

CHAPTER 5

RESULTS AND ANALYSIS

5.1 INTRODUCTION

In Chapter 4 the research methods were discussed, and the statistical procedures that were applied to answer the research question were presented. In this chapter, the results of the application of the statistical procedures to the gathered data will be presented and discussed.

The findings will be presented and discussed in the following order:

- The weighted competency index for all the respondents, which is the weighted index that indicates the competencies required by a successful rugby referee in view of the total sample (n=223).
- The weighted competency indexes for the Blue Bulls referees and the Blue Bulls players, as well as the weighted competency indexes for the Western Province referees and the Gauteng Lions referees.
- A comparison between the perceptions of the different groups with regards to the relevance of the competencies utilising analysis of variance (ANOVA) and the weighted scores.
- A factor analysis for the competencies.

5.2 WEIGHTED COMPETENCY INDEX FOR RUGBY REFEREES

After analysis of the total sample (n=223, 181 referees and 42 players) that participated in the study, a weighted competency index for rugby referees was drawn up. The procedure that was followed to compile such a weighted competency index was discussed in Chapter 4, paragraph 4.6.1.3.

The first step in the compilation of the weighted competency index was to use the frequency tables (descriptive statistics) to compile a competency matrix. These frequency tables are attached as Appendix 4. In Table 5.1, the number of responses for each option per question is presented.

Table 5.1: Matrix, with the number of responses for each option chosen per question, for all the respondents (n=223).

Competencies	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Trustworthiness	1	4	24	58	136	223
Concentration/Focus	0	5	15	68	135	223
Objectivity/Impartiality	0	1	9	51	162	223
Honesty/Integrity	1	1	24	55	142	223
Self-confidence	0	3	29	88	103	223
Commitment	0	2	21	68	132	223
Composure	1	2	24	96	100	223
Consistency	0	2	13	62	146	223
Decisiveness	0	2	23	89	109	223
Fitness	0	1	21	85	116	223
Judgment	0	2	16	91	114	223
Resoluteness	1	3	32	87	100	223
Conflict handling	1	1	32	88	101	223
Flexibility	0	3	40	100	80	223
Player control	0	3	36	95	89	223
Respect	2	3	35	69	114	223
Athleticism	2	8	61	89	63	223
Authority	0	4	61	90	68	223
Problem analysis	0	3	28	95	97	223

Competencies	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Technical skills - law application	0	2	41	83	97	223
Communication on field - oral	0	3	27	88	105	223
Ambition	3	9	43	76	92	223
Stress tolerance	2	7	46	83	85	223
Eyesight	0	3	34	95	91	223
Preparation	0	4	48	84	87	223
Technical skills - general	0	2	42	82	97	223
Leadership	0	8	65	85	65	223
Initiative	0	8	55	89	71	223
Persuasiveness	6	10	69	80	58	223
Frustration tolerance	0	7	42	93	81	223
Rapport with players	13	42	55	69	44	223
Dynamism	15	50	61	51	46	223
Competitiveness	7	27	47	80	62	223
Creativity/Innovation	2	24	71	80	46	223
Mental toughness	0	11	41	77	94	223
Influence on players	3	15	39	90	76	223
TOTAL	60	285	1370	2909	3404	

The content of this matrix was used in the following calculations to determine the estimated distances between the 5 points on the questionnaire's scale.

- Estimated distance between the points "irrelevant" and "less important"
 $285 \div 60 = 4.75$
- Estimated distance between the points "less important" and "important"
 $1370 \div 285 = 4.81$
- Estimated distance between the points "important" and "very important"
 $2909 \div 1370 = 2.12$
- Estimated distance between the points "very important" and "essential"
 $3404 \div 2909 = 1.17$

The real distances between the different scale options for this matrix were subsequently determined as follows:

- The first point on the scale will be **1** (1 was used as the base value in all instances)
- The real distance between the points “irrelevant” and “less important”
 $4.75 \times 1 = \mathbf{4.75}$
- The real distance between the points “less important” and “important”
 $4.75 \times 4.81 = \mathbf{22.85}$
- The real distance between the points “important” and “very important”
 $22.85 \times 2.12 = \mathbf{48.44}$
- The real distance between the points “very important” and “essential”
 $48.44 \times 1.17 = \mathbf{56.67}$

Table 5.2: Required competencies of rugby referees utilising the total sample, n=223 (weighted score for each competency, and calculated using the real distances between the 5 points on the scale).

Competencies	Irrelevant	Less important	Important	Very important	Essential	Weighted Score
Trustworthiness	1 x 1 = 1	4 x 4.75 = 19	24 x 22.85 = 548.4	58 x 48.44 = 2809.52	136 x 56.67 = 7707.12	11085.04
Concentration/Focus	0 x 1 = 0	5 x 4.75 = 23.75	15 x 22.85 = 342.75	68 x 48.44 = 3293.92	135 x 56.67 = 7650.45	11310.87
Objectivity/Impartiality	0 x 1 = 0	1 x 4.75 = 4.75	9 x 22.85 = 205.65	51 x 48.44 = 2470.44	162 x 56.67 = 9180.54	11861.38
Honesty/Integrity	1 x 1 = 1	1 x 4.75 = 4.75	24 x 22.85 = 548.4	55 x 48.44 = 2664.2	142 x 56.67 = 8047.14	11265.49
Self-confidence	0 x 1 = 0	3 x 4.75 = 14.25	29 x 22.85 = 662.65	88 x 48.44 = 4262.72	103 x 56.67 = 5837.01	10776.63
Commitment	0 x 1 = 0	2 x 4.75 = 9.5	21 x 22.85 = 479.85	68 x 48.44 = 3293.92	132 x 56.67 = 7480.44	11263.71
Composure	1 x 1 = 1	2 x 4.75 = 9.5	24 x 22.85 = 548.4	96 x 48.44 = 4650.24	100 x 56.67 = 5667	10876.14
Consistency	0 x 1 = 0	2 x 4.75 = 9.5	13 x 22.85 = 297.05	62 x 48.44 = 3003.28	146 x 56.67 = 8273.82	11583.65
Decisiveness	0 x 1 = 0	2 x 4.75 = 9.5	23 x 22.85 = 525.55	89 x 48.44 = 4311.16	109 x 56.67 = 6177.03	11023.24
Fitness	0 x 1 = 0	1 x 4.75 = 4.75	21 x 22.85 = 479.85	85 x 48.44 = 4117.4	116 x 56.67 = 6573.72	11175.72
Judgment	0 x 1 = 0	2 x 4.75 = 9.5	16 x 22.85 = 365.6	91 x 48.44 = 4408.04	114 x 56.67 = 6460.38	11243.52

Competencies	Irrelevant	Less important	Important	Very important	Essential	Weighted Score
Resoluteness	1 x 1 = 1	3 x 4.75 = 14.25	32 x 22.85 = 731.2	87 x 48.44 = 4214.28	100 x 56.67 = 5667	10627.73
Conflict handling	1 x 1 = 1	1 x 4.75 = 4.75	32 x 22.85 = 731.2	88 x 48.44 = 4262.72	101 x 56.67 = 5723.67	10723.34
Flexibility	0 x 1 = 0	3 x 4.75 = 14.25	40 x 22.85 = 914	100 x 48.44 = 4844	80 x 56.67 = 4533.6	10305.85
Player control	0 x 1 = 0	3 x 4.75 = 14.25	36 x 22.85 = 822.6	95 x 48.44 = 4601.8	89 x 56.67 = 5043.63	10482.28
Respect	2 x 1 = 2	3 x 4.75 = 14.25	35 x 22.85 = 799.75	69 x 48.44 = 3342.36	114 x 56.67 = 6460.38	10618.74
Athleticism	2 x 1 = 2	8 x 4.75 = 38	61 x 22.85 = 1393.85	89 x 48.44 = 4311.16	63 x 56.67 = 3570.21	9315.22
Authority	0 x 1 = 0	4 x 4.75 = 19	61 x 22.85 = 1393.85	90 x 48.44 = 4359.6	68 x 56.67 = 3853.56	9626.01
Problem analysis	0 x 1 = 0	3 x 4.75 = 14.25	28 x 22.85 = 639.8	95 x 48.44 = 4601.8	97 x 56.67 = 5496.99	10752.84
Technical skills - law application	0 x 1 = 0	2 x 4.75 = 9.5	41 x 22.85 = 936.85	83 x 48.44 = 4020.52	97 x 56.67 = 5496.99	10463.86
Communication on field - oral	0 x 1 = 0	3 x 4.75 = 14.25	27 x 22.85 = 616.95	88 x 48.44 = 4262.72	105 x 56.67 = 5950.35	10844.27
Ambition	3 x 1 = 3	9 x 4.75 = 42.75	43 x 22.85 = 982.55	76 x 48.44 = 3681.44	92 x 56.67 = 5213.64	9923.38
Stress tolerance	2 x 1 = 2	7 x 4.75 = 33.25	46 x 22.85 = 1051.1	83 x 48.44 = 4020.52	85 x 56.67 = 4816.95	9923.82
Eyesight	0 x 1 = 0	3 x 4.75 = 14.25	34 x 22.85 = 776.9	95 x 48.44 = 4601.8	91 x 56.67 = 5156.97	10549.92
Preparation	0 x 1 = 0	4 x 4.75 = 19	48 x 22.85 = 1096.8	84 x 48.44 = 4068.96	87 x 56.67 = 4930.29	10115.05
Technical skills - general	0 x 1 = 0	2 x 4.75 = 9.5	42 x 22.85 = 959.7	82 x 48.44 = 3972.08	97 x 56.67 = 5496.99	10438.27
Leadership	0 x 1 = 0	8 x 4.75 = 38	65 x 22.85 = 1485.25	85 x 48.44 = 4117.4	65 x 56.67 = 3683.55	9324.2
Initiative	0 x 1 = 0	8 x 4.75 = 38	55 x 22.85 = 1256.75	89 x 48.44 = 4311.16	71 x 56.67 = 4023.57	9629.48
Persuasiveness	6 x 1 = 6	10 x 4.75 = 47.5	69 x 22.85 = 1576.65	80 x 48.44 = 3875.2	58 x 56.67 = 3286.86	8792.21
Frustration tolerance	0 x 1 = 0	7 x 4.75 = 33.25	42 x 22.85 = 959.7	93 x 48.44 = 4504.92	81 x 56.67 = 4590.27	10088.14
Rapport with players	13 x 1 = 13	42 x 4.75 = 199.5	55 x 22.85 = 1256.75	69 x 48.44 = 3342.36	44 x 56.67 = 2493.48	7305.09
Dynamism	15 x 1 = 15	50 x 4.75 = 237.5	61 x 22.85 = 1393.85	51 x 48.44 = 2470.44	46 x 56.67 = 2606.82	6723.61
Competitiveness	7 x 1 = 7	27 x 4.75 = 128.25	47 x 22.85 = 1073.95	80 x 48.44 = 3875.2	62 x 56.67 = 3513.54	8597.94
Creativity/Innovation	2 x 1 = 2	24 x 4.75 = 114	71 x 22.85 = 1622.35	80 x 48.44 = 3875.2	46 x 56.67 = 2606.82	8220.37
Mental toughness	0 x 1 = 0	11 x 4.75 = 52.25	41 x 22.85 = 936.85	77 x 48.44 = 3729.88	94 x 56.67 = 5326.98	10045.96
Influence on players	3 x 1 = 3	15 x 4.75 = 71.25	39 x 22.85 = 891.15	90 x 48.44 = 4359.6	76 x 56.67 = 4306.92	9631.92

