

# **The Role of Emotion, Psychophysiological Markers of Burnout and Their Relevance within the Leadership Pipeline**

**By**

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## DECLARATION

I, Marli Jooste, declare that this thesis is my original work except where I used or quoted another source, which has been acknowledged. I further declare that the work I am submitting has never been submitted before for another degree to any other university or tertiary institution for examination.



Handwritten signature of Marli Jooste, consisting of a stylized cursive 'M' followed by 'Jooste' and 'M. Jooste' written below it.

**Signature:** Marli Jooste

**Date:** 15 October 2020

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## ABSTRACT

South Africa's corporate world is known to celebrate workaholics who spend the majority of their waking hours at work. Leaders in financial roles tend to fit this description as they work under the constant pressure of tight deadlines and are expected to be meticulous. Long term exposure to such a taxing environment, without always having the necessary resources to meet ever increasing job demands, may have a negative impact on the health and wellbeing of these individuals. One such potential impact is burnout. This study aimed to determine to what extent burnout exists among leaders as described in the South African leadership pipeline that works in the finance departments of corporate institutions. The study also aimed to investigate the prevalence of emotional and psychophysiological markers of burnout, as well as to establish if these markers can act as predictors of or buffers against burnout.

The job demands-resources (JD-R) model, the general adaptation syndrome (GAS), and the leadership pipeline were integrated and used as theoretical points of departure. A mixed-methods approach with an explanatory design as typology was employed. As a result, the study covered three phases, namely (a) a quantitative phase, with psychological and emotional measurements, followed by (b) another quantitative phase, with physiological readings, enriched by (c) a qualitative phase, with semi-structured interviews. A purposive sampling technique was used, which allowed for a realised sample of 100 participants ( $n = 100$ ) to complete the first phase. Based on the quantitative results obtained, the initial sample was subdivided into a burnout group ( $n = 3$ ) and non-burnout group ( $n = 3$ ) and these six participants completed the second phase. Six participants of the burnout group ( $n = 6$ ) completed the third, qualitative phase.

MANOVAs were computed for the data gathered during the quantitative phase. The results indicated that significant differences exist between the burnout group and non-burnout group in terms of exhaustion ( $p < 0.001$ ) and disengagement ( $p < 0.001$ ), as well as overall scores ( $p < 0.001$ ) as measured by the Oldenburg burnout inventory (OLBI). Significant differences ( $p < 0.071$ ) were also observed between the non-burnout and burnout group on emotional self-awareness, emotional expression, emotional awareness of others, emotional reasoning, emotional self-management and management of others, as well as emotional self-control.

Stepwise multiple regression analysis indicated that emotional self-management and emotional management of others can act as significant predictors of burnout.

In addition, significant differences ( $p < 0.008$ ) were present between the burnout – and non-burnout groups on Ryff's Scales of Psychological Wellbeing (SPWB) with regard to the overall scores as well as the subscales related to environmental mastery, personal growth, purpose in life, and self-acceptance. Based on the stepwise multiple regression analysis done, environmental mastery and self-acceptance can serve as significant predictors of burnout.

Due to the small sample size, only descriptive statistics were conducted on the physiological measures. The results indicated visible higher cardio stress indices and heart rates for the burnout group. The non-burnout group displayed visible elevated alpha power frequencies when compared to the burnout group.

Thematic analysis was conducted on the qualitative data and revealed three themes, namely nature of job, perception of burnout, and negative outcomes of burnout. These themes confirmed that leaders working in the finance departments of corporate institutions are prone to the risk of burnout.

Although the overall prevalence of burnout was less than expected, both emotional and psychophysiological markers revealed noteworthy differences between the burnout group and non-burnout group, confirming that these two groups differ with regards to emotional intelligence and psychological wellbeing. Furthermore it was established that the presence of emotional management of self and others, as well as environmental mastery and self-acceptance could prevent burnout. Subjective experiences of burnout were mostly adverse in nature and considered costly to both the leader working in a finance department and the respective corporate organisation. The physiological results confirmed the multidimensionality of burnout and suggested that alpha waves, cardio stress indices and heart rate differed between the two groups and could thus be considered as physiological markers of burnout within this study. As a result, leadership wellness and developmental programmes should ideally include burnout awareness and prevention techniques, as well as promote emotional intelligence and psychological wellbeing.

**Key words:** *Alpha peak frequency, burnout, cardio stress index, emotional intelligence, financial departments, leadership pipeline, psychological wellbeing, psychophysiological markers.*

## TABLE OF CONTENTS

LIST OF TABLES	...	...	...	...	...	...	...	...	...	xi
LIST OF FIGURES	...	...	...	...	...	...	...	...	...	xiii
CHAPTER 1 INTRODUCTION TO THE STUDY	...	...	...	...	...	...	...	...	...	1
1.1 Introduction	...	...	...	...	...	...	...	...	...	1
1.2 Problem statement and justification of study	...	...	...	...	...	...	...	...	...	3
1.3 Aim and objectives	...	...	...	...	...	...	...	...	...	5
1.4 Outline of the study	...	...	...	...	...	...	...	...	...	6
1.5 Conclusion	...	...	...	...	...	...	...	...	...	7
CHAPTER 2 LITERATURE REVIEW	...	...	...	...	...	...	...	...	...	8
2.1 Introduction	...	...	...	...	...	...	...	...	...	8
2.2 Burnout	...	...	...	...	...	...	...	...	...	8
2.2.1 Dimensions of burnout	...	...	...	...	...	...	...	...	...	10
2.2.1.1 Exhaustion	...	...	...	...	...	...	...	...	...	11
2.2.1.2 Depersonalisation or cynicism	...	...	...	...	...	...	...	...	...	13
2.2.1.3 Decreased personal accomplishment	...	...	...	...	...	...	...	...	...	14
2.2.2 Other symptoms, outcomes and causes of burnout	...	...	...	...	...	...	...	...	...	15
2.2.3 Burnout versus stress, depression, and chronic fatigue	...	...	...	...	...	...	...	...	...	16
2.2.3.1 Stress	...	...	...	...	...	...	...	...	...	17
2.2.3.2 Depression	...	...	...	...	...	...	...	...	...	19
2.2.3.3 Chronic fatigue	...	...	...	...	...	...	...	...	...	20
2.3 Psychological markers of burnout	...	...	...	...	...	...	...	...	...	22
2.3.1 Burnout and emotional markers	...	...	...	...	...	...	...	...	...	23
2.3.2 Burnout and psychological wellbeing	...	...	...	...	...	...	...	...	...	26
2.4 Physiological markers of burnout	...	...	...	...	...	...	...	...	...	29
2.4.1 Burnout and the brain	...	...	...	...	...	...	...	...	...	29
2.4.2 Burnout and the cardiovascular system	...	...	...	...	...	...	...	...	...	32
2.5 Burnout among leaders working in finance departments of corporate institutions	...	...	...	...	...	...	...	...	...	34
2.6 Burnout and leadership	...	...	...	...	...	...	...	...	...	36
2.7 Conclusion	...	...	...	...	...	...	...	...	...	39

CHAPTER 3 THEORETICAL FRAMEWORK	...	...	...	...	...	...	...	...	...	41
3.1 Introduction	...	...	...	...	...	...	...	...	...	41
3.2 Job demands-resources model (JD-R model)	...	...	...	...	...	...	...	...	...	41
3.2.1 Job demands	...	...	...	...	...	...	...	...	...	43
3.2.2 Job resources	...	...	...	...	...	...	...	...	...	43
3.2.3 Interplay between demands and resources	...	...	...	...	...	...	...	...	...	45
3.3 The general adaptation syndrome (GAS) theory	...	...	...	...	...	...	...	...	...	46
3.3.1 Three phases of general adaptation syndrome (GAS)	...	...	...	...	...	...	...	...	...	47
3.3.1.1 Alarm phase	...	...	...	...	...	...	...	...	...	48
3.3.1.2 Resistance phase	...	...	...	...	...	...	...	...	...	50
3.3.1.3 Exhaustion phase	...	...	...	...	...	...	...	...	...	51
3.4 Leadership pipeline model	...	...	...	...	...	...	...	...	...	52
3.4.1 The leadership pipeline's six-passages	...	...	...	...	...	...	...	...	...	53
3.4.1.1 Passage one: Managing yourself to managing others	...	...	...	...	...	...	...	...	...	55
3.4.1.2 Passage two: Managing others to leading managers	...	...	...	...	...	...	...	...	...	56
3.4.1.3 Passage three: Leading managers to functional manager	...	...	...	...	...	...	...	...	...	57
3.4.1.4 Passage four: Functional manager to business manager	...	...	...	...	...	...	...	...	...	58
3.4.1.5 Passage five: Business manager to group manager	...	...	...	...	...	...	...	...	...	59
3.4.1.6 Passage six: Group manager to enterprise manager	...	...	...	...	...	...	...	...	...	60
3.5 Theoretical models or frameworks explained within the context of the study	...	...	...	...	...	...	...	...	...	61
3.6 Conclusion	...	...	...	...	...	...	...	...	...	65
CHAPTER 4 RESEARCH METHODOLOGY	...	...	...	...	...	...	...	...	...	66
4.1 Introduction	...	...	...	...	...	...	...	...	...	66
4.2 Aims and objectives	...	...	...	...	...	...	...	...	...	66
4.3 Research design	...	...	...	...	...	...	...	...	...	67
4.4 Sample	...	...	...	...	...	...	...	...	...	68
4.4.1 Sampling	...	...	...	...	...	...	...	...	...	69
4.4.1.1 Sampling: First phase	...	...	...	...	...	...	...	...	...	69
4.4.1.2 Sampling: Second phase	...	...	...	...	...	...	...	...	...	70
4.4.1.3 Sampling: Third phase	...	...	...	...	...	...	...	...	...	70
4.4.2 Sample one	...	...	...	...	...	...	...	...	...	70
4.4.2.1 Sample characteristics	...	...	...	...	...	...	...	...	...	71



4.4.2.1.1	Sample gender	...	...	...	...	...	...	...	71
4.4.2.1.2	Sample age	...	...	...	...	...	...	...	72
4.4.2.1.3	Sample level of education	...	...	...	...	...	...	...	73
4.4.2.1.4	Sample level of leadership	...	...	...	...	...	...	...	74
4.4.2.1.5	Position and organisation tenure	...	...	...	...	...	...	...	75
4.4.3	Sample two	...	...	...	...	...	...	...	75
4.4.3.1	Sample characteristics	...	...	...	...	...	...	...	75
4.4.3.1.1	Sample age	...	...	...	...	...	...	...	76
4.4.3.1.2	Sample level of education	...	...	...	...	...	...	...	76
4.4.3.1.3	Sample level of leadership	...	...	...	...	...	...	...	77
4.4.3.1.4	Position and organisation tenure	...	...	...	...	...	...	...	78
4.4.4	Sample three	...	...	...	...	...	...	...	78
4.4.4.1	Sample characteristics	...	...	...	...	...	...	...	78
4.4.4.1.1	Sample age	...	...	...	...	...	...	...	79
4.4.4.1.2	Sample level of education	...	...	...	...	...	...	...	79
4.4.4.1.3	Sample level of leadership	...	...	...	...	...	...	...	80
4.4.4.1.4	Position and organisation tenure	...	...	...	...	...	...	...	80
4.5	Measurement instruments	...	...	...	...	...	...	...	81
4.5.1	Biographical information sheet	...	...	...	...	...	...	...	81
4.5.2	Quantitative psychological and emotional measures	...	...	...	...	...	...	...	81
4.5.2.1	Oldenburg Burnout Inventory (OLBI)	...	...	...	...	...	...	...	82
4.5.2.2	Ryff's Scales of Psychological Wellbeing (SPWB)	...	...	...	...	...	...	...	83
4.5.2.3	Genos Emotional Intelligence (EQ)	...	...	...	...	...	...	...	85
4.5.3	Quantitative physiological measures	...	...	...	...	...	...	...	88
4.5.3.1	Vi-port	...	...	...	...	...	...	...	89
4.5.3.2	Biopac BioNomadix	...	...	...	...	...	...	...	90
4.5.4	Qualitative measures: Semi-structured interviews	...	...	...	...	...	...	...	91
4.6	Data collection procedure	...	...	...	...	...	...	...	92
4.6.1	Data collection procedure: First phase	...	...	...	...	...	...	...	92
4.6.2	Data collection procedure: Second phase	...	...	...	...	...	...	...	92
4.6.3	Data collection procedure: Third phase	...	...	...	...	...	...	...	93
4.7	Data analysis	...	...	...	...	...	...	...	93

