure 3. Graphical representation of mean scores with regard to North, East, West and South regions female baseball players on the sub-parameter Value Orientation

Table 12

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Commitment

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	7.480	3	2.493	1.496	.217
Within Groups	326.600	196	1.666		
Total	334.080	199			

$F_{0.05}$ (3,196)

It can be observed from table 12 that insignificant differences were found with regard to the sub-parameter Commitment among North, East, West and South regions female baseball players as the P-value (Sig.) .217 was found higher than 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, there is no need to apply Post-hoc test.

Table 13

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the sub-parameter Altruistic Behaviour

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	13.015	3	4.338	1.711	.166
Within Groups	496.980	196	2.536		
Total	509.995	199			

$F_{0.05}$ (3,196)

The results projected in table 13 revealed insignificant differences with regard to the sub-parameter Altruistic Behaviour among North, East, West and South regions female baseball players as the P-value (Sig.) .166 was found higher than 0.05 level of significance (p>0.05). Since F-value was found insignificant, therefore, Post-hoc test has not been applied.

Table 14

Analysis of Variance (ANOVA) results among North, East, West and South regions female baseball players with regard to the parameter Emotional Intelligence (Total)

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	1259.935	3	419.978	3.033*	.030
Within Groups	27144.220	196	13.491		
Total	28404.155	199			

*Significant at 0.05 $F_{0.05}$ (3,196)

Table 14 showed significant differences with regard to the parameter Emotional Intelligence (Total) among North, East, West and South regions female baseball players as the P-value (Sig.) .030 was found smaller than 0.05 level of significance ($p<0.05$).

Since the obtained F-value was found significant, therefore, Least Significant Difference (LSD) Post-hoc test was employed to study the direction and significance of differences between paired means among various regions female baseball players on the parameter Emotional Intelligence (Total). The results of LSD Post-hoc test have been presented in Table 15.

Table 15

Significant difference among North, East, West and South regions female baseball players with regard to the parameter Emotional Intelligence (Total)

Means		Mean Difference	P-value (Sig.)
North [137.04]	East[137.50]	0.46	.845
	West[134.54]	2.50	.289
	South[131.18]	5.86*	.014
East [137.50]	North[137.10]	0.46	.845
	West[134.54]	2.96	.210
	South[131.18]	6.32*	.008
West [134.54]	North[137.10]	2.50	.289
	East[137.50]	2.96	.210
	South[131.18]	3.36	.155
South [131.18]	North[137.10]	5.86*	.014
	East[137.50]	6.32*	.008
	West[134.54]	3.36	.155

*Significant at 0.05

The results in table 15 showed insignificant differences between North and East, North and West, East and West, West and South regions female baseball players as the P-values (Sig.) .845, .289, .210, .155 respectively were found greater than 0.05 of significance level on the parameter Emotional Intelligence (Total).

The above table showed significant differences between North and South, East and South regions female baseball players as the P-values (Sig.) .014, 008, respectively were found lesser than 0.05 of significance level on the parameter Emotional Intelligence (Total). The graphical representation of mean scores of parameter Emotional Intelligence (Total) among North, East, West and South regions female baseball players has been exhibited in Figure 4.

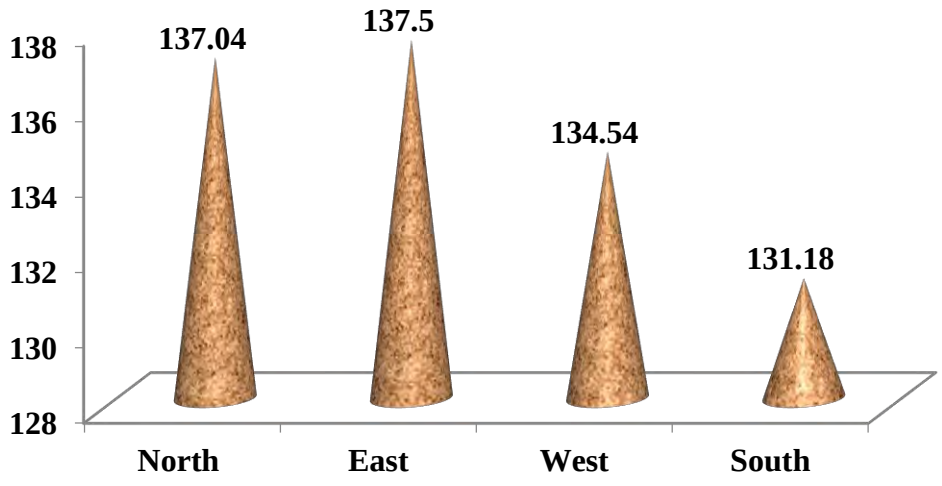

Figure 4. Graphical representation of mean scores with regard to North, East, West and South regions female baseball players on the parameter Emotional Intelligence (Total)

Discussion

It is evident from above results that significant differences were found among North, East, West and South regions female baseball players with regard to the sub-parameters; empathy, self-development, value orientation and the parameter emotional intelligence (total). While comparing the mean values of the entire regions, it has been noticed that East region female baseball players demonstrated significantly better empathy, self-development, value orientation and emotional intelligence (total) than their counterpart North, West and South regions female baseball players. The outcome of results might be due to the fact that East region female baseball players are able to pay attention to the worries and concerns of others, can listen to someone without the urge to say something, can stay focused under pressure, are able to handle multiple demands and able to identify and separate their emotions. They feel that they must develop themselves even when their job does not demand it, are able to maintain the standards of honesty and integrity and also able to confront unethical actions in others which enable them to outdo their counterparts on the said sub-parameters and parameter. Kaur (2008) reported significant differences on self-motivation among scheduled caste, backward class and general adolescent girls. Amy et al. (2007) reported that Taiwan physical education teachers were found to be significantly higher on value orientation mastery than Hong Kong and Shanghai physical education teachers. Ahmed et al. (2011) reported that male volleyball players had more emotional intelligence than the female volleyball players. Kumar (2009) revealed significant differences among swimming, kayaking and canoeing players on the parameter emotional intelligence.

However, insignificant differences were found on the sub-parameters; self-awareness, self-motivation, emotional stability, managing relations, integrity, commitment and altruistic behaviour among North, East, West and South regions female baseball players. It can be safely surmised that the female baseball players of entire regions were equally developed on the said sub-parameters. Torkfar et al. (2011) reported insignificant differences on the sub-parameters; self-awareness and empathy between team and individual sports athletes. Kajtna et al. (2004) revealed that high risk sports athletes scored highest in emotional stability followed by the non-athletes and the lowest scores were achieved by non-risk sports athletes. Sandhu et al. (2009) found that Coaches with experience of more than 20 years are more committed, better in control and challenge dimensions of hardiness as compared to the coaches with experience of less than 10 years and between 11 to 20 years. Bawa (2005) found significant relationship between commitment and control in relation to athletic, gymnastic, hockey and wrestling coaches.

Conclusion

It is concluded that significant differences were observed among North, East, West and South regions female baseball players on the sub-parameters; empathy, self-development, value orientation and on the parameter Emotional Intelligence (Total). While comparing the mean values of the entire regions, it has been noticed that East region female baseball players demonstrated significantly better empathy, self-development, value orientation and emotional intelligence (total) than their counterpart North, West and South regions female baseball players. No significant differences were noticed on the sub-parameters; self-awareness, self-motivation, emotional stability, managing relations, integrity, commitment and altruistic behaviour.

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