In Table 5.2 the weighted scores were calculated, and then presented as a competency index for rugby referees. The weighted scores of the competencies were then prioritized and presented in Table 5.3 from highest to lowest, ranging from the most important competency (highest weighted score) to the least important competency (lowest weighted score).

Table 5.3: Required competencies of rugby referees (weighted competency index for the total sample).

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
1.	Objectivity/Impartiality	11861.38
2.	Consistency	11583.65
3.	Concentration/Focus	11310.87
4.	Honesty/Integrity	11265.49
5.	Commitment	11263.71
6.	Judgment	11243.52
7.	Fitness	11175.72
8.	Trustworthiness	11085.04
9.	Decisiveness	11023.24
10.	Composure	10876.14
11.	Communication on field - oral	10844.27
12.	Self-confidence	10776.63
13.	Problem analysis	10752.84
14.	Conflict handling	10723.34
15.	Resoluteness	10627.73
16.	Respect	10618.74
17.	Eyesight	10549.92
18.	Player control	10482.28
19.	Technical skills - law application	10463.86
20.	Technical skills - general	10438.27
21.	Flexibility	10305.85
22.	Preparation	10115.05
23.	Frustration tolerance	10088.14
24.	Mental toughness	10045.96
25.	Stress tolerance	9923.82
26.	Ambition	9923.38
27.	Influence on players	9631.92
28.	Initiative	9629.48
29.	Authority	9626.01

30.	Leadership	9324.2
31.	Athleticism	9315.22
32.	Persuasiveness	8792.21
33.	Competitiveness	8597.94
34.	Creativity/Innovation	8220.37
35.	Rapport with players	7305.09
36.	Dynamism	6723.61

From Table 5.3 it is observed that the ten most important competencies required of rugby referees, in order of importance, are the following:

- **Objectivity / Impartiality** (*being able to treat both sides the same*)
- **Consistency** (*consistency in the way rules are applied during a match*)
- **Concentration / Focus** (*ability to stay focused during a match and not allow the mind to fluctuate*)
- **Honesty / Integrity** (*the ability to be honest with players, on and off the field*)
- **Commitment** (*dedication to do the best when preparing for games, know the rules, and always giving the best when refereeing a match*)
- **Judgment** (*ability to evaluate and judge situations during a match correctly*)
- **Fitness** (*fitness in terms of physical ability to keep up with play during a match*)
- **Trustworthiness** (*ability to make the players trust you and know that you will apply the laws consistently and fairly*)
- **Decisiveness** (*ability to reach quick and firm decisions*)
- **Composure** (*to be calm during difficult situations*)

5.3 WEIGHTED COMPETENCY INDEXES FOR THE BLUE BULLS REFEREES

The Blue Bulls referees participated in two rounds of surveys to help identify a list of competencies, with definitions, for use in this study. A total of 47 Blue Bulls referees participated during the first round, and 32 Blue Bulls referees in the second round. During 2003, there were only 54 active referees within the society, which indicates that the response rate from this society was very high.

5.3.1 RESULTS OF THE FIRST QUESTIONNAIRE

As discussed in the previous chapter a total of 41 competencies were included in the first draft questionnaire.

Space was provided, on this first draft, for the Blue Bulls referees to include additional competencies they view as important for a rugby referee to possess (Delphi technique applied). Through this open-ended question the following competencies, which were not included in the first draft of the questionnaire, were added:

- Big match temperament
- Mental toughness
- Neatness
- Loyalty to Society
- Courteousness

Of these additional competencies, the researcher judged that mental toughness was the only relevant competency to be added to the next draft questionnaire. Big match temperament can be seen as part of mental toughness. The definition used for mental toughness is: "having a strong character of mind".

A sample of 47 out of 54 active Blue Bulls referees (response rate of 87%) participated in the first round of the survey. This questionnaire presented the following responses, which can be seen in the matrix included as Appendix 5.

5.3.2 RESULTS OF THE SECOND QUESTIONNAIRE

As previously stated the second questionnaire that went to the Blue Bulls referees was compiled after taking into consideration the results obtained from the first questionnaire.

This questionnaire was completed by 32 of the active 54 Blue Bulls referees (response rate of 59%) and included 36 competencies. As indicated earlier, the only additional competency included in this questionnaire was mental toughness. The six competencies that were eliminated from the previous questionnaire were:

- Extroverted
- Introverted
- Biographical elements
- Self-motivation
- Communication – body language
- Teamwork

The matrix compiled from the frequency tables of this questionnaire is presented as Table 5.4.

Table 5.4: Matrix for the Blue Bulls Referees' responses to the second questionnaire.

Competency	Irrelevant	Less important	Important	Very important	A definite	Total number of Respondents
Trustworthiness	0	0	7	9	16	32
Concentration/Focus	0	3	6	9	14	32
Objectivity/Impartiality	0	0	1	13	18	32
Honesty/Integrity	0	0	7	9	16	32
Self-confidence	0	1	5	18	8	32
Commitment	0	1	8	7	16	32
Composure	1	2	3	17	9	32
Consistency	0	1	1	14	16	32
Decisiveness	0	0	3	17	12	32
Fitness	0	0	1	16	15	32
Judgment	0	1	3	14	14	32
Resoluteness	0	0	0	13	19	32
Conflict handling	0	0	6	11	15	32
Flexibility	0	2	6	15	9	32
Player control	0	0	6	16	10	32
Respect	0	1	6	15	10	32
Athleticism	1	3	11	13	4	32
Authority	0	1	10	14	7	32
Problem analysis	0	0	3	17	12	32
Technical skills - law application	0	0	2	18	12	32
Communication on field - oral	0	1	3	14	14	32
Ambition	0	4	5	15	8	32
Stress tolerance	0	3	11	10	8	32
Eyesight	0	0	4	17	11	32
Preparation	0	1	12	11	8	32
Technical skills - general	0	0	7	17	8	32
Leadership	0	0	9	13	10	32
Initiative	0	0	6	16	10	32
Persuasiveness	3	1	9	13	6	32
Frustration tolerance	0	1	9	16	6	32
Rapport with players	0	11	9	8	4	32
Dynamism	2	8	10	8	4	32
Competitiveness	0	8	7	11	6	32
Creativity/Innovation	0	7	11	9	5	32
Mental toughness	0	5	3	13	11	32
Influence on players	1	6	4	11	10	32
TOTALS	8	72	214	477	381	

This matrix was used in the following calculations to determine the estimated distances between the 5 points of this matrix.

- Estimated distance between the points “irrelevant” and “less important”

$$72 \div 8 = \mathbf{9}$$

- Estimated distance between the points “less important” and “important”

$$214 \div 72 = \mathbf{2.97}$$

- Estimated distance between the points “important” and “very important”

$$477 \div 214 = \mathbf{2.23}$$

- Estimated distance between the points “very important” and “a definite to possess”

$$381 \div 477 = \mathbf{0.80}$$

Subsequently, the real distances for this matrix were determined as follows:

- The first point on the scale will be 1 (1 was used as the base value in all instances)

- The real distance between the points “irrelevant” and “less important”

$$9 \times 1 = \mathbf{9}$$

- The real distance between the points “less important” and “important”

$$9 \times 2.97 = \mathbf{26.73}$$

- The real distance between the points “important” and “very important”

$$26.73 \times 2.23 = \mathbf{59.61}$$

- The real distance between the points “very important” and “a definite to possess”

$$59.61 \times 0.80 = \mathbf{47.69}$$

Table 5.5 indicates the weighted competency index for the Blue Bulls Referees after the second questionnaire (final draft) was received back.

Table 5.5: Weighted competency index for the Blue Bulls referees after questionnaire two.