4.7.1	Quantitative data analysis	...	...	...	...	...	...	...	93
4.7.2	Qualitative data analysis	...	...	...	...	...	...	...	94
4.8	Ethical considerations	...	...	...	...	...	...	...	94
4.9	Conclusion	...	...	...	...	...	...	...	95
<b>CHAPTER 5 QUANTITATIVE RESULTS</b>									96
5.1	Introduction	...	...	...	...	...	...	...	96
5.2	Descriptive statistics for the psychological and emotional measures	...	...	...	...	...	...	...	96
5.2.1	Oldenburg Burnout Inventory (OLBI)	...	...	...	...	...	...	...	96
5.2.2	Ryff's Scales of Psychological Wellbeing (SPWB)	...	...	...	...	...	...	...	98
5.2.3	Genos Emotional Intelligence (EQ)	...	...	...	...	...	...	...	99
5.3	Results: Measuring the differences between the burnout and non-burnout groups using psychological and emotional measures	...	...	...	...	...	...	...	99
5.3.1	Results from MANOVA for the OLBI: The burnout and non-burnout groups	...	...	...	...	...	...	...	100
5.3.2	Results from MANOVA for the SPWB Scales: The burnout and non-burnout groups	...	...	...	...	...	...	...	103
5.3.3	Results from stepwise regression analysis for burnout and SPWB scales	...	...	...	...	...	...	...	106
5.3.4	Results from MANOVA for the Genos Scales: The burnout and non-burnout groups	...	...	...	...	...	...	...	108
5.3.5	Results from stepwise regression analysis for burnout and Genos scales	...	...	...	...	...	...	...	112
5.4	Quantitative results of physiological measures	...	...	...	...	...	...	...	114
5.4.1	Vi-port	...	...	...	...	...	...	...	115
5.4.2	Biopac	...	...	...	...	...	...	...	116
5.5	Conclusion	...	...	...	...	...	...	...	119
<b>CHAPTER 6 QUALITATIVE RESULTS</b>									120
6.1	Introduction	...	...	...	...	...	...	...	120
6.2	Qualitative results of semi-structured interviews	...	...	...	...	...	...	...	120
6.2.1	Phase 1: Familiarisation of data	...	...	...	...	...	...	...	120
6.2.2	Phase 2: Initial coding	...	...	...	...	...	...	...	121
6.2.3	Phase 3: Searching for themes	...	...	...	...	...	...	...	129
6.2.4	Phase 4: Reviewing themes	...	...	...	...	...	...	...	131
6.2.5	Phase 5: Defining and naming themes	...	...	...	...	...	...	...	132
6.2.5.1	Nature of the job	...	...	...	...	...	...	...	132
6.2.5.2	Perception of burnout	...	...	...	...	...	...	...	132
6.2.5.3	Negative outcomes of burnout	...	...	...	...	...	...	...	133

6.2.6	Phase 6: Outcome report	...	...	...	...	...	...	...	...	133
6.3	Conclusion	...	...	...	...	...	...	...	...	133
<b>CHAPTER 7 DISCUSSION, LIMITATIONS OF THE STUDY, RECOMMENDATIONS FOR FUTURE RESEARCH AND CONCLUSION</b>										
	FOR FUTURE RESEARCH AND CONCLUSION	...	...	...	...	...	...	...	...	134
7.1	Introduction	...	...	...	...	...	...	...	...	134
7.2	Quantitative results	...	...	...	...	...	...	...	...	134
7.2.1	The prevalence of burnout	...	...	...	...	...	...	...	...	134
7.2.2	Burnout and psychological markers	...	...	...	...	...	...	...	...	136
7.2.3	Burnout and emotional markers	...	...	...	...	...	...	...	...	138
7.2.4	Burnout and physiological markers (Vi-port and Biopac)	...	...	...	...	...	...	...	...	139
7.2.4.1	Cardio stress index and heart rate (Vi-port)	...	...	...	...	...	...	...	...	140
7.2.4.2	Alpha brain waves (Biopac)	...	...	...	...	...	...	...	...	141
7.3	Qualitative results	...	...	...	...	...	...	...	...	142
7.3.1	Nature of the job	...	...	...	...	...	...	...	...	142
7.3.2	Perception of burnout	...	...	...	...	...	...	...	...	144
7.3.3	Negative outcomes of burnout	...	...	...	...	...	...	...	...	146
7.4	Integration of quantitative and qualitative findings	...	...	...	...	...	...	...	...	148
7.5	Limitations of study	...	...	...	...	...	...	...	...	149
7.6	Recommendations for future research	...	...	...	...	...	...	...	...	150
7.7	Conclusion	...	...	...	...	...	...	...	...	151
	REFERENCES	...	...	...	...	...	...	...	...	153
	APPENDIX A ELECTRONIC INVITE	...	...	...	...	...	...	...	...	187
	APPENDIX B PARTICIPANT INFORMATION SHEET	...	...	...	...	...	...	...	...	188
	APPENDIX C INTERVIEW GUIDE	...	...	...	...	...	...	...	...	189
	APPENDIX D ETHICAL CLEARANCE	...	...	...	...	...	...	...	...	190
	APPENDIX E PARTICIPANT INFORMED CONSENT	...	...	...	...	...	...	...	...	191

## LIST OF TABLES

Table 2.1 Acute versus chronic stress	...	...	...	...	...	...	18
Table 2.2 Seven skills or dimensions of the Genos (EQ) Inventory	...	...	...	...	...	...	24
Table 2.3 Brief high score interpretations of Genos' seven skills or dimensions	...	...	...	...	...	...	24
Table 2.4 Different brain rhythms	...	...	...	...	...	...	31
Table 4.1 Age distribution of realised sample	...	...	...	...	...	...	72
Table 4.2 Level of education of realised sample	...	...	...	...	...	...	73
Table 4.3 Level of leadership of realised sample	...	...	...	...	...	...	74
Table 4.4 Position and organisation of realised sample	...	...	...	...	...	...	75
Table 4.5 Age distribution of sample two	...	...	...	...	...	...	76
Table 4.6 Level of education of sample two	...	...	...	...	...	...	76
Table 4.7 Level of leadership of sample two	...	...	...	...	...	...	77
Table 4.8 Position and organisation tenure of sample two	...	...	...	...	...	...	78
Table 4.9 Age distribution of sample three	...	...	...	...	...	...	79
Table 4.10 Level of education of sample three	...	...	...	...	...	...	79
Table 4.11 Level of leadership of sample three	...	...	...	...	...	...	80
Table 4.12 Position and organisation tenure of sample three	...	...	...	...	...	...	80
Table 4.13 Reliability of overall OLBI	...	...	...	...	...	...	83
Table 4.14 Reliability of OLBI subscales	...	...	...	...	...	...	83
Table 4.15 SPWB construct descriptions	...	...	...	...	...	...	84
Table 4.16 Reliability of SPWB overall and subscales	...	...	...	...	...	...	85
Table 4.17 Genos 7-factor model	...	...	...	...	...	...	86
Table 4.18 Reliability statistics for Genos EQ	...	...	...	...	...	...	88
Table 4.19 Six-phase approach of thematic analysis	...	...	...	...	...	...	94
Table 5.1 Descriptive statistics of the OLBI (n = 100)	...	...	...	...	...	...	98
Table 5.2 Descriptive statistics of the SPWB (n = 100)	...	...	...	...	...	...	98
Table 5.3 Descriptive statistics of the Genos (n = 100)	...	...	...	...	...	...	99

Table 5.4 Descriptive statistics of the OLBI scores of burnout group (n = 33) and non-burnout group (n = 67) ...	...	...	...	...	...	...	...	...	...	100
Table 5.5 OLBI: Multivariate tests	...	...	...	...	...	...	...	...	...	101
Table 5.6 OLBI: Tests of between-subjects effects	...	...	...	...	...	...	...	...	...	102
Table 5.7 Descriptive statistics of the SPWB scores of burnout group (n = 33) and non-burnout group (n = 67) ...	...	...	...	...	...	...	...	...	...	103
Table 5.8 SPWB: Multivariate tests	...	...	...	...	...	...	...	...	...	104
Table 5.9 SPWB: Tests of between-subjects effects	...	...	...	...	...	...	...	...	...	105
Table 5.10 Model evaluation   SPWB	...	...	...	...	...	...	...	...	...	107
Table 5.11 Statistical Significance of Model Evaluation Results   SPWB	...	...	...	...	...	...	...	...	...	107
Table 5.12 Evaluation of the independent variables   SPWB	...	...	...	...	...	...	...	...	...	108
Table 5.13 Descriptive statistics of the Genos scores of burnout group (n = 33) and non-burnout group (n = 67) ...	...	...	...	...	...	...	...	...	...	109
Table 5.14 Genos: Multivariate tests	...	...	...	...	...	...	...	...	...	110
Table 5.15 Genos: Tests of between-subjects effects	...	...	...	...	...	...	...	...	...	111
Table 5.16 Model evaluation   Genos	...	...	...	...	...	...	...	...	...	113
Table 5.17 Statistical Significance of Model Evaluation Results   Genos	...	...	...	...	...	...	...	...	...	113
Table 5.18 Evaluation of the independent variables   Genos	...	...	...	...	...	...	...	...	...	114
Table 5.19 Descriptive statistics of the VI-port scores of burnout group (n = 3) and non-burnout group (n = 3) ...	...	...	...	...	...	...	...	...	...	115
Table 6.1 Codes generated during Phase 2 of thematic analysis	...	...	...	...	...	...	...	...	...	121

## LIST OF FIGURES

Figure 2.1. Relationship between stress, chronic fatigue, burnout and depression	...	20
Figure 2.2. Ryff's six-dimensional psychological wellbeing model	... ..	27
Figure 3.1. Simplified display of the JD-R Model	... ..	42
Figure 3.2. Three stages of general adaptation syndrome (GAS)	... ..	47
Figure 3.3. Hormonal activity during alarm phase	... ..	49
Figure 3.4. Phase 2: Resistance phase of general adaptation syndrome	... ..	50
Figure 3.5. The leadership pipeline	... ..	55
Figure 3.6. Theoretical clusters	... ..	61
Figure 3.7. Integrative theoretical model	... ..	63
Figure 4.1. Gender distribution of realised sample	... ..	71
Figure 4.2. The Vi-port, its three-dimensional presentation of results as well as positioning on the chest wall	... ..	89
Figure 4.3. The Biopac BioNomadix smart centre	... ..	90
Figure 4.4. Photos taken by researcher with permission of EEG logger, screen-print of brain waves during testing and placement of electrodes	... ..	90
Figure 4.5. Three-phase psychophysiological research study	... ..	92
Figure 5.1. OLBI group categories for burnout	... ..	97
Figure 5.2. Bird's eye view of electrode placements	... ..	117
Figure 5.3. Mean amplitude for different locations	... ..	117
Figure 5.4. Mean of the alpha peak frequency for different locations	... ..	118
Figure 5.5. The alpha mean frequency for different locations	... ..	119
Figure 6.1. Phase 3: Sub-themes	... ..	130
Figure 6.2. Thematic map: Overview of sub-themes and actual themes	... ..	131

## CHAPTER 1

### INTRODUCTION TO THE STUDY

#### 1.1 Introduction

We must admit that what is closest to us is the very thing we know least about, although it seems to be what we know best of all (Jung, 2001, p. 79).

The above words of Jung reveal so much in our search for meaning around the complexity of the phenomenon of burnout and human beings' propensity for burnout. One would assume that, with all the latest technology and improved education, burnout would be a well-known phenomenon by now, recognised by managers, who will refer their employees who suffer from it to medical and psychological practitioners for the proper treatment. However, burnout still presents a daily struggle for many working individuals and, because it is not treated properly, it is costly to both individuals and corporate institutions alike in terms of time and money.

Burnout has become a common phrase used in day-to-day conversations, however consensus on one set definition thereof has not been reached. This has added to the complexity of the phenomenon. For the purposes of this study, burnout is viewed as a complex multifaceted response syndrome to chronic occupational stresses and insufficient recovery (Langelaan, Bakker, Schaufeli, Van Rhenen, & Van Doornen, 2006; Salvador & Rothmann, 2005). Burnout is multifaceted in nature in that it has both psychological and physiological components, which both need to be explored to fully understand the impact of burnout on leaders working in financial departments of corporate institutions.

Hildenbrand, Sacramento, and Binnewies (2016) maintained that burnout is gaining a reputation as the work-related illness of the 20th and 21st centuries. In 2014 alone, work-related stress, major depression, burnout, and anxiety disorders cost the South African economy an estimated R40.6 billion (Schoeman, 2016). This was equivalent to 2.2% of the gross domestic product. The cost of these problems to the economy is believed to have increased since then. A recent study conducted by Momentum Corporate in 2017, which was captured by the Momentum Effective Employee Index, revealed an estimated loss of R25 billion per year as a

result of burnout and related absenteeism, but presenteeism has also cost corporate institutions, amounting to 5% of their gross operating profits (Fin24, 2018). The aforementioned cost to presenteeism should be viewed with caution, as it may be an underestimate, as employees often attend to work while suffering from burnout. Jones and Davies (2016) reported that employees are often inclined to only take leave when secondary illnesses occur as opposed to take time off when they initially experience a decline in their effectiveness in the workplace. Burnout and its consequences are therefore seen as a distractor to workplace performance, whether through absenteeism or presenteeism.

Research conducted by Momentum Corporate in 2017 further found that the South African financial services were the most heavily impacted by burnout (Fin24, 2018). The prevalence of burnout among individuals working in finance was recorded as 30%. A study conducted by Buchheit, Dalton, Harp, and Hollingsworth (2016) produced the same findings, and they concluded that individuals working in accounting experience higher levels of burnout than their colleagues in other departments of the same corporation. Various studies reported similar findings where job demands of specifically accountants and auditors were rendered as exceptionally taxing on the individual (Chong & Monroe, 2015; Zincirkiran & Tiftik, 2013). The job demands in this regard included workload, intensity, and tempo. It is, therefore, believed that the employees in finance-related departments who need to ensure effective management of finances and adherence to financial compliance requirements in a tight economic climate might display higher levels of burnout than employees in other departments of the same corporation (Nevries & Payne, 2017). Despite the high job demands, trends in the economy often cause a lack of job resources and other forms of support (Direction, 2014; Immervoll, Peichl, & Tatsiramos, 2011). Resigning is also not an option as a result of a global upwards trend in job insecurity in relation to the high unemployment rate (Nonyana & Njuho, 2018; Shoss, 2017).

The above is already sketching a bleak picture for those working in finance departments. Demands and expectations increase even further when the additional responsibility of being a leader is added to the equation. Leaders are not only expected to ensure that their staff stay committed and productive, but also to ensure optimal performance in a resource-strained environment (Klug, Felfe, & Krick, 2019). Researchers suggested that success as leader is more easily achieved when the leader possesses and effectively applies emotional intelligence and



psychological wellbeing, amongst others (Kanwal, Yasmin, & Bhatti, 2017; Toor & Ofori, 2009). Furthermore strong leadership is believed to start with emotional intelligence (Stein & Book, 2011). In addition, it is argued that emotional intelligence is twice as important as IQ for achieving leadership success (Kanwal et al., 2017). On the other hand, individuals experiencing higher levels of psychological well-being are likely to be seen as effective in their workplaces and hence have higher prospects of emerging as leaders and performing better in leadership roles (Toor & Ofori, 2009).

Both leaders' emotional intelligence and psychological wellbeing are considered as antecedents of workplace engagement and contributors towards overall job effectiveness (Gyu, Sik, Yoon, & Joo, 2017). In the absence thereof coupled with the nature of their job, it is expected that the health and wellbeing of these leaders working in finance departments are compromised to the extent of developing burnout. It is therefore theorised that the presence of psychological wellbeing and emotional intelligence could prevent burnout from occurring. Research conducted thus far has established that burnout impact psychological wellbeing (Bakker, Albrecht, & Leiter, 2011; Cerezo, Galian, Tarroja, Mañalac, & Ysmael, 2015) and emotional intelligence negatively (Armon, 2014; Zysberg, Orenshtein, Gimmon, & Robinson, 2016). A dearth of research, however, exists on the reverse effect and therefore more research is needed which will be further discussed in the problem statement below.

## **1.2 Problem statement and justification of study**

Following from the research findings noted above, it is no surprise that South Africa is considered a nation of workaholics (Joubert, 2014). This phenomenon of workaholism is encouraged by most employers, who celebrate employees who work long hours and dedicate themselves fully to their work (Andreyko, 2010). Extended work hours and sacrifices to get tasks completed to reach success and advancement in the current employment culture, where the saying "time is money" rings true. This may be even more applicable when considering leaders working in finance departments. In addition to the excessive job demands as already mentioned, those working in finance departments are often first to be blamed and looked upon to reverse poor corporate performance. They not only need to cope with the pressure, but also quickly recover from setbacks and to function optimally when faced with severe adversity. The adversity often surrounds economic trends, such as the recent downgrade of South Africa's

sovereign credit rating to junk status, as well as the media attack against the finance profession subsequent to legal cases of corruption against top audit firms (Cameron, 2017). In addition to these challenges, owners of companies or upper management expect leaders working in finances to be perpetually on duty and staying abreast of the latest standards and trends (Stowe, 2017). It is this ever rising strain and taxing environment that is believed to increase the prevalence of burnout among those working in the finance departments of corporate institutions. Following extensive searches of various search engines, including EBSCOhost, Academia, ProQuest, and Google Scholar, it came to the attention that little is known about the prevalence of burnout amongst corporate finance leaders as the focus of research was mainly on a specific profession within the finance sphere. This study therefore aimed to determine the prevalence of burnout among any South African leader working within finance departments (see 1.3) to pave the way forward for future preventions and interventions to curb the costs to the individual leader and corporate institution alike.

Since burnout is a result of chronic stress, learning the crucial skill of managing stress effectively can therefore be rendered one possible preventative measure that can counteract the above costs (George, Chiba, & Scheepers, 2017). Hernandez, Luthanen, Ramsel, and Osatuke (2015), pointed out that leaders, despite their business acumen, are sometimes lacking in emotional intelligence. They posited that increased emotional intelligence would enable leaders to better cope with organisational demands and deal with uncertainty, and it would give them insight, so that they can admit that they are at risk of experiencing burnout. This improved coping would, in turn, mediate the relationship between leaders and the individuals who report to them, in relation to engagement, which is an antidote to burnout. Likewise, it is indicated that, the better the leader is at sustaining an effective level of psychological wellbeing, the better equipped they are to deal with existential challenges of life (Korunka, Kubicek, Schaufeli, & Hoonakker, 2009). It is thus postulated that, if leaders are taught to increase their level of emotional intelligence and overall psychological wellbeing, they will be better equipped to cope with the taxing demands of their position and prevent the development of burnout (Johnson & Veldsman, 2017). However, not much research has been conducted on whether the presence of psychological wellbeing and emotional intelligence could prevent burnout, but instead burnout's impact on these constructs respectively.

It is important to view the construct of burnout holistically. Such a holistic approach is considered best suited to capture the essence of the multi-dimensionality of the construct of burnout as per the chosen definition. Despite the vast body of literature on burnout, limited research has been conducted on burnout from both a psychological and a physiological perspective. Hence, the current study has included quantitative measures, in the form of psychometric assessments, wellness scales, cardio stress index rates, and electroencephalography (EEG) readings, as well as qualitative measures, to investigate burnout holistically.

### **1.3 Aim and objectives**

In light of the above discussions, the primary aim of the study was to determine to what extent burnout exists among leaders described by the South African leadership pipeline that work in the finance departments of corporate institutions. The study also aimed to investigate the prevalence of emotional and psychophysiological markers of burnout and to establish if these markers can act as buffers against burnout.

In order to achieve the primary aim, the following objectives were formulated:

- Determine the prevalence of burnout among those employees within the South African leadership pipeline, specifically those working in financial departments of corporate institutions.
- Investigate if significant differences occur between leaders who experience burnout (burnout group) and those who do not (non-burnout group) with regard to psychophysiological markers, such as psychological wellbeing, cognitive patterns, and cardio stress index rates.
- Determine whether emotional markers, such as emotional intelligence (EQ), could prevent burnout.
- Determine whether psychological markers, with specific reference to psychological wellbeing could prevent burnout.
- Explore the subjective experiences of those participants who were suffering from burnout.

## 1.4 Outline of the study

The current chapter (**Chapter 1**) serves as a preamble to the study, and it introduces the problem statement, the justification for the study, and the aim and the objectives formulated to execute the study.

**Chapter 2** consists of a discussion of the construct of burnout and its related psychological and physiological markers in relation to leadership and the financial context in South Africa.

**Chapter 3** focuses on the theoretical models, frameworks and paradigms, such as the job demands-resources model (JD-R model), general adaptation syndrome (GAS) theory, and the leadership pipeline.

**Chapter 4** explains the research methodology employed in the study. Reference is made to the aim and the objectives of the study, the research design, and the sampling procedure. The study was conducted over three phases, namely (a) a quantitative phase, with psychological measurements, followed by (b) another quantitative phase, with physiological readings, and enriched by (c) a qualitative phase, with semi-structured interviews. These phases will each be explained accordingly with regards to data collection, the instruments used, and the procedures followed. An overview of the data analyses is provided. Ethical considerations are also included and discussed.

The research results of the three phases are presented across **Chapters 5** and **6**. Hence, the results of the psychological and the physiological measurements, as well as the thematic analysis of the semi-structured interviews, are provided in separate chapters.

The results presented in Chapters 5 and 6 are discussed and critically evaluated in **Chapter 7**. A conclusion based on the findings is presented. Limitations of the study are pointed out, and recommendations for further research are given.

## 1.5 Conclusion

The current chapter introduced the occurrence of burnout with specific reference to those working in financial departments of corporate institutions. It focused on the probable increase in burnout prevalence when those working in finance departments have the additional responsibility of being a leader. A need was further established to determine whether such a leader is better equipped to withstand the risk for burnout, when he/she possesses effective levels of psychological wellbeing and emotional intelligence. The problem statement was presented, along with the aim and the objectives of the study. In the following chapter, attention will be given to a discussion of the constructs under investigation.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter delves into the construct of burnout, its dimensions and related psychological and physiological markers. To understand the construct of burnout it is important to distinguish it from elements, syndromes, disorders and diseases that often mimic its symptoms. Hence, a brief discussion around burnout versus stress, depression, and chronic fatigue will be presented. This is followed by a presentation of the psychological perception of burnout in relation to emotional intelligence and psychological wellbeing respectively. The explanation of physiological markers concern the relation of burnout to the human brain and cardiovascular system. The chapter concludes with an overview of all the above mentioned in relation to those working in financial departments of corporate institutions and how it plays out within a leadership position.

#### 2.2 Burnout

The term burnout was officially coined in 1974 by Herbert Freudenberger, while conducting research on chronic drug abuse. He used the term to describe the gradual emotional depletion, loss of motivation, and reduced commitment amongst volunteers working at a clinic dealing with the rehabilitation of drug abusers (Andreyko, 2010). The initial view of burnout as a state of mental and physical exhaustion was expanded upon when Maslach and her team conducted research on the issue (Maslach & Jackson, 1981). They concluded that burnout is “a state of exhaustion in which one is cynical about the value of one’s occupation and doubtful of one’s capacity to perform” (Maslach, Jackson, & Leiter, 1996, p. 20).

Initially, it was believed that burnout could only be experienced by those working with people in some capacity (Schaufeli, Leiter, & Maslach, 2009). As a result, numerous studies were done on nurses, healthcare practitioners, caregivers, psychologists, teachers, and counsellors to name a few (Aitken & Schloss, 1994; Hakanen, Schaufeli, & Ahola, 2008; Kowalski et al., 2010; Kubicek & Korunka, 2015; Miller, 1995; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). The

findings of these studies lead researchers to the assumption that burnout is similar to compassion fatigue. Subsequent researchers noted that burnout also occurred in other industries and professions that do not focus on human services and education (Maslach, Schaufeli, & Leiter, 2001). One such industry is the financial sector (Abdool Karrim Ismael, Coetzee, Du Toit, Rudolph, & Joubert, 2013) which will be discussed later (see 2.6). Consequently, burnout was associated with the end result of persistent, insufficient or unsuccessful efforts to handle stressors in the workplace (Smit, 2015).

Earlier research conducted by Maslach and Leiter (1997) described burnout as the index of the dislocation between what people are and what they have to do. This dislocation entails an erosion in value, dignity, spirit, in other words, an erosion of the human soul. Maslach and Leiter (1997) concluded that burnout is a malady that spreads gradually and continuously. Burnout puts people into a downward spiral from which it is hard to recover. In this vein, Bosman, Rothmann, and Buitendach (2005) defined burnout as a particular, multidimensional and chronic stress reaction that goes beyond the experience of mere exhaustion. These researchers regarded it as the final step in a progression of unsuccessful attempts to cope with negative environmental demands. Stated in other words; burnout occurs when our heart is in one place and our work in another (Andreyko, 2010).

While researchers came up with different definitions for burnout, all acknowledged the notion that burnout is viewed as a work-related state of mind (Maslach et al., 2001). There was also consensus with regard to the core elements of burnout. Maslach and Schaufeli (1993) noted that most researchers focused on five common elements when conducting research on burnout. These elements include a) the predominance of fatigue symptoms such as mental or emotional exhaustion, tiredness and depression; b) the occurrence of various atypical physical symptoms of distress; c) symptoms that are work-related; d) symptoms that manifest themselves in “normal” persons who did not suffer from psychopathology before; and e) a decreased effectiveness and impaired work performance that occur because of negative attitude and behaviours. Maslach et al. (2001) stated that these elements could be divided into one of three dimensions, namely emotional exhaustion, depersonalisation, and decreased personal accomplishment. Researchers often measure the prevalence of these dimensions to determine if burnout occurred. This resulted in what is known as a variable-oriented approach (Maslach et al., 2001). In more recent years, however, a person-centred approach has been adopted in

which individual differences are acknowledged (Mäkikangas & Kinnunen, 2016). More precisely, this means recognising potential patterns of burnout symptoms within individuals and individual developmental trajectories. The present study supports differences across and within individuals in relation to burnout without discarding the value of variable-oriented approaches. The latter decision got supported when a systematic review done by Mäkikangas and Kinnunen (2016) revealed that variable- and person-oriented approaches should be used as complementary, not alternative, approaches, thereby enriching the body of psychological theoretical knowledge about burnout. They further suggested that, in the event of typical types and developmental trajectories as per person-oriented burnout studies, along with the findings of variable-oriented research, insight into the generalized expectations for burnout phenomenon and its development can be provided. Therefore, for the purposes of the present study, burnout is viewed as a complex, multifaceted, response syndrome to chronic occupational stresses and insufficient recovery (Langelaan et al., 2006; Salvador & Rothmann, 2005).

### **2.2.1 Dimensions of burnout**

As was mentioned in 2.2, researchers often measured burnout in terms of three dimensions, namely emotional exhaustion, depersonalisation and decreased personal accomplishment (Maslach et al., 2001). Roothman (2010) described these dimensions as follows: Emotional exhaustion refers to the depletion or draining of emotional resources and feelings of being over extended or overwhelmed. Exhaustion presupposes a prior state of high arousal or overload as opposed to low arousal. As a result of the general feeling of emptiness and strong need for rest, people may try to “break free” by distancing themselves from others and their work. This depersonalisation or cynicism may be followed by a negative attitude and behaviour towards work. In combination, exhaustion and depersonalisation may systematically reduce one’s sense of efficacy or accomplishment (Houkes, Winants, Twellaar, & Verdonk, 2011; Roothman, 2010).