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORES
1.	Technical skills - law application	1698.72
2.	Fitness	1695.84
3.	Resoluteness	1681.04
4.	Decisiveness	1665.84
5.	Problem analysis	1665.84
6.	Objectivity/Impartiality	1660.08
7.	Eyesight	1644.88
8.	Consistency	1633.31
9.	Self-confidence	1597.15
10.	Judgment	1591.39
11.	Communication on field - oral	1591.39
12.	Player control	1591.04
13.	Initiative	1591.04
14.	Technical skills - general	1582
15.	Composure	1541.77
16.	Respect	1540.43
17.	Conflict handling	1531.44
18.	Flexibility	1501.74
19.	Leadership	1492.4
20.	Frustration tolerance	1489.47
21.	Trustworthiness	1486.64
22.	Ambition	1445.32
23.	Authority	1444.67
24.	Mental toughness	1424.71
25.	Commitment	1403.15
26.	Concentration/Focus	1391.53
27.	Honesty/Integrity	1391.26
28.	Preparation	1366.99
29.	Persuasiveness	1313.64
30.	Stress tolerance	1298.65
31.	Influence on players	1294.53
32.	Athleticism	1287.72
33.	Competitiveness	1200.96
34.	Creativity/Innovation	1131.97
35.	Dynamism	1008.94
36.	Rapport with players	1007.21

The ten most important competencies according to this weighted competency index of the Blue Bulls referees are:

- **Technical skills – law application** (*all the detail regarding the laws and their application during play*)
- **Fitness** (*fitness in terms of physical ability to keep up with play during a match*)
- **Resoluteness** (*ability to keep to a decision after it has been made, right or wrong*)
- **Decisiveness** (*ability to reach quick and firm decisions*)
- **Problem analysis** (*ability to consider all the facts and quickly analyse situations on the field*)
- **Objectivity/Impartiality** (*being able to treat both sides the same*)
- **Eyesight** (*being able to see the action on the field, “broad vision” during a match*)
- **Consistency** (*consistency in the way rules are applied during a match*)
- **Self-confidence** (*belief in own ability to select appropriate courses of action*)
- **Judgment** (*ability to evaluate and judge situations during a match correctly*)

5.4 WEIGHTED COMPETENCY INDEX FOR THE BLUE BULLS PLAYERS

A total of 35 Blue Bulls Currie Cup players completed the questionnaire, which is a high response rate considering a team consists of 15-22 players. An exact response rate cannot be determined because the squad changes as the season progresses. The matrix compiled from the frequency tables of this questionnaire can be seen in Table 5.6.

Table 5.6: Matrix for the Blue Bulls Currie Cup players of 2003.

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Trustworthiness	1	1	7	9	17	35
Concentration/Focus	0	1	3	12	19	35
Objectivity/Impartiality	0	1	5	5	24	35
Honesty/Integrity	1	1	10	8	15	35
Self-confidence	0	1	11	9	14	35
Commitment	0	1	5	7	22	35
Composure	0	0	7	15	13	35
Consistency	0	0	5	6	24	35
Decisiveness	0	0	10	15	10	35
Fitness	0	1	9	10	15	35
Judgment	0	1	3	12	19	35
Resoluteness	0	3	9	10	13	35
Conflict handling	1	0	7	15	12	35
Flexibility	0	1	6	18	10	35
Player control	0	1	6	15	13	35
Respect	2	0	6	11	16	35
Athleticism	1	3	12	8	11	35
Authority	0	1	10	13	11	35
Problem analysis	0	1	8	11	15	35
Technical skills - law application	0	1	9	7	18	35
Communication on field - oral	0	0	3	11	21	35
Ambition	2	0	8	8	17	35
Stress tolerance	2	0	7	12	14	35
Eyesight	0	1	7	13	14	35
Preparation	0	2	6	12	15	35

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Technical skills - general	0	0	10	5	20	35
Leadership	0	4	11	5	15	35
Initiative	0	2	10	11	12	35
Persuasiveness	1	1	14	11	8	35
Frustration tolerance	0	2	6	13	14	35
Rapport with players	3	2	11	12	7	35
Dynamism	4	6	10	9	6	35
Competitiveness	1	0	6	12	16	35
Creativity/Innovation	2	1	7	14	11	35
Mental toughness	0	2	10	8	15	35
Influence on players	1	3	8	12	11	35
TOTALS	22	45	282	384	527	

The estimated distances, considering the above matrix, between the 5 points of this matrix is as follows:

- Estimated distance between the points “irrelevant” and “less important”
 $45 \div 22 = \mathbf{2.05}$
- Estimated distance between the points “less important” and “important”
 $282 \div 45 = \mathbf{6.27}$
- Estimated distance between the points “important” and “very important”
 $384 \div 282 = \mathbf{1.36}$
- Estimated distance between the points “very important” and “essential”
 $527 \div 384 = \mathbf{1.37}$

Subsequently, the real distances for this matrix were determined as follows:

- The first point on the scale will be 1 (1 was used as the base value in all instances)
- The real distance between the points “irrelevant” and “less important”
 $2.05 \times 1 = \mathbf{2.05}$
- The real distance between the points “less important” and “important”
 $2.05 \times 6.27 = \mathbf{12.85}$
- The real distance between the points “important” and “very important”
 $12.85 \times 1.36 = \mathbf{17.48}$
- The real distance between the points “very important” and “essential”
 $17.48 \times 1.37 = \mathbf{23.94}$

Table 5.7 indicates the competency index for the 35 Blue Bulls Currie Cup players of 2003.

Table 5.7: Weighted competency index for Blue Bulls Currie Cup players.

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
1.	Consistency	743.69
2.	Communication on field - oral	733.57
3.	Objectivity/Impartiality	728.26
4.	Commitment	715.34
5.	Concentration/Focus	705.22
6.	Judgment	705.22
7.	Technical skills - general	694.7
8.	Technical skills - law application	670.98
9.	Competitiveness	670.9
10.	Composure	663.37
11.	Trustworthiness	657.3
12.	Problem analysis	656.23
13.	Respect	655.02
14.	Eyesight	654.4
15.	Player control	652.57

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
16.	Ambition	651.62
17.	Fitness	651.6
18.	Preparation	650.06
19.	Frustration tolerance	643.6
20.	Conflict handling	640.43
21.	Stress tolerance	636.87
22.	Self-confidence	635.88
23.	Flexibility	633.19
24.	Mental toughness	631.54
25.	Honesty/Integrity	630.49
26.	Decisiveness	630.1
27.	Authority	621.13
28.	Initiative	612.16
29.	Resoluteness	607.82
30.	Creativity/Innovation	602.06
31.	Leadership	596.05
32.	Influence on players	583.05
33.	Persuasiveness	566.75
34.	Athleticism	564.53
35.	Rapport with players	525.79
36.	Dynamism	445.76

According to Table 5.7 the ten most important competencies in the opinion of the Blue Bulls Currie Cup players are:

- **Consistency** (*consistency in the way rules are applied during a match*)
- **Communication on the field – oral** (*ability to communicate in a manner that the message is very clear and the players know exactly what is expected of them*)
- **Objectivity / Impartiality** (*being able to treat both sides the same*)
- **Commitment** (*dedication to do the best when preparing for games, know the rules, and always giving the best when refereeing a match*)
- **Concentration / Focus** (*ability to stay focused during a match and not to allow the mind to fluctuate*)
- **Judgment** (*ability to evaluate and judge situations during a match correctly*)
- **Technical skills – law application** (*all the detail regarding the laws and their application during play*)

- **Technical skills – general** (*e.g. knowledge on scrum techniques in general and not only in terms of the rugby laws*)
- **Competitiveness** (*the referee should care how well he performs in relation to other referees: “he should want to be the best referee”*)
- **Composure** (*to be calm during difficult situations*)

5.5 WEIGHTED COMPETENCY INDEX FOR THE GAUTENG LIONS REFEREES

A total of 69 Gauteng Lions referees completed the questionnaire. The frequency tables (descriptive statistics) were used to compile the matrix in Table 5.8.

Table 5.8: Matrix for the Gauteng Lions Referees.

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Trustworthiness	0	2	6	17	44	69
Concentration/Focus	0	1	4	27	37	69
Objectivity/Impartiality	0	0	1	16	52	69
Honesty/Integrity	0	0	4	14	51	69
Self-confidence	0	1	3	33	32	69
Commitment	0	0	3	28	38	69
Composure	0	0	7	33	29	69
Consistency	0	1	3	19	46	69
Decisiveness	0	1	7	26	35	69
Fitness	0	0	6	32	31	69
Judgment	0	0	5	34	30	69
Resoluteness	1	0	8	31	29	69
Conflict handling	1	0	11	32	25	69
Flexibility	0	0	12	34	23	69
Player control	1	0	12	34	22	69
Respect	0	2	12	20	35	69
Athleticism	0	1	22	28	18	69
Authority	0	0	25	28	16	69
Problem analysis	0	0	9	33	27	69
Technical skills- law application	0	0	16	32	21	69
Communication on field - oral	0	1	13	31	24	69

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Ambition	1	4	19	22	23	69
Stress tolerance	0	2	18	29	20	69
Eyesight	0	0	15	32	22	69
Preparation	0	1	15	34	19	69
Technical skills - general	0	1	16	28	24	69
Leadership	0	3	25	25	16	69
Initiative	0	5	15	30	19	69
Persuasiveness	0	3	23	25	18	69
Frustration tolerance	0	2	17	28	22	69
Rapport with players	3	16	15	23	12	69
Dynamism	3	19	19	14	14	69
Competitiveness	1	6	21	30	11	69
Creativity/Innovation	0	6	24	28	11	69
Mental toughness	0	3	14	25	27	69
Influence on players	1	5	13	30	20	69
TOTALS	12	86	458	985	943	

The estimated distances, considering the above matrix, between the 5 points of this matrix is as follows:

- Estimated distance between the points “irrelevant” and “less important”
 $86 \div 12 = 7.17$
- Estimated distance between the points “less important” and “important”
 $458 \div 86 = 5.33$
- Estimated distance between the points “important” and “very important”
 $985 \div 458 = 2.15$
- Estimated distance between the points “very important” and “essential”
 $943 \div 985 = 0.96$

The real distances for the points on this matrix were, subsequently, determined as follows:

- The first point on the scale will be 1 (1 was used as the base value in all instances)
- The real distance between the points “irrelevant” and “less important”
 $7.17 \times 1 = 7.17$
- The real distance between the points “less important” and “important”
 $7.17 \times 5.33 = 38.21$
- The real distance between the points “important” and “very important”
 $38.21 \times 2.15 = 82.15$
- The real distance between the points “very important” and “essential”
 $82.15 \times 0.96 = 78.86$

Table 5.9: Weighted competency index for the Gauteng Lions referees.