The abovementioned process sounds sequential, however questions have been raised as to whether the sequence thereof is straightforward. A sequential link from exhaustion to cynicism was established, but the link towards inefficacy remains less clear (Maslach et al., 2001). Leiter’s research claimed that cynicism develops in response to exhaustion, whilst professional



efficacy as third component, seems to develop independently and in parallel (Salvador & Rothmann, 2005). Weinstein (2011) supported Cherniss' theory developed in the early eighties, which was later confirmed by Van der Merwe (2003). This theory stated that burnout is a process of three stages in which professionals' attitudes and behaviour change in negative ways in response to job strain. According to this process, the initial existence of perceived imbalance or stress of job strain should be included as an initial stage. This is followed by immediate, short-term emotional tension, fatigue, and exhaustion which then result in a number of changes in attitude and behaviour.

Although the sequence of the named dimensions may vary, it is often exhibited in five areas: physical, intellectual, social, emotional, and spiritual (Andreyko, 2010). Burnout can manifest on individual, interpersonal and/or organisational level. Chapter 3 will show how this study played out across the aforementioned three levels. On all levels the definition of Schaufeli (2003) that states that, burnout as a complex, multi-causal process that involves various factors at different levels of aggregation remains relevant. There is a need to explore the possible causes and outcomes of burnout in addition to the three dimensions related to it as part of this process.

### **2.2.1.1 Exhaustion**

Exhaustion is often viewed as the core dimension of burnout. Exhaustion is the dimension that people identify with the most when considering burnout (Metin, 2010; Twigg & Kang, 2011). It is also the most researched amongst the different dimensions of burnout (Penny, 2018). Buys and Rothmann (2010) described exhaustion as feelings of being overextended and drained of emotional and physical resources. Although it is associated with the day-to-day perceptions of being constantly 'tired', it differs in terms of the period it is experienced by indicating a prolonged exposure to intensive strain (Demerouti, Mostert, & Bakker, 2010). Van der Merwe (2003) described exhaustion as a physical experience of waking up as tired as when one went to bed, or literally lacking the required energy to take on another task. In terms of burnout, exhaustion does not fluctuate substantially from task to task and is instead a chronic state in which people come to work (Sonnentag, 2017).

Exhaustion also refers to the fact that the individual becomes incapable to perform because all energy has been drained (Schaufeli, 2003). Such exhaustion is perceived as difficult to cope with because the individual negates the high energy level he/she used to rely on when handling loaded schedules or job demands (Moodley, 1995). Individuals therefore become incapable to perform tasks they used to complete with ease and can no longer make themselves available at a psychological level (Stevenson, 1994). Jones and Davies (2016) noted that exhaustion is associated with the perception that work feels unduly hard or that work has lost its purpose. There may be feelings of a loss of interest or joy in work and questioning one's existence, which links to the other two clusters of depersonalisation and decreased personal accomplishment respectively (Jones & Davies, 2016). This link with the other dimensions is crucial since exhaustion alone cannot be seen as a proxy for burnout (Leiter & Maslach, 2016).

Research done by Demerouti, Bakker, Nachreiner, and Ebbinghaus (2002) revealed exhaustion to be further segmented into physical, cognitive, and psychological components. Exhaustion can also be viewed as a state of energy draining that takes the form of mental, emotional, and physical tiredness (Xanthopoulou & Meier, 2014). Casserley and Megginson (2009) specifically referred to the experience of either physical lethargy or emotional weariness in their explanation of the exhaustion dimension. It can therefore be deduced that exhaustion itself consist of both psychological and physiological facets. The psychological facet refers to the perception of being emotionally drained or exhausted, while the physical facet is associated with the notion of being constantly drained to the extent of constant or chronic fatigue. Both tend to decrease overall effectiveness in the workplace (Barker & Nussbaum, 2011).

When looking at the emotional facet of exhaustion, it is essential to explore the emotional dissonance associated with it that is positively correlated with burnout. Tei et al. (2014) referred to emotional dissonance as the disparity between felt and expressed emotion. This disparity usually occurs alongside reduced emotional regulation. Emotional dissonance is believed to be the reaction of the brain to continued emotional exhaustion which makes it difficult for individuals to identify their own emotions or the lack thereof (Tei et al., 2014). Based on Tei et al.'s research, it is posited that the presence of emotional intelligence, which is often connected to the ability of being aware of, and having the ability to, express one's own emotions, could prevent the experience of burnout. It is for this reason that the present study

will focus on the measurement of brain activity and emotional intelligence amongst those suffering from burnout and those who do not.

### **2.2.1.2 Depersonalisation or cynicism**

Depersonalisation or cynicism refers to an individual's personal detachment from work-related aspects and is viewed as a second dimension of burnout. Depersonalisation is seen as an immediate reaction to exhaustion (Maslach et al., 2001; Weinstein, 2011) or an attempt to stop the depletion of energy as experienced during the exhaustion phase (Penny, 2018). A definite connection or relationship therefore exists between the first dimension (exhaustion) and second dimension (depersonalisation / cynicism) of burnout.

Furnell (2008) and Weinstein (2011) found that depersonalisation / cynicism is marked by the display of negative and callous attitudes towards others, as well as a loss of idealism. Smit (2015) referred to it as an emotional buffer, but Penny (2018) viewed it as an escape strategy. Both descriptions seem to align with Jones and Davies (2016), who referred to depersonalisation as the proverbial survival mode.

In keeping with Penny's (2018) view that depersonalisation / cynicism is an escape strategy, Twigg and Kang (2011) described this dimension as a coping mechanism or method of keeping distance from other people. However, when this way of coping becomes habitual it becomes dysfunctional and likely to disrupt adequate task performance (Montgomery, Mostert, & Jackson, 2005; Schaufeli, 2003). In severe cases, depersonalisation manifests as an excessively detached response or strong desire to avoid facing the world and any form of interpersonal contact (Bakker & Costa, 2014; Casserley & Megginson, 2009). The latter includes a lack of empathy (Jones & Davies, 2016) as well as derogatory language when referring to colleagues or clients. Depersonalisation also includes withdrawal from the job by taking longer breaks, for example frequent extension to the allowed lunch hours (Furnell, 2008; Storlie, 2015). The first warning signs of the manifestation of depersonalisation occurs when individuals start to treat their colleagues or clients as objects, or when they perform their work in "auto-pilot mode" (Brotheridge & Grandey, 2002). The latter initiates the third dimension of burnout, namely decreased personal accomplishment.

### 2.2.1.3 Decreased personal accomplishment

Decreased personal accomplishment is perceived to be the self-evaluation dimension of professional incompetence (Smit, 2015). It can also be viewed as the inclination of perceiving one's own achievements in a negative light (Maslach, 1982; Maslach & Jackson, 1981; Penny, 2018). Alternatively, there may be an absence of feelings of productiveness and competence (Coetzer, 2018; Naude & Rothmann, 2004; Schaufeli, 2003). The absence of feeling, exhaustion, and working as if on auto-pilot reduce the individual's likelihood to get excited, feel content or have a sense of accomplishment. According to Weinstein (2011), individuals trivialise what was previously perceived as success and no longer feel as if they make an active contribution to both work and interpersonal interaction. In turn, individuals start to doubt themselves, experience a decline in feelings of competence and an overall lack of self-efficacy. These all contribute to lower productivity and poorer performance.

Despite all the research that has been conducted on decreased personal accomplishment, scholars remain in two minds as to whether it should be considered as a third core cluster or dimension of burnout or just a possible related consequence that varies from individual to individual (Alacron, 2011; Demerouti, Bakker, Vardakou, & Kantas, 2003; Gil-Monte, Peiró, & Valcárcel, 1998; Lee & Ashforth, 1996; Leineweber et al., 2014; Leiter, 1993; Schaufeli & Bakker, 2004). The developers of the Oldenburg Burnout Inventory (OLBI), the instrument used in this study, discard the third dimension by only focusing on exhaustion and depersonalisation to determine risk for burnout (Demerouti et al., 2003). Various explanations were raised for the aforementioned exclusion, such as Leiter (1993), who believed that decreased personal accomplishment develops independently from exhaustion and depersonalisation, while Cordes and Dougherty (1993) considered it to be a personality trait instead. In addition, it should not be assumed that burnout is limited to mediocre performers or those being less resilient by nature. Twigg and Kang (2011) stated that burnout can influence the most innovative and productive employees, causing them to perform poorly, being careless, and displaying ambivalent behaviour when at work (Twigg & Kang, 2011). Casserley and Megginson (2009) mentioned case studies where those experiencing burnout commented on how the bright ideals they once held were fading. Once people end up in this position, it could result in them quitting their jobs, resulting in a high turnover, which in turn can be costly to the organisation.

## 2.2.2 Other symptoms, outcomes and causes of burnout

Although the three dimensions discussed in 2.2.1.1, 2.2.1.2 and 2.2.1.3 are often associated with burnout, those suffering from it can present with various other symptoms and outcomes. Bianchi, Schonfeld, and Laurent (2015) indicated that burnout symptoms and outcomes can be displayed on global, organisational, and individual levels. Some of these dimensions may be more visible and detectable but this may lead to it being confused with other illnesses, diseases, or disorders. Casserley and Megginson (2009) noted studies where burnout had gone unnoticed by the individual involved for a long time. This is attributed to the notion that the gradual onset of burnout makes the syndrome hard to detect until an acute event occurs (Jones & Davies, 2016) or the affected individual starts suffering from more common symptoms or outcomes associated with it. Research done by Preussner, Hellhammer, and Kirschbaum (1999) listed the following as common symptoms or outcomes of burnout: fatigue, headaches, disturbed sleep patterns, non-specific pain, reduced attention span, and apathy. Casserley and Megginson (2009) added that in their study of burnout participants also displayed gastrointestinal problems, skin conditions and weight loss or gain respectively. Burnout could also be related to severe injuries while at work, coronary heart diseases, cardiovascular disorders, as well as accelerated biological aging and mortality over time (Bianchi et al., 2015). Van Dam (2016) noted that impaired cognitive performance is also prevalent among those who are suffering from burnout.

Burnout is also often, in addition to physiological problems, associated with various forms of negative responses to one's job (Arandjelovic, Nikolic, & Stamenkovic, 2010). Such responses, like job dissatisfaction and low organisational commitment, could either be burnout outcomes or indicators that burnout is about to be experienced (Van Dam, 2016). As is the case with physiological problems, such responses are considered a serious burden to the working individual, the organisation, and society as a whole especially when going unnoticed for some time (Bianchi et al., 2015).

An added problem related to the symptoms or outcomes associated with burnout is that they are likely to manifest differently between individuals (Roothman, 2010). The same situation or circumstance can be perceived as tough but manageable by some but completely overwhelming by others. The aforementioned overwhelming experience becomes more prominent when

either repetitive or intensifying over a prolonged period of time in conjunction with depleting coping mechanisms. This ending of active coping marks the beginning of passive coping and withdrawal associated with resource depletion (Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013). Cordes and Dougherty (1993) divided the causes of burnout into three broad categories, namely a) job and role characteristics; b) organizational characteristics, and; c) personal characteristics.

Where Byrne (1993) saw burnout as subsequent to the process of unsuccessful attempts to cope with negative stress conditions, Cilliers (2003) instead viewed burnout as the result of a misfit between intentions and reality in the job. Laba (2004) referred to a study done by Carrell and colleagues in 1999 who opined that burnout resulted from the overall perception that one is giving more than what is received. This perception may refer to monetary rewards, recognition, support or advancement, and can occur across organisational levels. She also noted that burnout is often the end result of too much work pressure and stress, particularly if the pressure arises from unattainable work goals (Laba, 2004). This corresponds with the views of the scholars who developed the Job Demands-Resources Model (JD-R Model). The relationship between job demands and resources will be discussed in more detail in Chapter 3. At this point it is worthy to note that job demands will give rise to burnout if there is a lack of resources or if resources are insufficient to meet demands (Bakker & Demerouti, 2007; Van den Broeck, De Cuyper, Luyckx, & De Witte, 2012). Leiter, Bakker, and Maslach (2014) also noted that value alienation or tedious, meaningless work for meagre pay could also result in a vulnerability towards burnout. The latter is noteworthy, as it is easily assumed that job demands may be highly complex or draining in itself, however Casserley and Megginson (2009) noted that getting stuck in habitual, rigid patterns that fail to serve the high performer can easily contribute to burnout.

### **2.2.3 Burnout versus stress, depression, and chronic fatigue**

Burnout often gets misdiagnosed because the symptoms are seen as either stress, depression and, more recently, chronic fatigue (Bianchi et al., 2015; Coetzee, Maree, & Smit, 2019; Huibers et al., 2003; McManus, Winder, & Gordon, 2002; Orosz et al., 2017). Since the symptoms of these mimic each other, careful consideration must be given to the individual's circumstances before a treatment is prescribed.

Uncertainty about what constitutes burnout had been experienced as far back as 1982, when Paine subdivided it into either a stress syndrome or a mental disability. The former refers to a mild form of stress where the individual remains capable to continue working, whilst the latter seems to be more severe, suggesting clinical distress leading to diminished performance at the end state of the burnout process (Schaufeli, 2003). Most researchers study burnout in individuals who are still able to function in the work environment (in other words when burnout is categorised as a syndrome) and not at the point when the individual cannot work anymore (when burnout becomes a mental disability). In the case of this study, burnout is also studied in individuals who are still in the workplace.

### **2.2.3.1 Stress**

Stress is usually the word used when describing either our feelings (Pranjic, Nuhbegovic, Brekalo-Lazarevic, & Kurtic, 2012) or day-to-day circumstances. Following a study done by Jooste (2011) amongst rugby players participating competitively, it became clear that people tend to report being stressed or anxious, even though they are physically still able to cope effectively. This said, it is important to distinguish between eustress and distress, as well as acute and chronic stress.

People commonly describe stress as activating the alarm system of the body which mobilises physical resources of the body in reaction to what is perceived as danger. It is viewed as the most ancient form of reaction to danger (Pranjic et al., 2012). However, stress in moderation can be positively perceived, whilst too much stress can be damaging, both physically and psychologically. Eustress is considered a healthy, positive outcome accompanied by a quick burst of energy (Baqtayan, 2015; Kupriyanov & Zhdanov, 2014). In contrast distress, which is negative stress, causes a deviation from healthy, physiological, psychological, and affective functioning (Hargrove, Hargrove, & Becker, 2016; Pranjic et al., 2012).

Eustress is more likely to be associated with acute stress and distress with chronic stress (Faizan & Haque, 2019). Acute stress refers to a sudden incident evoking the release of chemicals in the body to defend itself against the threat (Kyrou & Tsigos, 2007). As the circulation of chemicals or the defence mode comes to a halt, the body return to homeostasis. Chronic stress instead causes the body to remain on alert and lessens its chances to return to homeostasis

(Kyrou & Tsigos, 2007; Romero, Dickens, & Cyr, 2009). The following table, based on the stress theory of Henry and Stephens (Pranjic et al., 2012), clearly indicates the differences between the body's likely responses to acute versus chronic stress.

Table 2.1

*Acute versus chronic stress*

Adapted from "The Stress Theory of Henry and Stephens", by Pranjic et al., 2012, p. 912.

	<b>Acute</b>	<b>Chronic</b>
Two axes theory of Henry & Stephens: hormone	Exposure to act of violence, acute and active stress reaction: (fight flight): adrenalin	Exposure to mobbing > 1 years, chronic distress and passive stress reaction: adrenal fatigue – cortisol
Memory	Less concentration, difficulties of decision making	Cognitive fatigue: difficulties of concentrating or decision making (»tunnel vision«, making of mistakes, risk taking and accidents
Cognitive association	Short term memory difficulties	Hampers learning or/and learning inhibits stress
Mood	Positive attitudes, good perception	Negative attitudes, poor perception, memory lapses
Drive	Anxiousness, aggressiveness	Irritations, depression, sleep disorders, production errors and near-accidents
Libido	Euphoric, active feeling, dynamics	Exhaust, fatigue, apathy
Immune-system	Low libido	Suppresses sexual activity
Metabolism	Increase number of NK-cells	Decrease number of NK-cells
Digestion	Increase blood sugar, increase level of cholesterol, pulse, high blood pressure	Decrease blood sugar,
Self-esteem	Indigestion, constipation	Ill-health
Concentration	High level	Reduced, loss

The table above is evident of the overlap in the symptoms and outcomes of stress and burnout. It therefore stands to reason that burnout is viewed as a stress-related condition. Burnout is regarded as either the end product of work-related chronic stress processes (Bianchi et al., 2013) or the result of prolonged, unresolvable stress (Bianchi et al., 2015). This is similar to Miles and Chittooran's (2001) findings which considered burnout a product of chronic stress or chronic stress becoming toxic. Arandjelovic et al. (2010) distinguished between stress and burnout. They regarded stress as a temporary adaptation process accompanied by mental and physical symptoms, while burnout was defined as the final stage in breakdown of the adaptation that results from long-term imbalance or then prolonged stress. Therefore, it can be said that stress precedes burnout and can be considered as an inextricable component of burnout (Van Dam, 2016).



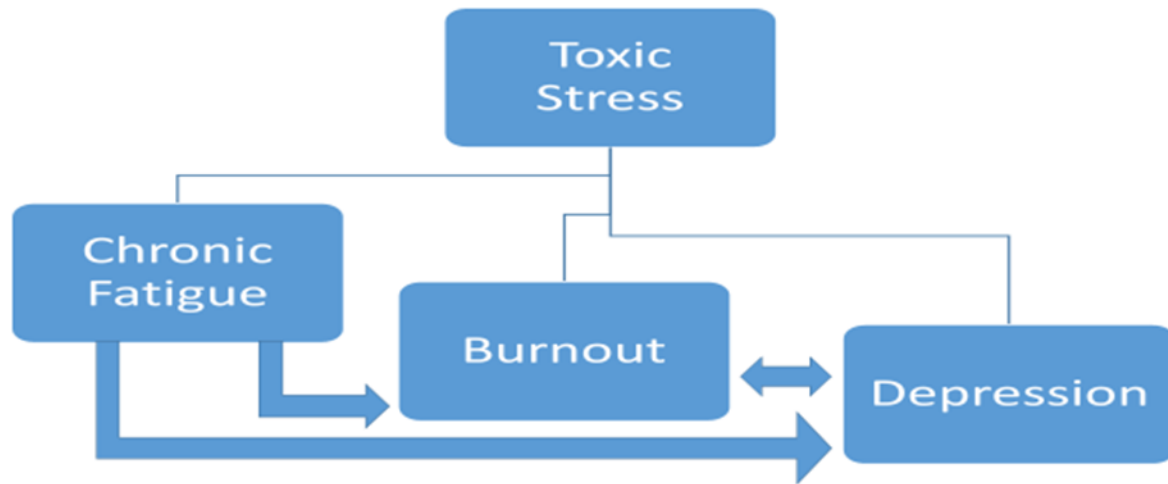
### 2.2.3.2 Depression

The distinction between burnout and depression is regarded by many as conceptually unclear and is an object of controversy. Some scholars tend to simplify it by saying that burnout differs from depression because it is limited to the work domain (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Schaufeli, 2003) and include a lack of reciprocity in work related relationships (Bakker et al., 2000; Schaufeli, 2003). Depression, on the other hand, spans across contexts and reflects a lack of reciprocity in relationships with life partners. In other words, burnout tends to be situation-specific and work-restricted, while depression is context-free and domain-transcending (Bakker et al., 2000; Bianchi et al., 2015).

Bianchi et al. (2015) warned that the difference between burnout and depression is not clear since the two constructs share common etiological pathways as well as many symptoms. Depression can also start at work and progress across different spectrums, with core symptoms of the presence of negative emotions and the absence of positive emotions, as can be the case with burnout. Bianchi et al. (2015) therefore warned against using the burnout label prior to excluding depressive episodes. Uncertainty in this area may leave depression as either untreated or treated inappropriately.

The risk of confusing burnout with depression can easily occur due to the many similarities between the pathologies of the two (Bianchi et al., 2013). Similar to depression, burnout often gets associated with increased attention for dysphoric stimuli and decreased attention for positive stimuli (Bianchi & Laurent, 2015). A study conducted by Bianchi and Laurent (2015) used eye-tracking and found structural similarities between burnout and depression. Van Dam (2016) on the other hand specifically referred to the importance of learned helplessness, a phenomenon shared by patients of both burnout and depression. The question is therefore raised as to whether burnout is a form of, or comorbid to, depression. In order to respond to this question, Ahola, Hakanen, Perhoniemi, and Mutanen (2014) studied the relationship between depression and burnout over a period of seven years. They confirmed the existence of conceptual similarities. They concluded that burnout constituted depressive symptoms in work life. Bianchi and Brisson (2017) suggested that burnout may not always be specifically job-induced, although more likely to manifest at work. Burnout or depressive symptoms and clinical diagnosed depression, might represent different phases in the stress process whereby

burnout could lead to depression, provided the individual vulnerabilities and situational factors coincide (Ahola et al., 2014). It can therefore be graphically presented as follow:



*Figure 2.1.* Relationship between stress, chronic fatigue, burnout and depression

It is important to remember that depression almost always results from a negative or traumatic event or situation (Bakker et al., 2000), while burnout can also occur from circumstances or situations being perceived as cognitively challenging but not always negative per se. In a study conducted by Mather, Blom, Bergström and Svedberg (2016) it was found that burnout was largely influenced by unique environmental factors not shared with either depression or anxiety disorders. It is therefore postulated that burnout and depression would develop in tandem, with the probability of the experience of burnout leading to the occurrence of depression (Van Dam, 2016).

### 2.2.3.3 Chronic fatigue

As is the case with stress, fatigue is also often associated with wellbeing (Olson, 2007). It is however important to distinguish between being tired and being fatigued. Tiredness comes from putting in physical effort and the energy that was lost can be restored when taking time to rest. Fatigue, on the other hand, does not disappear even after a good night's rest. Fatigue can be severely disabling, especially if it becomes chronic in nature (Afari & Buchwald, 2003; Olson, 2007). Chronic fatigue occurs when an individual has had severe fatigue for more than six consecutive months and it is not the result of ongoing exertion or other medical conditions associated with fatigue (Coetzee et al., 2019). Exploring fatigue is important because the

presence thereof is positively correlated with a loss of productivity in the workplace (Leone, Wessely, Huibers, Knottnerus, & Kant, 2011; Rabinbach, 1990). Since fatigue's outcome of loss of productivity tends to overlap with burnout, it inevitably creates scope for misdiagnosis and delay in correct treatment. Adding to this potential for misdiagnosis, is the notion that fatigued individuals might evaluate their work more negatively and their complaints may be wrongly labelled as 'burnout' (Leone, Huibers, Knottnerus, & Kant, 2007).

The abovementioned profound disabling and ongoing fatigue is the hallmark of chronic fatigue syndrome (CFS) (Afari & Buchwald, 2003). Roberts, Papadopoulos, Wessely, Chalder, and Cleare (2009) described CFS as a multi-factorial condition in which psychological and social factors act alongside biological changes. This definition sounds very similar to that of burnout. The major overlap is CFS' core symptoms, namely physical and mental fatigue, which is also common to burnout. Other symptoms associated with CFS are myalgia, headache, sleep disturbances, swollen lymph nodes, and cognitive impairment (Van Geelen, Sinnema, Hermanus, & Kuis, 2007).

Chronic fatigue is also similar to burnout, in that it is a common complaint among leaders, yet it is often unexplained and idiopathic. To ascribe a specific cause to feelings of chronic fatigue is challenging and it remains difficult to find a medical cause (Sharpe, 1997). More confounding is the fact that various psychiatric disorders have fatigue as a symptom. Van Geelen et al. (2007) believed that CFS is more difficult to understand because of its unknown origin. It therefore appears that it is advisable to perform physical and mental state examinations of the individual when it is suspected that someone suffers from fatigue or burnout prior to formulating a diagnosis and management regime (Sharpe, 1997).

Another issue with confusing chronic fatigue syndrome with burnout relates to the fact that research showed that the personality traits of those suffering from CFS have various resemblances with those suffering from burnout (Coetzee et al., 2019). Some of these traits include being perfectionist, conscientious, hardworking, somewhat neurotic, and introverted (Hill & Curran, 2016; Kato, Sullivan, Evengård, & Pedersen, 2006; Morgan & De Bruin, 2010; Van Geelen et al., 2007). These individuals also tend to have high personal standards, a desire to be socially accepted and a history of continuously pushing themselves past their limits (Van

Geelen et al., 2007). Researchers are currently debating whether these traits are predisposing, initiating, or perpetuating burnout or chronic fatigue.

In addition to psychological traits, researchers noted that those who suffer from CFS also show hypocortisolism or lowered cortisol levels. This is one of the most reported aspects amongst those suffering from CFS (Cleare, 2003; Roberts et al., 2009). This is similar to burnout when referring to the cortisol awakening response (CAR), yet different to distress and depression which rather correspond with hypercortisolism (Marchand, Durand, Juster, & Lupien, 2014).

In light of the above discussion, it is assumed that various commonalities exist between CFS and burnout. The key difference could, however be attributed to the work of Huibers et al. (2003) who noted that persistently fatigued individuals are not burnt out by definition, and that burnt out individuals might not experience fatigue as a major complaint. Leone et al. (2007) believed that, typically, prolonged or chronic fatigue has medical origins, while burnout is related to psychological issues. Furthermore, burnout is conceptualised as a work related condition while chronic fatigue refers to a general condition. In support of these views a recent study done at a tertiary institution in South Africa indicated that, despite some overlap between the two syndromes, chronic fatigue and burnout should be perceived as two distinguishable constructs (Coetzee et al., 2019).