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
1.	Objectivity/Impartiality	5453.33
2.	Commitment	5411.51
3.	Self-confidence	5356.27
4.	Judgment	5349.95
5.	Honesty/Integrity	5324.8
6.	Consistency	5310.21
7.	Fitness	5302.72
8.	Concentration/Focus	5295.88
9.	Composure	5265.36
10.	Problem analysis	5184.06
11.	Decisiveness	5170.64
12.	Resoluteness	5140.27
13.	Trustworthiness	5109.99
14.	Flexibility	5065.4
15.	Conflict handling	5021.61
16.	Player control	4987.54
17.	Communication on field - oral	4943.19
18.	Eyesight	4936.87
19.	Technical skills- law application	4896.22

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
20.	Respect	4875.96
21.	Preparation	4871.76
22.	Technical skills - general	4811.37
23.	Mental toughness	4739.42
24.	Frustration tolerance	4699.03
25.	Stress tolerance	4661.67
26.	Influence on players	4575.28
27.	Initiative	4571.84
28.	Athleticism	4567.47
29.	Authority	4517.21
30.	Ambition	4376.75
31.	Persuasiveness	4373.57
32.	Leadership	4292.27
33.	Competitiveness	4178.39
34.	Creativity/Innovation	4127.72
35.	Rapport with players	3526.64
36.	Dynamism	3119.36

From Table 5.9 the ten most important competencies in the view of the Gauteng Lions referees are:

- **Objectivity / Impartiality** (*being able to treat both sides the same*)
- **Commitment** (*dedication to do the best when preparing for games, know the rules, and always giving the best when refereeing a match*)
- **Self-confidence** (*belief in own ability to select appropriate courses of action*)
- **Judgment** (*ability to evaluate and judge situations during a match correctly*)
- **Honesty / Integrity** (*ability to be honest with players, on and off the field*)
- **Consistency** (*consistency in the way rules are applied during a match*)
- **Fitness** (*fitness in terms of physical ability to keep up with play during a match*)
- **Concentration / Focus** (*ability to stay focused during a match and not to allow the mind to fluctuate*)
- **Composure** (*to be calm during difficult situations*)
- **Problem analysis** (*ability to consider all the facts and quickly analyse situations on the field*)

5.6 WEIGHTED COMPETENCY INDEX FOR THE WESTERN PROVINCE REFEREES

A total of 50 Western Province referees participated in the study. Descriptive statistics (frequency tables) were used to compile a matrix for the Western Province referees as can be seen in Table 5.10.

Table 5.10: Matrix for the Western Province referees.

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Trustworthiness	0	1	2	12	35	50
Concentration/focus	0	0	1	11	38	50
Objectivity/Impartiality	0	0	1	12	37	50
Honesty/Integrity	0	0	2	12	36	50
Self-confidence	0	0	5	18	27	50
Commitment	0	0	1	13	36	50
Composure	0	0	4	19	27	50
Consistency	0	0	1	13	36	50
Decisiveness	0	1	1	17	31	50
Fitness	0	0	2	14	34	50
Judgment	0	0	2	15	33	50
Resoluteness	0	0	5	20	25	50
Conflict handling	0	0	4	14	32	50
Flexibility	0	0	9	19	22	50
Player control	0	0	5	18	27	50
Respect	0	0	4	13	33	50
Athleticism	0	0	5	26	19	50
Authority	0	2	8	22	18	50
Problem analysis	0	1	6	17	26	50
Technical skills - law application	0	0	7	21	22	50
Communication on field - oral	0	0	3	21	26	50
Ambition	1	1	4	20	24	50
Stress tolerance	0	1	3	18	28	50
Eyesight	0	1	4	17	28	50
Preparation	0	0	5	18	27	50
Technical skills - general	0	1	4	20	25	50

Competency	Irrelevant	Less important	Important	Very important	Essential	Total respondents
Leadership	0	0	8	27	15	50
Initiative	0	1	11	18	20	50
Persuasiveness	2	2	13	20	13	50
Frustration tolerance	0	1	7	19	23	50
Rapport with players	5	4	15	15	11	50
Dynamism	5	7	15	13	10	50
Competitiveness	4	6	7	15	18	50
Creativity/Innovation	0	4	16	19	11	50
Mental toughness	0	1	7	20	22	50
Influence on players	0	0	9	18	23	50
TOTALS	17	35	206	624	918	

The above matrix was used to determine the estimated distances between points on the scale used. The estimated distances between the 5 points of this matrix were determined as follows:

- Estimated distance between the points “irrelevant” and “less important”
 $35 \div 17 = \mathbf{2.06}$
- Estimated distance between the points “less important” and “important”
 $206 \div 35 = \mathbf{5.89}$
- Estimated distance between the points “important” and “very important”
 $624 \div 206 = \mathbf{3.03}$
- Estimated distance between the points “very important” and “essential”
 $918 \div 624 = \mathbf{1.47}$

The real distances for the points on this matrix were determined as follows:

- The first point on the scale will be 1 (1 was used as the base value in all instances)
- The real distance between the points “irrelevant” and “less important”
 $2.06 \times 1 = \mathbf{2.06}$
- The real distance between the points “less important” and “important”
 $2.06 \times 5.89 = \mathbf{12.13}$
- The real distance between the points “important” and “very important”
 $12.13 \times 3.03 = \mathbf{36.75}$
- The real distance between the points “very important” and “essential”
 $36.75 \times 1.47 = \mathbf{54.02}$

Table 5.11: Weighted competency index for the Western Province referees.

NUMBER DESCENDING	COMPETENCIES	WEIGHTED SCORE
1.	Concentration/Focus	2469.14
2.	Objectivity/Impartiality	2451.87
3.	Commitment	2434.6
4.	Consistency	2434.6
5.	Honesty/Integrity	2409.98
6.	Fitness	2375.44
7.	Judgment	2358.17
8.	Trustworthiness	2358.02
9.	Decisiveness	2313.56
10.	Respect	2308.93
11.	Conflict handling	2291.66
12.	Communication on field – oral	2212.66
13.	Stress tolerance	2212.51
14.	Composure	2205.31
15.	Eyesight	2187.89
16.	Player control	2180.69
17.	Preparation	2180.69
18.	Self-confidence	2180.69
19.	Resoluteness	2146.15
20.	Technical skills - general	2136.08
21.	Problem analysis	2104.11
22.	Ambition	2083.06

NUMBER DESCENDING	COMPETENCIES	WEIGHTED SCORE
23.	Technical skills - law application	2045.1
24.	Athleticism	2042.53
25.	Frustration tolerance	2027.68
26.	Influence on players	2013.13
27.	Mental toughness	2010.41
28.	Flexibility	1995.86
29.	Leadership	1899.59
30.	Authority	1882.02
31.	Initiative	1877.39
32.	Competitiveness	1624.88
33.	Persuasiveness	1601.07
34.	Creativity/Innovation	1488.61
35.	Rapport with players	1340.66
36.	Dynamism	1219.32

From Table 5.11 the ten most important competencies according to the Western Province referees are:

- **Concentration / Focus** (*ability to stay focused during a match and not to allow the mind to fluctuate*)
- **Objectivity / Impartiality** (*being able to treat both sides the same*)
- **Commitment** (*dedication to do the best when preparing for games, know the rules, and always giving the best when refereeing a match*)
- **Consistency** (*consistency in the way rules are applied during a match*)
- **Honesty / Integrity** (*ability to be honest with players, on and off the field*)
- **Fitness** (*fitness in terms of physical ability to keep up with play during a match*)
- **Judgment** (*ability to evaluate and judge situations during a match correctly*)
- **Trustworthiness** (*ability to make the players trust you and to know that you will apply laws consistently and fairly*)
- **Decisiveness** (*ability to reach quick and firm decisions*)
- **Respect** (*treating the players on and off the field with the dignity they deserve as human beings*)

5.7 WEIGHTED COMPETENCY INDEX FOR THE FREE STATE REFEREES

A total of 10 Free State referees responded to the competency questionnaire. Although the total of 10 respondents is insufficient to compile a useful individual weighted competency index, the weighted index was still compiled to help determine tendencies between the various response groups. The matrix for these referees can be seen in Appendix 6.

Table 5.12: Weighted competency index for the Free State referees.

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
1.	Problem analysis	505.6
2.	Decisiveness	492.14
3.	Influence on players	478.68
4.	Judgment	471.54
5.	Technical skills - general	471.54
6.	Frustration tolerance	471.54
7.	Trustworthiness	464.4
8.	Concentration/focus	464.4
9.	Honesty/Integrity	464.4
10.	Leadership	464.4
11.	Fitness	458.08
12.	Flexibility	458.08
13.	Eyesight	458.08
14.	Commitment	437.48
15.	Resoluteness	437.48
16.	Player control	437.48
17.	Respect	437.48
18.	Authority	437.48
19.	Communication on field - oral	437.48
20.	Composure	430.34
21.	Athleticism	430.34
22.	Ambition	430.34
23.	Conflict handling	424.02
24.	Initiative	424.02
25.	Objectivity/Impartiality	423.2
26.	Consistency	416.88

NUMBER DESCENDING	COMPETENCY	WEIGHTED SCORE
27.	Technical skills - law application	416.88
28.	Mental toughness	403.42
29.	Self-confidence	396.28
30.	Persuasiveness	357.49
31.	Competitiveness	337.4
32.	Stress tolerance	329.75
33.	Preparation	321.84
34.	Creativity/Innovation	309.97
35.	Dynamism	263.73
36.	Rapport with players	250.27

In the above competency index some competencies had the same weighted score because of the low response rate from the Free State referees. It is interesting to note that the three most important competencies, all with different weighted scores, are:

- **Problem analysis** (*ability to consider all the facts and quickly analyse situations on the field*)
- **Decisiveness** (*ability to reach quick and firm decisions*)
- **Influence on players** (*ability to influence players' attitudes positively*)

5.8 COMPETENCY MATRIXES FROM OTHER UNIONS / SOCIETIES

The following referee and players unions and societies did respond, but in too low numbers to warrant the compilation of weighted competency indexes:

Table 5.13: Referee and player unions and societies with low response numbers.

REFEREE SOCIETY/UNION OR CURRIE CUP TEAM	NUMBER OF RESPONSES
Natal referees	3
Griquas referees	5
South Western Districts referees	6
Eastern Province referees	5
Natal Sharks Currie Cup players	6

Because of the low responses from some of the referee and player unions and societies from Table 5.13, only their competency matrixes will be provided, and not in the form of weighted competency indexes. This data was used in the compilation of the weighted competency index for all the respondents and the matrixes are included as Appendix 7.

Some referee unions/societies and Currie Cup players' responses were too low to warrant the inclusion of a separate competency matrix. These responses were, however, included in the compilation of the final weighted competency index (Table 5.3) and are, therefore, also important to mention. Table 5.14 indicates the referee unions/societies and Currie cup teams that did not respond, or presented only one response, and could not be included separately as competency matrixes or competency indexes.

Table 5.14: Referee Unions/Societies and Currie Cup teams with no response, or a response rate of one.

REFEREE SOCIETY/UNION OR CURRIE CUP TEAM	NUMBER OF RESPONSES
Boland Cavaliers Referees	1
Border Bulldogs Referees	0
Falcons Referees	0
North West Leopards Referees	0
Griffons Referees	0
Free State Cheetahs Players	1
Boland Cavaliers Players	0
Border Bulldogs Players	0
Griqualand West Players	0
Gauteng Lions Players	0
North West Leopard Players	0
Mpumalanga Pumas Players	0
Northern Free State Griffons Players	0
South Western Districts Eagles Players	0
Western Province Players	0
Falcons Players	0
Natal Sharks Players	0

As mentioned in Chapter 4 it is important to compare the perception of the various response groups. The following section will discuss these comparisons in more detail.

5.9 COMPARISON OF THE PERCEPTIONS OF THE DIFFERENT GROUPS WITH REGARD TO THE RELEVANCE OF THE COMPETENCIES

The weighted competency indexes, compiled for the different groups, cannot be compared with each other because the weighted scores are not on the same scale.

This difference in weighted scores occurs because of the different response rates from the referees and players. The Gauteng Lions referees had the most respondents, their total being 69 referees. The weighted competency index with the least number of respondents was that of the Free State referees with ten respondents. Therefore, all the other weighted indexes must be adjusted before any comparisons can be made. The analysis of variance (ANOVA) method was utilised for the comparison of different groups as was discussed in Chapter 4.

5.9.1 COMPARISON BETWEEN FOUR GROUPS UTILISING ANOVA

An ANOVA was completed because the data does not meet the requirements of a normal distribution. The descriptive data for the ANOVA between the four groups are attached as Appendix 8. The four groups used for the comparison are:

- Gauteng Lions referees (n=69)
- Western Province referees (n=50)
- Blue Bulls players (n=35)
- Blue Bulls referees (n=32)

Table 5.15: ANOVA for four groups.

Competency		Sum of Squares	Mean Square	Significance Value
Trustworthiness	Between Groups	5.665	1.888	.038
	Within Groups	119.781	.658	
	Total	125.446		
Concentration/Focus	Between Groups	9.097	3.032	.001*
	Within Groups	94.967	.522	
	Total	104.065		
Objectivity/Impartiality	Between Groups	2.189	.730	.097
	Within Groups	62.096	.341	
	Total	64.285		
Honesty/Integrity	Between Groups	13.410	4.470	.000*
	Within Groups	95.084	.522	
	Total	108.495		
Self-confidence	Between Groups	5.861	1.954	.014
	Within Groups	97.601	.536	
	Total	103.462		
Commitment	Between Groups	5.286	1.762	.013
	Within Groups	87.193	.479	
	Total	92.478		
Composure	Between Groups	4.639	1.546	.038
	Within Groups	98.377	.541	
	Total	103.016		
Consistency	Between Groups	1.748	.583	.243
	Within Groups	75.542	.415	
	Total	77.290		
Decisiveness	Between Groups	6.581	2.194	.005*
	Within Groups	89.398	.491	
	Total	95.978		
Fitness	Between Groups	5.973	1.991	.005*
	Within Groups	80.974	.445	
	Total	86.946		
Judgment	Between Groups	2.855	.952	.096
	Within Groups	80.591	.443	
	Total	83.446		
Resoluteness	Between Groups	8.450	2.817	.003*
	Within Groups	104.690	.575	
	Total	113.140		
Conflict handling	Between Groups	6.469	2.156	.012
	Within Groups	104.994	.577	
	Total	111.462		
Flexibility	Between Groups	1.614	.538	.425
	Within Groups	104.752	.576	
	Total	106.366		
Player control	Between Groups	3.501	1.167	.093
	Within Groups	97.897	.538	
	Total	101.398		

Competency		Sum of Squares	Mean Square	Significance Value
Respect	Between Groups	6.527	2.176	.030
	Within Groups	130.210	.715	
	Total	136.737		
Athleticism	Between Groups	12.776	4.259	.001*
	Within Groups	134.670	.740	
	Total	147.446		
Authority	Between Groups	1.940	.647	.398
	Within Groups	118.796	.653	
	Total	120.737		
Problem analysis	Between Groups	1.031	.344	.599
	Within Groups	99.985	.549	
	Total	101.016		
Technical skills - law application	Between Groups	2.280	.760	.258
	Within Groups	101.956	.560	
	Total	104.237		
Communication on field - oral	Between Groups	4.781	1.594	.026
	Within Groups	91.864	.505	
	Total	96.645		
Ambition	Between Groups	77.614	25.871	.156
	Within Groups	2675.031	14.698	
	Total	2752.645		
Stress tolerance	Between Groups	12.289	4.096	.001*
	Within Groups	137.802	.757	
	Total	150.091		
Eyesight	Between Groups	3.621	1.207	.092
	Within Groups	100.896	.554	
	Total	104.516		
Preparation	Between Groups	8.137	2.712	.005*
	Within Groups	112.766	.620	
	Total	120.903		
Technical skills - general	Between Groups	3.364	1.121	.146
	Within Groups	112.276	.617	
	Total	115.640		
Leadership	Between Groups	4.544	1.515	.103
	Within Groups	132.021	.725	
	Total	136.565		
Initiative	Between Groups	2.068	.689	.421
	Within Groups	132.884	.730	
	Total	134.952		
Persuasiveness	Between Groups	1.302	.434	.715
	Within Groups	174.289	.958	
	Total	175.591		
Frustration tolerance	Between Groups	3.682	1.227	.149
	Within Groups	124.108	.682	
	Total	127.790		

Competency		Sum of Squares	Mean Square	Significance Value
Rapport with players	Between Groups	1.776	.592	.724
	Within Groups	244.574	1.344	
	Total	246.349		
Dynamism	Between Groups	.321	.107	.974
	Within Groups	263.292	1.447	
	Total	263.613		
Competitiveness	Between Groups	9.962	3.321	.034
	Within Groups	205.162	1.127	
	Total	215.124		
Creativity/Innovation	Between Groups	3.665	1.222	.255
	Within Groups	162.980	.895	
	Total	166.645		
Mental toughness	Between Groups	2.303	.768	.423
	Within Groups	148.756	.817	
	Total	151.059		
Influence on players	Between Groups	7.277	2.426	.059
	Within Groups	174.530	.959	
	Total	181.806		

* The mean difference is significant at the 0.05 level.

From Table 5.15 the following competencies were significantly different between the four groups (mean difference is significant at the 0.05 level):

- Concentration / Focus
- Honesty / Integrity
- Decisiveness
- Fitness
- Resoluteness
- Athleticism
- Stress tolerance
- Preparation

In Table 5.16 a multiple comparison Scheffe for the ANOVA was completed. This comparison helps in identifying between which of the four groups the competencies were significantly different.

Table 5.16: Multiple comparisons Scheffe of ANOVA for the competencies that show significant differences.