### **2.3 Psychological markers of burnout**

As was stated previously, burnout was initially believed to have psychological origins only (Leone et al., 2007). Brohl (2006) referred to burnout as a breakdown of psychological defences that an employee typically uses to cope with intense job related stress. Homer (1985) indicated that burnout is not caused by a stressful work environment alone, but rather by the individual's workaholic response to that environment. It is also true that the way individuals perceive the cause of their burnout and attribute blame have consequences for remedial action (Bakker, Demerouti, & Verbeke, 2004). Maslach and Leiter (2005) confirmed these notions by declaring that high disharmony between the nature of the job and the nature of the job holder leads to burnout. It was also mentioned previously that burnout is often associated with the presence of certain personality traits, such as conscientiousness, perfectionism, and extraversion (Alarcon, Eschleman, & Bowling, 2009; Anvari, Kalali, & Gholipour, 2011; Hurt, Grist, Malesky, &

McCord, 2013; Lazarus, 1999; Magnusson, Nias & White, 1996; Senderayi, Tshababa, Mutanana, & Nyathi, 2019; Tashman, Tenenbaum, & Eklund, 2010). Since much research has been done on the relationship between burnout and the work environment as well as burnout and personality traits, the present study will rather focus on other factors associated with burnout, namely psychological wellbeing and emotional intelligence. Although these issues have been researched in relation to burnout before, little was done to determine if they could prevent burnout from occurring.

### **2.3.1 Burnout and emotional markers**

Emotions are an inherent aspect of the human being. For some “emotions are one of the underappreciated gifts of God” (Chapman, 1996, cited in Sala, 1996, p. 7), yet it is so powerful that it determines the quality of our lives (Ekman, 2003). Certain displays of emotion work in our favour and others less so, yet we experience a mixture of emotions on a daily basis, which in turn direct our behaviour. The aforementioned realisation paved the way for what is now known as emotional intelligence (EQ). This term was coined and formally defined by Mayer, DiPaolo, and Salovey in 1990. They initially described it as “the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional meanings, and to reflectively regulate emotions in ways that promote emotional and intellectual growth” (Stein & Book, 2011, p. 13). Although the construct has been redefined ever since the establishment of the original definition of EQ, various newer models and frameworks still overlap in theoretical content and structure. The model favoured in this study is the competency model, known as the Genos model of EQ. The Genos model defines EQ as a set of skills that represent how effectively individuals perceive, express, understand, reason with and manage their own and others’ feelings (Gignac, 2008). The inventory based on this competency model was used during the first phase of this study. This inventory measures how often people demonstrate emotionally intelligent workplace behaviours associated with the seven skills or dimensions of the model. It was considered relevant to measure how often, instead of only whether, the individual possesses the skill. The following seven skills or dimensions are measured in the Genos (Garber, 2007, pp. 52-53):

Table 2.2  
*Seven skills or dimensions of the Genos (EQ) Inventory*

Skill / Dimension	Definition
Emotional Self-Awareness	The skill of perceiving and understanding one's own emotions.
Emotional Expression	The skill of effectively expressing one's own emotions.
Emotional Understanding / Awareness of Others	The skill of perceiving and understanding others' emotions.
Emotional Reasoning and Decision-making	The skill of utilising emotional information from self and others in reasoning and decision-making.
Emotional Self-Management	The skill of regulating and managing one's own emotions.
Emotional Management of Others	The skill of influencing the moods and emotions of others.
Emotional Self-Control	The skill of effectively controlling strong emotions experienced at work within one self.

High scores obtained on these seven skills or dimensions, is explained in Table 2.3.

Table 2.3  
*Brief high score interpretations of Genos' seven skills or dimensions*

(Gignac, 2008, p. 27)

Skill / Dimension	Interpretation
Emotional Self-Awareness	High scores indicate a frequent awareness of ones emotions at work, their causes, as well as the impacts of emotions on one's thoughts, decisions and behaviour at work.
Emotional Expression	High scores indicate a frequent demonstration of effective emotional expression at work, such as feelings of happiness, frustration, as well as feedback to colleagues.
Emotional Understanding / Awareness of Others	High scores indicate a frequent and accurate identification of the emotions of others at work, as well as their causes.
Emotional Reasoning and Decision-making	High scores indicate a frequent consideration of one's own and others' emotions when making decisions at work, as well as expressing that such consideration has taken place.
Emotional Self-Management	High scores indicate a frequent engagement of activities that facilitate the positive development of emotions in oneself, as well as a relative absence of dwelling on negative emotions.
Emotional Management of Others	High scores indicate a frequent engagement in the creation of emotionally positive work environments for others, as well as effectively helping colleagues resolve issues that may be affecting their performance adversely.
Emotional Self-Control	High scores indicate a frequently demonstrated capacity to remain focused when anxious or disappointed at work, as well as the demonstrated ability to not loose one's temper.

Based on the above it now appears that EQ is not only an individuals' ability to recognize and regulate emotions in themselves and others, but to do so when making work-related decisions when acting on environmental demands (Dhani, & Sharma, 2016; Goleman, 2004). One such a demand is stress, or in the event of burnout, prolonged stress. The workplace has been considered a major source of stress and, as a result, various studies revealed that the importance of EQ in the workplace cannot be overestimated. It has also been claimed that the higher up one goes in an organisation, the more important EQ becomes, compared to intellectual (e.g. IQ) and technical skills (Dulewicz, Young, & Dulewicz, 2005). Therefore EQ is believed to become even more prominent when considered in relation to leadership (See 1.1). Findings suggested that leaders higher on EQ are more likely to achieve business outcomes and be considered as effective leaders by their subordinates and direct manager (Rosete & Ciarrochi, 2005). This is with specific reference to perceiving and allowing for own and others' emotions. Research done by Viriyavidhayavongs and Jiamsuchon, (2001) as well as Kerr, Garvin, Heaton, and Boyle (2006) respectively confirmed that an individual's EQ may indeed be a key determinant of effective leadership. According to Dulewicz (2000), leaders' tasks in corporate institutions, such as setting the vision and values, supervising management, and dealing with external stakeholders, all require substantial levels of EQ. Research findings by Dulewicz et al. (2005) loosely revealed that both intellectual and managerial competencies are 'needed to play', whereas EQ is 'needed to win'. Therefore, the more powerful this combination, the more likely the leader is to succeed and to cope with stress.

In addition, various researchers have suggested that an increase in emotional intelligence leads to a decrease in the signs of burnout (Lavasani, Afzali, Davoodi, & Shahrestani, 2017; Weinstein, 2011) or having a protective effect on the person in relation to job burnout (Augusto-Landa & Lopez-Zafra, 2010; Weinstein, 2011). It is therefore fair to state that the greater the ability to deal with environmental stressors by effectively dealing with own and others' emotions, the better equipped the individual is to withstand burnout. Sharma (2011) confirmed this by observing that EQ can serve as a mediator of burnout, where burnout can be prevented by enhanced EQ (Sharma, 2011). Görgens-Ekermans and Brand (2012) noted that such a moderator effect of EQ in the stress–burnout relationship suggests that enhanced EQ would diminish the development of burnout when chronic stress is experienced. The reason for this relates to the notion that individuals in stressful environments, such as leaders within financial departments, have the ability to regulate their experience of stress and its associated

negative emotions (Görgens-Ekermans & Brand, 2012). In doing so, these leaders ensure that they are not overwhelmed by the negative affect associated with stressful events. EQ hence becomes a personal resource that facilitates the processing of emotions into effective behaviour patterns (Zysberg et al., 2016). Zysberg et al. (2016) therefore inversely associated EQ with burnout as they consider burnout as a condition brought about by a lack of effective emotional regulation and management.

In light of the above, the researcher of this study wants to argue that the presence of EQ can serve as buffer against burnout from occurring among leaders working in the financial departments of corporations in South Africa and therefore one of the objectives of this study relates to determining the effect of EQ on burnout.

### **2.3.2 Burnout and psychological wellbeing**

Brannon and Feist (2004) endeavoured to change the perception of health as merely the absence of disease, to rather seeing health as a state of positive wellbeing. This is similar to the change that psychology as discipline underwent. In psychology, the focus used to be on negative states of the mind which constituted psychopathology, —but a gradual shift occurred to investigate positive psychology as well (Maslach et al., 2001). The reason for this relates to psychologists' realisation that positive and negative aspects that span the whole human condition from disorder to wellbeing needs to be investigated to fully understand and change human behaviour (Korunka et al., 2009).

In line with this shift, subjective wellbeing and psychological wellbeing have emerged as two of the most popular conceptualisations of wellbeing in the history of psychology (Mehrotra, Tripathi, & Banu, 2013). Albeit used interchangeably sometimes, one should realise that they refer to different constructs. Subjective wellbeing is associated with a hedonic approach and has affective and cognitive-evaluative components (Mehrotra et al., 2013). Differently stated, subjective wellbeing can be described as the presence of positive affect coupled with having a sense of satisfaction in life. Psychological wellbeing, on the other hand, could be seen as the feeling of personal growth, having continued development, and openness to new experiences (Cerezo et al., 2015). Ryff, who incorporated the work of Maslow, Jung, Rogers, Allport, Erickson, and Jahoda, came up with a theory that investigates psychological wellbeing using a



six dimensional model (Mehrotra et al., 2013). The six dimensions identified by Ryff is presented in Figure 2.2.



Figure 2.2. Ryff's six-dimensional psychological wellbeing model

Ryff developed a measure of psychological wellbeing using the six dimensions of the model. Despite some criticism, this measure is still widely used and withstood extensive psychometric scrutiny (Ryff, 2014). Ryff's model is a compilation of multiple theories allowing for a multidimensional view and thus broadens the initial perspective of psychological wellbeing as the mere absence of mental illness (Boyce, 2018). Although Ryff focused on psychological wellbeing across different life spheres and touching on its relation to work, it is theorised that psychological wellbeing in the workplace needs to be studied more. Maintaining psychological wellbeing of leaders and employees does not only contribute to the health and wealth of the organization, but also has a positive impact on economic outcomes (Korunka et al., 2009).

Psychological wellbeing in the workplace could be described as individuals' subjective positive experiences at work (Dagenais-Desmarais & Savoie, 2012). Since psychological wellbeing includes pleasant emotional and cognitive experiences, one could assume that psychological wellbeing at work corresponds to intrinsic states of happiness that would result in life satisfaction, confidence, and cheerfulness (Nelson et al., 2014). In a similar vein,

research indicated that those who measure high on autonomy, which is one of the subscales of Ryff's model of psychological wellbeing, would be less affected by burnout (Adebayo & Ezeanya, 2011; Littman-Ovadia, Oren, & Lavy, 2013; Street & Cossman, 2009). Within the corporate context, job autonomy refers to the sense of the perception that a job is providing opportunities for being part of the decision-making process and the freedom to be creative when applying problem solving skills (Chung-Yan, 2010; Slemp, Kern, & Vella-Brodrick, 2015). Villa and Calvete (2001) also noted that the presence of a positive perception of the self, which is another dimension of Ryff's psychological wellbeing model, could also prevent burnout from occurring. This is based on the notion that positive perception of the self is associated with self-acceptance and environmental acceptance which enable individuals to obtain self-fulfilment in life, meaning that they are living a valued life in harmony with others and their environment (Garcia, Al Nima, & Kjell, 2014).

In light of the above discussion it is assumed that, because of the positive emotions associated with it, the presence of psychological wellbeing would deter the experience of burnout (Bakker et al., 2011). Vazi et al. (2011) noted that psychological wellbeing has a mediating effect when distress is experienced, thereby lessening the onset of burnout (Vazi et al., 2011). A study of Filipino journalists on the relationship between burnout and psychological wellbeing found inverse correlations between burnout and psychological wellbeing (Cerezo et al. 2015). The researchers also noted that less favourable work outcomes were experienced in the absence of psychological wellbeing (Cerezo et al., 2015). Cerezo et al.'s (2015) findings were corroborated by Scanlan and Still (2013) as well as Lizano and Barak (2015) who emphasised the negative relationship between burnout and psychological wellbeing. Similar findings have also been established in a South African study. The study, which was conducted amongst educators, found inverse correlations between s levels of psychological wellbeing and levels of disengagement and exhaustion (Hansen, Buitendach, & Kanengoni, 2015). Based on this finding, it is theorised that the presence of psychological wellbeing would impact negatively on exhaustion and disengagement that, as was indicated in 2.2.1, are dimensions of burnout. Despite the studies mentioned here, Manzano-García and Ayala (2017) suggested that more research is needed to show that the presence of psychological wellbeing could act as deterrent to the experience of burnout. As a result, one of the objectives of this study is to determine whether psychological markers, with specific reference to psychological wellbeing, could prevent burnout.

Now that in-depth discussions were presented on the emotional and psychological markers of burnout, the next section will focus on the physiological markers of burnout.

## **2.4 Physiological markers of burnout**

Several studies indicated the impact of stress on health (Bustamante-Sánchez et al., 2020; Cvjetkovic, Dubovski, Bibic, & Bosnjak, 2019; Vesna, 2017). Since burnout is one of the outcomes of prolonged stress, it is argued that burnout will also impact health. This already became evident in previous discussions where the symptoms of burnout and the outcomes of burnout have been described (see 2.2.1 & 2.2.2), Longitudinal studies suggested that the impact on the body or risk associated with burnout and vital exhaustion even exceeded the risk conferred by classical risk factors such as age, smoking, and blood pressure to name a few (Melamed, Shirom, Toker, Berliner, & Shapira, 2006). Vital exhaustion includes cardiovascular disease and failure. Exhaustion or chronic fatigue associated with burnout also contributed to a difference in electroencephalogram (EEG) derived parameters (Van Luijtelaa, Verbraak, Van den Bunt, Keijsers, & Arns, 2010). Although burnout affects more areas of the body than the proverbial head and heart, this study was focused on two regions; the brain and the cardiovascular system.