Dependent Variable	(I) Main groupings	(J) Main groupings	Mean Difference (I-J)	Std. Error	Significance Value
Concentration/ Focus	WP refs	Lions refs	.29	.134	.199
		Bulls refs	.68	.164	.001*
		Bulls players	.34	.159	.211
	Lions refs	WP refs	-.29	.134	.199
		Bulls refs	.39	.154	.103
		Bulls players	.05	.150	.991
	Bulls refs	WP refs	-.68	.164	.001*
		Lions refs	-.39	.154	.103
		Bulls players	-.34	.177	.305
	Bulls players	WP refs	-.34	.159	.211
		Lions refs	-.05	.150	.991
		Bulls refs	.34	.177	.305
Honesty/Integrity	WP refs	Lions refs	.00	.134	1.000
		Bulls refs	.34	.164	.242
		Bulls players	.68	.159	.001*
	Lions refs	WP refs	.00	.134	1.000
		Bulls refs	.34	.155	.194
		Bulls players	.68	.150	.000*
	Bulls refs	WP refs	-.34	.164	.242
		Lions refs	-.34	.155	.194
		Bulls players	.34	.177	.289
	Bulls players	WP refs	-.68	.159	.001*
		Lions refs	-.68	.150	.000*
		Bulls refs	-.34	.177	.289
Decisiveness	WP refs	Lions refs	.18	.130	.578
		Bulls refs	.25	.159	.489
		Bulls players	.56	.154	.005*
	Lions refs	WP refs	-.18	.130	.578
		Bulls refs	.06	.150	.980
		Bulls players	.38	.145	.085
	Bulls refs	WP refs	-.25	.159	.489
		Lions refs	-.06	.150	.980
		Bulls players	.31	.171	.347
	Bulls players	WP refs	-.56	.154	.005*
		Lions refs	-.38	.145	.085
		Bulls refs	-.31	.171	.347
Fitness	WP refs	Lions refs	.28	.124	.174
		Bulls refs	.17	.151	.733
		Bulls players	.53	.147	.006*
	Lions refs	WP refs	-.28	.124	.174
		Bulls refs	-.11	.143	.906
		Bulls players	.25	.138	.363
	Bulls refs	WP refs	-.17	.151	.733
		Lions refs	.11	.143	.906
		Bulls players	.35	.163	.197
	Bulls players	WP refs	-.53	.147	.006*
		Lions refs	-.25	.138	.363
		Bulls refs	-.35	.163	.197
Resoluteness	WP refs	Lions refs	.14	.141	.807
		Bulls refs	-.22	.172	.634
		Bulls players	.46	.167	.062

Dependent Variable	(I) Main groupings	(J) Main groupings	Mean Difference (I-J)	Std. Error	Significance Value
	Lions refs	WP refs	-.14	.141	.807
		Bulls refs	-.36	.162	.173
		Bulls players	.32	.157	.256
	Bulls refs	WP refs	.22	.172	.634
		Lions refs	.36	.162	.173
		Bulls players	.68	.186	.004*
	Bulls players	WP refs	-.46	.167	.062
		Lions refs	-.32	.157	.256
		Bulls refs	-.68	.186	.004*
Athleticism	WP refs	Lions refs	.37	.160	.157
		Bulls refs	.75	.195	.003*
		Bulls players	.57	.190	.033
	Lions refs	WP refs	-.37	.160	.157
		Bulls refs	.38	.184	.234
		Bulls players	.20	.179	.744
	Bulls refs	WP refs	-.75	.195	.003*
		Lions refs	-.38	.184	.234
		Bulls players	-.18	.210	.860
	Bulls players	WP refs	-.57	.190	.033
		Lions refs	-.20	.179	.744
		Bulls refs	.18	.210	.860
Stress tolerance	WP refs	Lions refs	.49	.162	.030
		Bulls refs	.74	.197	.003*
		Bulls players	.43	.192	.171
	Lions refs	WP refs	-.49	.162	.030
		Bulls refs	.25	.186	.608
		Bulls players	-.06	.181	.992
	Bulls refs	WP refs	-.74	.197	.003*
		Lions refs	-.25	.186	.608
		Bulls players	-.31	.213	.549
	Bulls players	WP refs	-.43	.192	.171
		Lions refs	.06	.181	.992
		Bulls refs	.31	.213	.549
Preparation	WP refs	Lions refs	.41	.146	.051*
		Bulls refs	.60	.178	.012
		Bulls players	.30	.173	.404
	Lions refs	WP refs	-.41	.146	.051*
		Bulls refs	.19	.168	.751
		Bulls players	-.11	.163	.922
	Bulls refs	WP refs	-.60	.178	.012
		Lions refs	-.19	.168	.751
		Bulls players	-.30	.193	.493
	Bulls players	WP refs	-.30	.173	.404
		Lions refs	.11	.163	.922
		Bulls refs	.30	.193	.493

* The mean difference is significant at the 0.05 level.

From Table 5.16 the significant differences between the four groups can be individually seen, for the competencies that had a significant difference in Table 5.15. The descriptive data of the ANOVA, attached as Appendix 8, includes the mean (average) scores for each of the four groups. This mean score indicated which of the groups rated specific competencies higher.

- Concentration / Focus
 - The significant difference for this competency is between the Blue Bulls referees and the Western Province referees. The Western Province referees rated this competency higher (mean score of 4.74) compared to the Blue Bulls referees (mean score of 4.06).
- Honesty / Integrity
 - The significant difference for this competency is between the Western Province referees and the Blue Bulls players, and also between the Gauteng Lions referees and the Blue Bulls players. In both cases the Gauteng Lions referees and the Western Province referees (both with mean scores of 4.68) rated “Honesty/Integrity” higher compared with the Blue Bulls players (mean score of 4.00).
- Decisiveness
 - The significant difference for this competency is between the Western Province referees who rated “Decisiveness” higher (mean score of 4.56) compared to the Blue Bulls players (mean score of 4.00).
- Fitness
 - The significant difference for this competency is between the Western Province referees and the Blue Bulls players, with the Western Province referees rating the competency higher (mean score of 4,64) compared to the Blue Bulls players (mean score of 4.11).

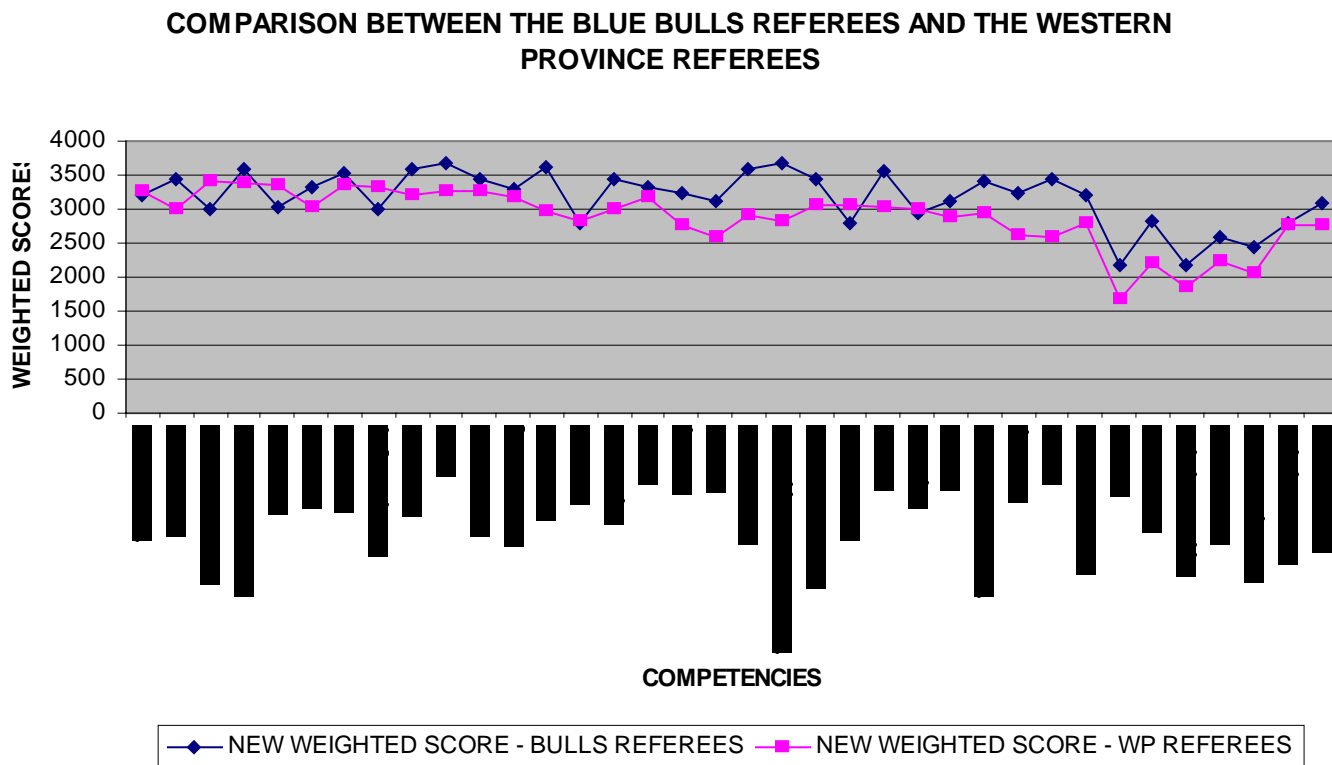
- Resoluteness
 - The significant difference for this competency is between the Blue Bulls players (mean score of 3.94) and the Blue Bulls referees (mean score of 4.63). The Blue Bulls referees rated the competency higher compared to the players.
- Athleticism
 - The significant difference for this competency is between Blue Bulls referees (mean score of 3.53) and the Western Province referees (mean score of 4.28). The Western Province referees rated “Athleticism” higher compared to the Blue Bulls referees.
- Stress tolerance
 - The significant difference for this competency is between the Blue Bulls referees and the Western Province referees, with the Western Province referees rating the competency higher (mean score of 4.46) compared to the Blue Bulls referees (mean score of 3.72).
- Preparation
 - The significant difference for this competency is between the Western Province referees (mean score of 4.44) and the Gauteng Lions referees (mean score of 4.03).

It is interesting to note that the significant differences of three competencies occur between the Blue Bulls referees and the Western Province referees, and on three occasions between the Blue Bulls players and the Western Province referees. The Western Province referees rated the competencies higher in all instances. This finding is supported by the graphical comparison of these specific competencies, where there are significant differences, in the graphical comparison between the Blue Bulls referees and the Western Province referees, figure 5.1.

5.9.2 GRAPHICAL COMPARISON OF THE COMPETENCIES IDENTIFIED BY THE BLUE BULLS REFEREES (n=32) AND THE WESTERN PROVINCE REFEREES (n=50) UTILISING THE WEIGHTED SCORES

Both the Blue Bulls and the Western Province referees original weighted scores were adjusted to the 69 respondents from the Gauteng Lions referees to make a graphical comparison possible. This comparison is presented in Figure 5.1.

Figure 5.1:



From Figure 5.1 it is clear that some differences do occur between the perceptions of the Western Province referees and Blue Bulls referees with regard to the importance of some of the competencies. This observation supports the finding from the ANOVA between the four groups (Table 5.16).

Figure 5.1 also indicated that the competencies “Trustworthiness”, “Athleticism” and “Influence on players” had the same weighted score from both the Western Province and Blue Bulls referees. The following competencies were rated very similarly by the two referee societies:

- Objectivity / Impartiality
- Commitment
- Composure
- Consistency
- Honesty / Integrity
- Judgment
- Conflict handling
- Respect
- Stress tolerance
- Ambition
- Mental toughness

5.9.3 GRAPHICAL COMPARISON OF THE COMPETENCIES IDENTIFIED BY THE BLUE BULLS REFEREES (N=32) AND THE BLUE BULLS CURRIE CUP PLAYERS (N=35) UTILISING THE WEIGHTED SCORES

Figure 5.2:

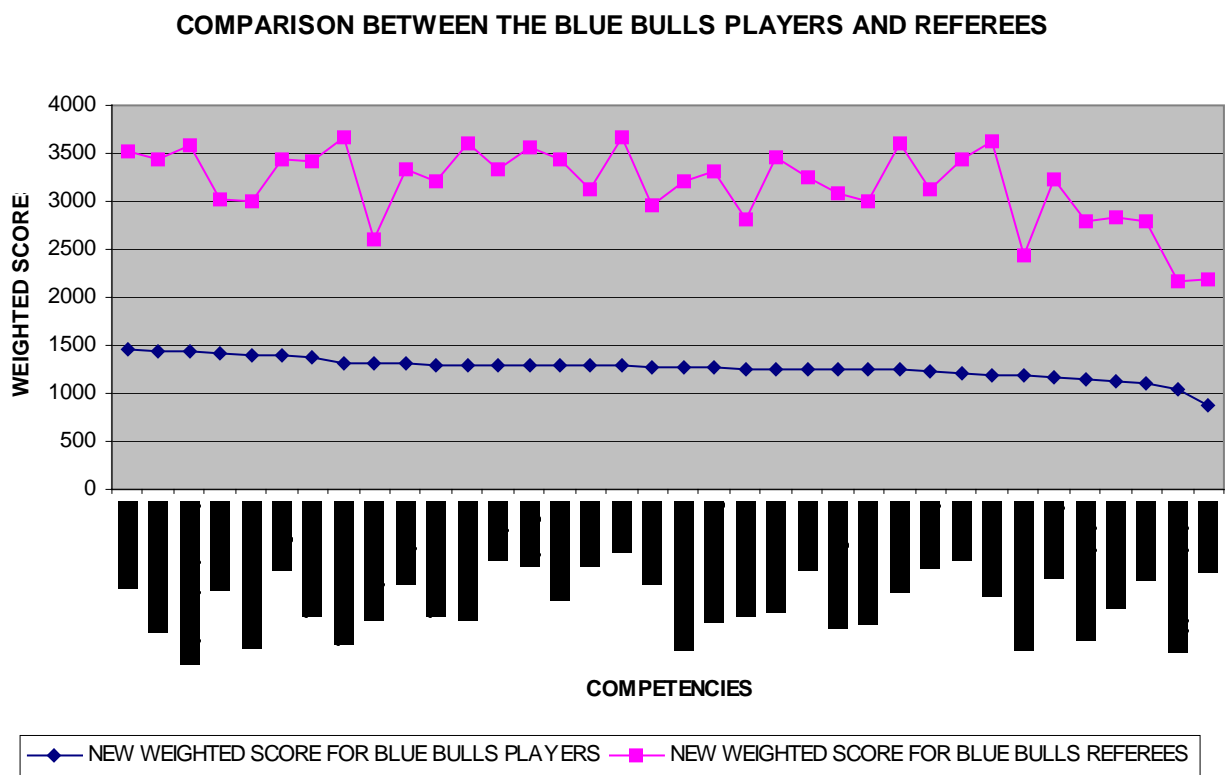


Figure 5.2 indicates that the Blue Bulls referees rated all the competencies higher than the Blue Bulls players, however, there are no statistically significant differences between the ratings of the Blue Bulls referees and the Blue Bulls Currie Cup players, and this is supported by the results of the ANOVA, paragraph 5.9.1.

5.9.4 COMPARISON BETWEEN THREE GROUPS UTILISING ANOVA

An analysis of variance (ANOVA) was also completed between the three referee groups with the highest response rate. The descriptive data for the ANOVA between these referee groups are attached as Appendix 9. The three referee groups with the highest response rate were:

- Gauteng Lions referees (n=69)
- Western Province referees (n=50)
- Blue Bulls referees (n=32)

Table 5.17: ANOVA between three groups.

Competency		Sum of Squares	Mean Square	Significance Value
Trustworthiness	Between Groups	2.240	1.120	.141
	Within Groups	83.495	.564	
	Total	85.735		
Concentration/Focus	Between Groups	8.982	4.491	.000*
	Within Groups	74.567	.504	
	Total	83.550		
Objectivity/Impartiality	Between Groups	1.018	.509	.137
	Within Groups	37.353	.252	
	Total	38.371		
Honesty/Integrity	Between Groups	2.863	1.431	.027
	Within Groups	57.084	.386	
	Total	59.947		
Self-confidence	Between Groups	3.145	1.573	.036
	Within Groups	68.630	.464	
	Total	71.775		
Commitment	Between Groups	5.127	2.563	.003*
	Within Groups	62.621	.423	
	Total	67.748		
Composure	Between Groups	4.184	2.092	.022
	Within Groups	79.406	.537	
	Total	83.589		
Consistency	Between Groups	1.687	.843	.115
	Within Groups	56.856	.384	
	Total	58.543		
Decisiveness	Between Groups	1.476	.738	.211
	Within Groups	69.398	.469	

Competency		Sum of Squares	Mean Square	Significance Value
	Total	70.874		
Fitness	Between Groups	2.238	1.119	.048
	Within Groups	53.431	.361	
	Total	55.669		
Judgment	Between Groups	2.829	1.415	.033
	Within Groups	60.191	.407	
	Total	63.020		
Resoluteness	Between Groups	2.918	1.459	.050
	Within Groups	70.804	.478	
	Total	73.722		
Conflict handling	Between Groups	4.336	2.168	.017
	Within Groups	77.108	.521	
	Total	81.444		
Flexibility	Between Groups	1.319	.660	.319
	Within Groups	84.866	.573	
	Total	86.185		
Player control	Between Groups	3.276	1.638	.043
	Within Groups	75.611	.511	
	Total	78.887		
Respect	Between Groups	5.108	2.554	.017
	Within Groups	90.667	.613	
	Total	95.775		
Athleticism	Between Groups	11.148	5.574	.000*
	Within Groups	93.527	.632	
	Total	104.675		
Authority	Between Groups	1.937	.968	.220
	Within Groups	93.825	.634	
	Total	95.762		
Problem analysis	Between Groups	.287	.144	.750
	Within Groups	73.699	.498	
	Total	73.987		
Technical skills - law application	Between Groups	2.279	1.140	.101
	Within Groups	72.356	.489	
	Total	74.636		
Communication on field - oral	Between Groups	3.197	1.598	.050
	Within Groups	77.121	.521	
	Total	80.318		
Ambition	Between Groups	75.195	37.597	.124
	Within Groups	2632.289	17.786	
	Total	2707.483		
Stress tolerance	Between Groups	12.216	6.108	.000*
	Within Groups	98.831	.668	
	Total	111.046		
Eyesight	Between Groups	3.324	1.662	.043
	Within Groups	76.610	.518	
	Total	79.934		
Preparation	Between Groups	8.128	4.064	.001*
	Within Groups	84.481	.571	
	Total	92.609		

Competency		Sum of Squares	Mean Square	Significance Value
Technical skills - general	Between Groups	3.039	1.519	.075
	Within Groups	85.133	.575	
	Total	88.172		
Leadership	Between Groups	4.357	2.178	.031
	Within Groups	90.478	.611	
	Total	94.834		
Initiative	Between Groups	1.836	.918	.270
	Within Groups	102.998	.696	
	Total	104.834		
Persuasiveness	Between Groups	1.042	.521	.584
	Within Groups	142.746	.965	
	Total	143.788		
Frustration tolerance	Between Groups	3.633	1.817	.065
	Within Groups	96.566	.652	
	Total	100.199		
Rapport with players	Between Groups	1.136	.568	.657
	Within Groups	199.831	1.350	
	Total	200.967		
Dynamism	Between Groups	.176	.088	.940
	Within Groups	209.692	1.417	
	Total	209.868		
Competitiveness	Between Groups	1.127	.563	.623
	Within Groups	175.562	1.186	
	Total	176.689		
Creativity/Innovation	Between Groups	1.795	.897	.344
	Within Groups	123.437	.834	
	Total	125.232		
Mental toughness	Between Groups	2.069	1.035	.270
	Within Groups	115.785	.782	
	Total	117.854		
Influence on players	Between Groups	6.442	3.221	.032
	Within Groups	135.558	.916	
	Total	142.000		

* The mean difference is significant at the 0.05 level

From Table 5.17 the competencies that show a significant difference between the Gauteng Lions referees, WP referees and the Blue Bulls referees are:

- Concentration / Focus
- Commitment
- Athleticism
- Stress tolerance
- Preparation

In Table 5.18 the significant differences as identified above are analysed in terms of which referee groups had a significant difference over which other referee group.