### **2.4.1 Burnout and the brain**

Since initial research focused on burnout as a psychological syndrome, not much was done to study it from a physiological perspective. The aforementioned is despite the physical symptoms, such as stomach problems, digestive problems, muscle fatigue and headaches, coupled with memory and concentration problems, insomnia and diffuse aches amongst others, that resulted when individuals were believed to suffer from burnout (Chow et al., 2017; McCormack & Cotter, 2013). In keeping with this dearth of more physiological related research, McEwen (2007) suggested the brain as starting point when having to understand the body's response to burnout. According to him, the brain can be seen as the key organ where everything starts as the brain determines what is threatening and, therefore, potentially stressful, as well as initiating the physiological and behavioural responses which can either be adaptive or damaging. It has also been established that prolonged stress provokes sustained and/or progressive changes in the expression of particular genes, structural alterations in

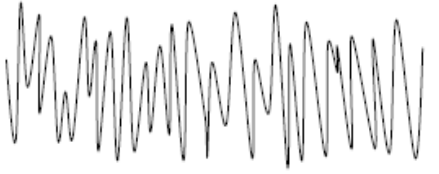
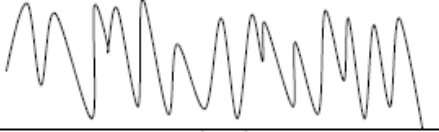
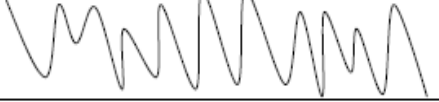


neurons and changes in neuronal firing patterns throughout the brain. Joëls and Baram (2009) postulated that if such changes persist they can result in prolonged deviations from the original functioning of the network.

The latter changes in neuronal firing and deviation are believed to be the case when the individual suffers from burnout. A study done on students between the ages of 19 and 29 assumed that stressors generating burnout increased the number of firing neurons (Tement, Pahor, & Jaušovec, 2016). The increase in neuron firing on the long run will typically lead to exhaustion. Chow et al. (2017) elaborated on this when their systematic review revealed prolonged or chronic stress, such as in the event of burnout, inhibits the feedback control pathway in the HPA axis, causes the decrease of brain-derived neurotrophic factor (BDNF), then impaired neurogenesis and eventually neuron atrophy.

Das (2018) stated that the root of all thoughts, emotions and behaviours is the communication between neurons within the human brain. It is therefore reasonable to argue that exploring brain waves will increase our understanding of burnout. Brain waves are considered the repetitive or rhythmic neural activity in the brain, produced by synchronized electrical pulses from masses of neurons communicating with each other (Das, 2018). Typical brain waves are subdivided into five frequency ranges or bands, known as delta, theta, alpha, beta, and gamma, yet one will be dominant pending on the individual's state of consciousness. Table 2.4 below is a display of the five different waves or frequency ranges coupled with the respective levels of consciousness experienced, as well as mental condition displayed at the time.

Table 2.4  
*Different brain rhythms*

Adapted from “Brain rhythms” by Das, 2018, p. 20911.

Rhythm	Mental condition	Consciousness	Wave pattern
Gamma 40 – 100+ Hz information processing	Cognitive functioning, learning	Very high	
Beta 12 – 40 Hz	Attentive, problem solving, judgment, decision making	High	
Alpha 8 – 12 Hz	mental coordination, alertness, calmness	medium	
Theta 4 – 8 Hz	Deeply relaxed, semi- hypnotic state	low	
Delta 0.5 – 4 Hz	Dreamless sleep, meditation	very low	

Tatum, Husain, Benbadis, and Kaplan (2006) advised on the electroencephalograph (EEG) as an ideal measuring instrument as it represents a collection of waveforms containing information about the function of the brain. These authors also indicated that alpha frequencies are perceived over the years as starting point to analyse clinical EEGs. Tement et al. (2016) concurred when saying that alpha frequency rhythms’ stability and dominance during relaxed wakefulness contribute to its robustness for use within research studies. Alpha can be summarised as follows:

They are dominant during quietly flowing thoughts. They aid overall mental coordination, calmness, alertness, mind/body integration and learning. This frequency range bridges the gap between our conscious thinking and subconscious mind. Alpha is the frequency range between beta and theta. It helps us calm down when necessary and promotes feelings of deep relaxation (Das, 2018, p. 20911).

Previously, the EEG has been widely used for biomarker research of neuropsychiatric disorders, and psychopathology. It has only been recently that similar research was expanded to include burnout, with a surge of interest in EEG-based biomarkers in the alpha rhythms or

frequency ranges (Tement et al., 2016). Initial research in this regard reported that overall alpha power did not discriminate between the burnout and control groups. However, when fatigue—a characteristic of burnout—was high, increased alpha power was observed. This is believed to be the result of increased efforts to maintain vigilance and wakefulness (Klimesch, 1999; Tement et al., 2016). Research findings by Golonka, Gawlowska, Mojsa-Kaja, & Marek (2019) instead revealed reduced alpha power in burnout individuals which they in turn hypothesised to be ascribed to cortical hyperactivity and may be related to greater mental effort and the possible development of compensatory mechanisms by burnout subjects. The reduced alpha power among those suffering from burnout was confirmed by studies done when compared athletes with and without burnout (Ryu et al., 2015). These authors tended to believe that the lower alpha power observed in the athletes with burnout is associated with the cognitive impairment and decreased attention resulting from exhaustion.

Furthermore, a lower peak alpha frequency (PAF), which is based on the frequency with the highest magnitude, was observed by Van Luitelaar et al. (2010). This outcome reiterated study findings which suggested that PAF varies between healthy and clinical individuals, with the latter consistently having reduced PAF when compared to healthy controls (Angelakis, 2002; Angelakis, Lubar, Stathopoulou, & Kounios, 2004). These results point towards deflated cognitive preparedness and thus pave the way forward for probable lower cognitive performance among those suffering from burnout.

To date the majority of research was done on relatively small samples and differed in sample characteristics. The researchers responsible for all the above-mentioned studies therefore recommended further research on how brain waves, in particular alpha waves, relate to burnout.

#### **2.4.2 Burnout and the cardiovascular system**

McEwen (2007) stated that stress involves two-way communication between the brain and the cardiovascular system. McEwen and Gianaros (2010) believed that, the cardiovascular system is one of the systems most susceptible to stress. It is hence argued that burnout will have an impact not only on the brain (see 2.4.1) but also on the cardiovascular system.

When the stress response occurs, the HPA-axis is activated. This process results in an increase of epinephrine (adrenaline). Increased levels of adrenaline result in an increased heart rate and blood pressure. However, when prolonged stress is experienced, the cardiovascular system remains activated. Danhof-Pont, Van Veen, and Zitman (2011) noted that a cardiovascular system that fails to return to homeostasis would cause vital functions, such as heart rate and blood pressure to remain activated, causing them to weaken. These weakened systems cannot deal with the continued exposure to the stressor. In addition, metabolism is increased which compromises the immune system. Based on this, one can assume that burnout, which is the result of the inability of the body to deal with prolonged stress, would result in cardiovascular dysfunctions amongst others. Such dysfunction could in turn cause physical fatigue, one of the symptoms of burnout (Brannon & Feist, 2004; Danhof-Pont et al., 2011; De Looft, Cornet, Embregts, Nijman, & Didden, 2018).

Although some researchers believed that research on the physiological markers of burnout is not possible (Van Doornen et al., 2009), De Looft et al. (2018) found that prolonged exposure to stress, as is the case with burnout, is associated with increased heart rate and decreased heart rate variability. These findings confirmed those of Melamed et al. (1999) who noted that those who scored high on both burnout and tension, displayed elevated levels of cardiovascular disease risk factors such as high cholesterol, low-density lipoprotein, significant electrocardiographic abnormalities, and so forth. The relationship between cholesterol and burnout was noted before in a study conducted by Melamed, Kushnir, and Shirom (1992). These researchers discovered a positive correlation between burnout and hyperlipidaemia, which is more commonly known as high levels of “bad” cholesterol.

Other studies focusing on the relationship between burnout and cardiovascular diseases, also found significant correlations between the two constructs (Honkonen et al., 2006). Hallman, Thomsson, Burell, Lisspers, and Setterlind (2003) concluded that coronary heart disease is most common amongst those suffering from burnout. In addition to this, a study conducted by Toker, Melamed, Berliner, Zeltser, and Shapira (2012) on 8,838 white collar employees noted that burnout is an independent risk factor for future incidence of coronary heart disease (CHD). The study outcome postulated that individuals with high levels of burnout have a significantly higher risk of developing CHD compared to those with low levels of burnout (Toker et al., 2012).

Despite the studies mentioned thus far, Maslach (2001) noted that physiological markers is often overlooked when burnout is researched. One way of addressing the latter is to measure the cardio stress index (CSI). The CSI is used to determine the effectiveness with which the cardiovascular system can handle a stressor or stress load, such as burnout (Henning et al., 2014; Nortje, 2014). Nortje (2014) indicated that the CSI leads to two factors, namely resilience and vulnerability. This author explained resilience as occurring when a potential stressful experience or stressor is correctly managed or successfully adapted to provide a positive benefit to the cardiovascular system. Vulnerability on the other hand is when a stressor is not effectively adapted or managed, causing malfunction. This is then believed to be the case during burnout. These two mentioned responses remind of eustress and distress (see 2.2.3.1).

In light of the above, it is theorised that it is important to study the impact of burnout on the cardiovascular system. The present study will focus on the CSI as it is a non-invasive measure of the physiological stress that the heart is experiencing (Henning et al., 2014), whilst also proven that with CSI the physiological stress level is more efficiently demonstrated and likely to effectively identify cardiovascular function or dysfunction (Nortje, 2014).

## **2.5 Burnout among leaders working in finance departments of corporate institutions**

It is clear that wellbeing and engagement are of the best countermeasures against burnout. This is however easier said than done. Especially for those working in financial departments of corporate institutions that are known for facing constant adversities, having to stand their ground during economically uncertain times whilst at the same being under constant pressure to perform. This can be perceived as a challenge to engagement in the workplace. For this very reason, it has been assumed that those working in financial departments of corporate institutions may also be more at risk for burnout.

The majority of research relating to burnout focus on individuals working in the health professions (Aitken & Schloss, 1994; Hakanen et al., 2008; Kowalski et al., 2010; Kubicek & Korunka, 2015; Miller, 1995; Zapf et al., 2001). Hence, the search for studies conducted on the occurrence of burnout among those fulfilling a financial function within corporates appear to be limited. The few studies that were conducted tend to focus on specific professions within the bigger financial arena, such as accountants or those working in the banking sector. These



studies, however, indicated the existence of a relationship between working in finance and being at risk of suffering from burnout. One of the reasons for the occurrence of burnout could be attributed to the fast tempo of work that is maintained by individuals working in financial departments (Zincirkiran & Tiftik, 2013). Another study conducted by Chong and Monroe (2015), noted that job satisfaction and commitment were key issues when studying burnout. The researchers found that role ambiguity, role conflict, and job-related tension are important antecedents for burnout.

Laba (2004), who did a study in a South African financial institution noted that it was pivotal for corporations to prevent feelings of job insecurity among their employees. Where job insecurity prevails, employees are likely to experience increased levels of burnout and cynicism accompanied by a decrease in the level of professional efficacy (Laba, 2004).

When one considers the studies that has been done on burnout amongst those working in financial departments, it appears that the work environment plays an import role. Orpen-Lyall (2008) confirmed this when her study revealed diminished levels of burnout are associated with work environments that allow for engagement and commitment through dedication and optimism. Orpen-Lyall (2008) noted that, on the other hand, work environments that lack resources would increase the perception of unreasonable job demands, which would result in employees that are unable to achieve their work goals. This inability to reach and achieve goals may in turn give way to lower levels of job satisfaction. Devi and Nagini (2013) found that job satisfaction is positively related with work-life balance and negatively related to burnout. These researchers' findings were echoed in a study done within the South African banking sector, which also noted job satisfaction as the highest contributor to explaining the variance that occurred in burnout scores (Abdool Karrim Ismail, 2010).

Because of the discussions presented thus far, it is argued that burnout is profession-independent and can occur in any working environment. The present study focused on individuals, in particular leaders that work in the financial departments of corporations because Jones, Norman, and Wier (2010) concluded that there are four distinguishing factors to explain why those working in financial departments are more prone to burnout. These factors are: a) the overtime required to meet deadlines; b) the complexity of meeting financial regulations; c) the pressure to become more skilled as time progress; and d) the inability to leave work-related

stress at the workplace. These factors are summarised by Stowe (2017) who concluded that employers of corporations seem to expect financial staff to be perpetually on duty and pressure them to stay up-to-date with financial regulations which translate to doing excellent work without making any mistakes. It is thus the nature of the job and related work environment such as the fast pace, competitiveness and high levels of stress that create an excessive strain on employees' personal resources. The abovementioned strain leaves the employee vulnerable to burnout. The imbalance between demands and resources is in line with the JD-R Model that serves as explanation for the prevalence of burnout and to be further discussed in Chapter 3 (see 3.2).

Following the abovementioned discussion, it becomes clear that the relationship between burnout and job specific constructs, such as job satisfaction and nature of job, has been well established over time (Devi & Nagini, 2013; Herda, 2012; Jones et al., 2010; Santoso, Sitompul, & Budiattanto, 2018). It is therefore deemed necessary to further investigate prevalence among those working in the financial departments of corporations. However, since most of the research conducted tend to focus on professionals, it was decided to investigate the occurrence of leaders working in financial departments of corporations.