Table 5.18: Multiple comparison Scheffe for ANOVA between three groups for competencies that showed significant differences.

Dependent Variable	(I) Main groups of referees	(J) Main groups of referees	Mean Difference (I-J)	Std. Error	Significance Value
Concentration/Focus	WP refs	Lions refs	.29	.132	.091
		Bulls refs	.68	.161	.000*
	Lions refs	WP refs	-.29	.132	.091
		Bulls refs	.39	.152	.042
		WP refs	-.68	.161	.000*
Athleticism	WP refs	Lions refs	-.39	.152	.042
		Bulls refs	.75	.180	.000*
	Lions refs	WP refs	-.37	.148	.049
		Bulls refs	.38	.170	.084
		WP refs	-.75	.180	.000*
Stress tolerance	WP refs	Lions refs	-.38	.170	.084
		Bulls refs	.49	.152	.007*
	Lions refs	WP refs	-.49	.152	.007*
		Bulls refs	.74	.185	.000*
		WP refs	-.74	.185	.000*
Preparation	WP refs	Lions refs	.25	.175	.355
		Bulls refs	-.25	.175	.355
	Lions refs	WP refs	.41	.140	.015
		Bulls refs	.60	.171	.003*
		WP refs	-.41	.140	.015
Commitment	WP refs	Lions refs	.19	.162	.520
		Bulls refs	-.60	.171	.003*
	Lions refs	WP refs	-.19	.162	.520
		Bulls refs	.51	.147	.003*
		WP refs	-.19	.121	.283
Bulls refs	WP refs	.32	.139	.075	
	WP refs	-.51	.147	.003*	
	Lions refs	-.32	.139	.075	

* The mean difference is significant at the 0.05 level.

Table 5.18 indicates that the significant differences for the five competencies were in all cases between the Blue Bulls referees and the Western Province referees. This again supports the findings of the ANOVA between the four groups (paragraph 5.9.1) and the comparison between the Western Province referees and the Blue Bulls referees utilising the weighted scores (paragraph 5.9.2). Another significant difference was between the Gauteng Lions referees and the Western Province referees for the competency "Stress tolerance".

A comparison between the total number of referee respondents (n=181) and the total number of player respondents (n=42) was also completed on the mean scores for these groups. This comparison, for the sake of comprehensiveness, is attached as Appendix 10.

5.9.5 SUMMARY OF THE PERCEPTIONS OF THE LARGE GROUPS OF PARTICIPANTS ON THE COMPETENCIES OF SUCCESSFUL REFEREES

The most important competencies from the perceptions of the various unions and societies have been summarized and is presented in Table 5.19.

These competencies were taken from the original weighted indexes. The respondents with no individual weighted competency indexes are also included, and their competency matrixes were used to determine the most important competencies. Only unions/societies that had more than three respondents were considered for this table.

Table 5.19: Most important competencies as rated by the referees and players.

RESPONDENT	MOST IMPORTANT COMPETENCIES	RESPONDENT	MOST IMPORTANT COMPETENCIES
Blue Bulls referees	<ul style="list-style-type: none"> o Technical skills – law application o Fitness o Resoluteness o Decisiveness o Problem analysis o Objectivity / Impartiality o Eyesight 	Blue Bulls Currie Cup players	<ul style="list-style-type: none"> o Consistency o Communication on the field – oral o Objectivity / Impartiality o Commitment o Concentration / Focus o Judgment o Technical skills - general
Gauteng Lions referees	<ul style="list-style-type: none"> o Objectivity / Impartiality o Commitment o Self-confidence o Judgment o Honesty / Integrity o Consistency o Fitness 	Western Province referees	<ul style="list-style-type: none"> o Concentration / Focus o Objectivity / Impartiality o Commitment o Consistency o Honesty / Integrity o Fitness o Judgment
Free State referees	<ul style="list-style-type: none"> o Problem analysis o Decisiveness o Influence on players 	Griqua referees	<ul style="list-style-type: none"> o Objectivity / Impartiality o Fitness o Dynamism
Natal referees	<ul style="list-style-type: none"> o Concentration / Focus o Objectivity / Impartiality o Self-confidence o Decisiveness o Fitness o Technicall skills – law application 	SWD referees	<ul style="list-style-type: none"> o Concentration / Focus o Trustworthiness o Objectivity / Impartiality o Honesty / Integrity o Decisiveness o Fitness o Conflict handling o Communication on field – oral
Eastern Province referees	<ul style="list-style-type: none"> o Concentration / Focus o Objectivity / Impartiality o Ambition 	Natal Sharks players	<ul style="list-style-type: none"> o Objectivity / Impartiality o Honesty / Integrity o Consistency o Technical skills – law application o Influence on players

5.10 FACTOR ANALYSIS

A factor analysis was completed for all the respondents (n=223) to determine how many categories or factors of competencies were identified. Table 5.20 includes the statistical results after the analysis.

Table 5.20: Statistical results of the factors analysis.

COMPETENCY	FACTOR	
	1	2
Trustworthiness	.200	.504
Concentration / Focus	.113	.723
Objectivity / Impartiality	.364	.650
Honesty / Integrity	.142	.580
Self-confidence	.232	.635
Commitment	.263	.668
Composure	.228	.588
Consistency	.143	.639
Decisiveness	.262	.594
Fitness	.238	.411
Judgment	.337	.599
Resoluteness	.249	.432
Conflict handling	.429	.536
Flexibility	.354	.520
Player control	.509	.486
Respect	.551	.412
Athleticism	.524	.342
Authority	.567	.305
Problem analysis	.438	.541
Technical skills – law application	.433	.436
Communication on the field – oral	.437	.336
Ambition	.407	.243

COMPETENCY	FACTOR	
Stress tolerance	.578	.398
Eyesight	.426	.504
Preparation	.497	.443
Technical skills – general	.454	.349
Leadership	.733	.221
Initiative	.631	.331
Persuasiveness	.720	.220
Frustration tolerance	.592	.398
Rapport with players	.646	.132
Dynamism	.764	.754
Competitiveness	.624	.384
Creativity / Innovation	.785	.137
Mental toughness	.608	.312
Influence on players	.649	.265

The highest value for each competency indicates under which factor the competency is categorised.

The following competencies' values were too close to each other to warrant inclusion in any of the two factors. These competencies can be categorised under any of the two factors.

- Technical skills – law application
- Preparation
- Technical skills – general

It is important to note that both the competencies where “Technical skills” are required could be categorised under any one of the two factors.

From Table 5.20 the competencies were classified under a factor 1 and factor 2 and presented in Table 5.21.

Table 5.21: Competencies categorised under the two factors of the analysis.

FACTOR 1	FACTOR 2
Player control	Trustworthiness
Respect	Concentration / Focus
Athleticism	Objectivity / Impartiality
Authority	Honesty / Integrity
Communication on the field – oral	Self-confidence
Leadership	Commitment
Initiative	Composure
Persuasiveness	Consistency
Frustration tolerance	Decisiveness
Rapport with players	Fitness
Dynamism	Judgment
Competitiveness	Resoluteness
Creativity / Innovation	Conflict handling
Mental toughness	Flexibility
Influence on players	Problem analysis
	Eyesight

According to this table, 15 competencies were categorised under factor 1 and 16 competencies under factor 2. It would seem that the competencies that are categorised under factor 2 are all the competencies that were rated as the most important competencies from all the referee and player participants (Table 5.19). Therefore the label for the competencies that fall under factor 2 can be “Very important competencies” and the label for the competencies that fall under factor 1, “Important competencies”.

The identification of two categories may also be ascribed to the clearness of the meaning of the competencies in each category. The factor 2 competencies may be more clearly defined and the meaning thereof better known to the participants, whereas, the meaning of the competencies in factor 1 may be less clear and more vague to the participants. This can serve as a reason for the “very important competencies” attributed to the competencies in factor 2.

Included as Appendix 11 are the weighted competency indexes for the following groups, included for easier reading:

- Blue Bulls referees
- Blue Bulls players
- Gauteng Lions referees
- Western Province referees
- Free State referees

5.11 SUMMARY

In this chapter the results of the analysis of the data were discussed. A weighted competency index for rugby referees was compiled to determine the most important competencies a rugby referee must possess.

Weighted competency indexes were also compiled for the:

- Blue Bulls referees (n=32)
- Blue Bulls players (n=35)
- Gauteng Lions referees (n=69)
- Western Province referees (n=50)
- Free State referees (n=10)

The referee and player unions/societies with a response rate too low to warrant individual competency indexes were indicated and their matrixes attached as Appendix 7.

Comparisons between the perceptions of the different groups with regards to the relevance of the competencies were completed. Analysis of variance (ANOVA) between four groups and three groups were presented, and the comparison

between the Blue Bulls referees and the Western Province referees as well as the Blue Bulls players and Blue Bulls referees utilising the weighted scores.

A table (Table 5.19) with the most important competencies as rated by the referees and players was included. A factor analysis was presented to determine how many categories or factors of competencies were identified.