## **2.6 Burnout and leadership**

Leadership is a crucial component of a successful organisation (Malcolm, 2017). Defining leadership, however, seems to be difficult since research on the topic produced conflicting results. One attempt at a definition is that of Yukl (2006) who stated that leadership is a process of both influencing others and facilitating collective efforts towards reaching shared objectives. A central characteristic of leadership is frequent interaction and exchange with followers, i.e. those employees who report to the leader. If the latter exchange is perceived as positive, leaders are often regarded as a resource for followers, fostering their optimism and work engagement, thereby reducing perceived stress levels and the eventual of burnout (Wirtz, Rigotti, Otto, & Loeb, 2016).

The majority of research pertaining to leadership and burnout refers to either leader-follower exchange or leadership styles. In keeping with these research studies, it has been determined that leadership styles may either give rise to burnout or in some instances serve as mediator at

the same time. For example, those with a laissez-faire or also known passive avoidance leadership style, tend to exhibit higher levels of burnout coupled with a positive relationship with emotional exhaustion and depersonalisation (Zopiatis & Constanti, 2010). Laissez-faire leadership stands rather indifferent to others and their needs as well as likely to avoid decision-making and intervention altogether (Corrigan, Diwan, Campion, & Rashid, 2002; Pillay, 2013). It has been suggested that these kind of leaders' failure to provide feedback and support to others causes burnout. Subsequently, a laissez-faire leader not only creates various workplace stressors for others, but also experiences the strain of the ambiguity of their general lack of taking the lead in any given work situation, which in turn increase their risk for burnout (Zwingmann, Wolf, & Richter, 2016).

One would expect a different outcome with transformational leadership. Transformational leadership refers to those leaders that identify a need for change and create a vision that will result in the making of changes within an organization (Basu, 2015). Transformational leaders use their power to motivate, stimulate, and influence the behaviour of others to follow suit and realize the change for progress needed. When connecting with the others on an emotional level, thereby applying effective EQ, and transformational leaders are likely to be a more positive change agent within an organization. This is evident in research findings which suggested transformational leadership to display a significant positive correlation with personal accomplishment, while it is negatively correlated to emotional exhaustion and depersonalization (Zopiatis & Constanti, 2010). However, it was also posited that exhibiting a transformational leadership style may also increase leaders' emotional exhaustion in the long run. Zwingmann et al. (2016) ascribed the increase in emotional exhaustion to these leaders often being so focused on facilitating conditions that promote followers' health and wellbeing, they may not always consider their own resources or state of psychological health.

This focus on others at the expense of the leader themselves also seems to be the case with servant leadership. Stone, Russell, and Patterson (2004) considered the servant leader as those leaders that value collective decision-making and encourage their followers to generate new ideas while solving organizational problems. The servant leader further stands for serving others and instilling progressive change by creating a vision. Because of the latter being built upon trust and the vision being comprised by long-term plans, the change process occurs spontaneously and does not affect employees negatively. It is therefore believed that servant

leadership is more inclined to decrease burnout and likely to serve as buffer against burnout (Kaya, Aydin, & Ongun, 2016). However, in a case where a servant leader forces unrealistic ambitions upon others, this style may cause others to experience burnout. Another pitfall for the servant leader that may give rise to burnout is the tendency to extend oneself by giving and over-empathising (Tee, 2018). This extension of oneself when in a leadership position appears to be more aligned to the present study. For the purposes of this study, and to be in line with its theoretical frameworks (see Chapter 3), the focus will be on the leader, irrespective of the leadership style adopted.

Schaufeli (2015) postulated that it is important to study the impact of leadership because leaders are supposed to balance the job demands and job resources of their followers in such a way that they remain healthy, motivated, and productive. They do so by managing the allocation and the impact of job demands and job resources on their followers. Good leaders create a job environment that sets the conditions to avoid burnout and to increase work engagement (Shuck & Herd, 2012). However, if the leader does not find the balance between demands and resources, he/she can as easily fall victim to burnout. The following statement refers:

In the case of leaders, one could add followers, as the interaction with them is a central part of leaders' jobs, which can at times be demanding. For example, one can imagine that leaders with a team of exhausted followers are depleted of resources, possibly invest energy in lifting followers' spirits without success, and, in turn, may experience emotional exhaustion themselves. On the contrary, leaders with a team of engaged and committed followers have more (psychological and other) resources at their disposal, and thus experience more work engagement themselves. (Wirtz et al., 2016, p. 2)

The findings of Wirtz et al.'s (2016) longitudinal study also suggested that followers shape leaders' work experience, and can affect leaders' wellbeing at work. The leader's health and wellbeing, in turn, are of utmost importance to an organisation. Ill health of leaders, whether physically or psychologically, can reduce the effectiveness of the organisation as well as create anxiety amongst their followers (Little, Simmons, & Nelson, 2007). As a result, many leaders attempt to live up to the expectation of perfection from others forcing themselves to remain calm and strong in the face of distress, never complain, and to be consistently supportive of

others, regardless of their own distress. The demand of being in control and setting an example, is only one of many mounting, unpredictable and conflicting demands that challenge leaders' sense of themselves and their health and wellbeing on a daily basis. This is in addition to the pure work-task related demands, such as high workload, multitasking and the frequent interruptions a leader is faced with (Klug et al., 2019).

On the other hand, Walsh and Arnold (2018) suggested that a key antecedent to leader behaviour is leader resource depletion, which has been conceptualised in varying ways such as general stress and chronic stress. Therefore, if a leader does not have the necessary resources, such as EQ (Wirtz et al., 2016), mindfulness (Walsh & Arnold, 2018) intrinsic aspirations and motivation, including an orientation and goal to be physically healthy (Roche & Haar, 2013), to counteract for the demands on his/her personal resources, the leader will be at risk of burnout.

Roche and Haar (2013) studied the importance of life goals and the role they play towards leaders' job burnout. They determined that leaders who focus on extrinsic aspirations are more likely to burnout at work than those focusing on intrinsic aspirations. These authors explained that the leaders who strive for wealth may end up spending greater time and energy in the workplace, which ultimately leads them to doubt the value of what they are doing. Attaining wealth in turn may ultimately leave workers feeling empty and cynical. Roche and Haar (2013) therefore deduced that what leaders focus on in terms of overall life objectives matter for their wellbeing. The latter also appears in line with the six-dimensional model of psychological wellbeing (see 2.3.2).

Based on the above discussion, it is proposed that leaders' psychological wellbeing and EQ play an important role in the prevalence of burnout. It therefore becomes clear that there is a need to further explore the potential for both psychological wellbeing and EQ to serve as buffers against the development of burnout.

## **2.7 Conclusion**

In this chapter burnout was described by discussing the three dimensions associated with it. The chapter also indicated that burnout consist of both psychological and physiological markers. For the purposes of this study, the psychological markers described were EQ and

psychological wellbeing. The physiological markers referred to alpha waves produced by the brain, and the cardiovascular system. Attention was also given to how burnout, and these markers in particular, manifest in the stressful world of leaders working in financial departments of corporate institutions. An argument was further put forward for why it is necessary to look at the relationship between burnout and the leaders' respective EQ and psychological wellbeing. The following chapter describes the theoretical frameworks which combine the constructs discussed in the present chapter to serve as the point of departure for the study.

## CHAPTER 3

### THEORETICAL FRAMEWORK

#### 3.1 Introduction

This chapter focuses on the theoretical frameworks that formed the foundation of the study. These frameworks are the JD-R model, the general adaptation syndrome theory (GAS), and the leadership pipeline. Attention will be paid to how these frameworks are related to one another. Mention will also be made of how these frameworks are relevant to leaders working in financial departments of corporate institutions.

#### 3.2 Job demands-resources model (JD-R model)

The JD-R model was introduced in 2001 as an alternative to other models of employee wellbeing, such as the demand-control model and the effort-reward imbalance model (Lesener, Gusy, & Wolter, 2018). The developers of the model are Arnold Bakker and Evangelia Demerouti. They reasoned that a more rigorous and flexible model was needed that would allow researchers to study various occupational settings, irrespective of the particular demands and resources involved (Bakker & Demerouti, 2007). The model was refined and modified over the years and is currently one of the most popular models to investigate the impact of stressors, or job demands, on the wellbeing of employees (Bakker, Demerouti, & Sanz-Vergel, 2014; Sawang, Brough, & Barbour, 2009; Schaufeli & Taris, 2013).

One of the reasons for the popularity of the JD-R model is that it provides a comprehensive explanation regarding the wellbeing and ill-health of employees, or individuals in leadership position (Hakanen et al., 2008). The JD-R model provides insight into how health impairment (for example burnout), and motivation (for example job engagement) are produced by two types of working conditions, namely job demands (see 3.2.1) and job resources (see 3.2.2). In this vein, Llorens, Bakker, Schaufeli, and Salanova (2006) found that job demands and resources respectively evoke two psychological processes:

1. The health impairment process that begins with chronic job demands, thereby depleting an individual's energy resources and likely to lead to burnout, deterioration of health and sick leave.
2. The motivation process which, in turn, is initiated by the availability of job resources that stimulate the individual's motivation through work engagement and positive work outcomes.

These two psychological processes are displayed in Figure 3.1.

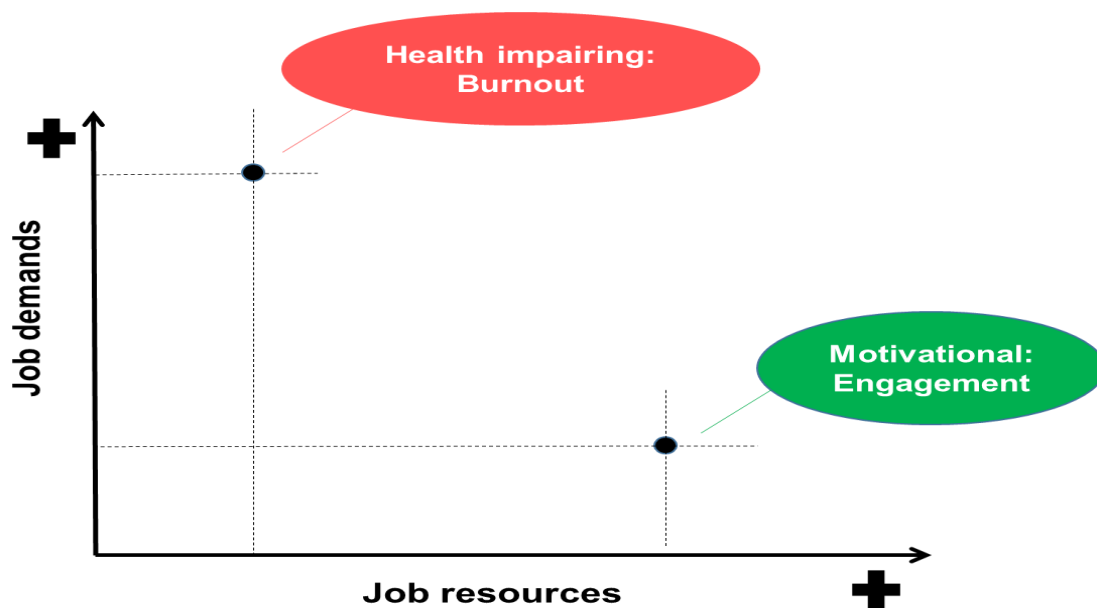


Figure 3.1. Simplified display of the JD-R Model

One of the core assumptions of the JD-R model is that all job characteristics can be classified into either job demands or job resources which, through direct or interaction processes, affect wellbeing and performance related outcomes (Bakker & Demerouti, 2007; Rattrie & Kittler, 2014). The aforementioned assumption is not an attempt to dismiss the fact that every occupation and context carries its own set of prominent risk factors. Another assumption of the model is that job resources act as a buffer to mediate the influence of job demands on stress reactions. As an example, Tremblay and Messervey (2011) noted that, having access to personal resources, such as resilience, can protect the individual from adverse working conditions and job demands. Further to these assumptions it may be necessary to unpack the



meaning behind job demands and job resources respectively, as well as explaining the interplay between these two key elements of the JD-R model.

### 3.2.1 Job demands

Xanthopoulou et al. (2007) defined job demands as physical, social, or organisational job aspects that require sustained physical and psychological effort and are associated with certain physiological and psychological costs. Demands include quantitative workload, demanding work content, poor physical work environment, demanding clients, time pressure and unfavourable shift-work schedules, emotional demands, role ambiguity as well as verbal aggression to name a few. Job demands drain individuals' mental and physical energy and consequently contribute to strain reactions and health problems (Boyd et al., 2011; Fernet, Austin, & Vallerand, 2012). One of the reactions or health problems that may result is burnout. According to Xanthopoulou et al. (2007), demands will have a profound influence on burnout and indirectly lead to increased absenteeism and impaired organisational performance. Llorens et al. (2006) found that reduced job demands would likely decrease levels of burnout.

Cognisance should be taken that job demands, in itself, are not negative. It will turn into job stressors when:

1. Meeting those demands require high effort from which the individuals fail to recover adequately (Demerouti & Bakker, 2011).
2. Prolonged exposure exists (i.e. overtaxing) and an attempt to preserve energy reserves and avoid exhaustion will lead to reduced effort and performance alike (Rattrie & Kittler, 2014).

### 3.2.2 Job resources

As was the case with job demands, Xanthopoulou et al. (2007) also provided a definition for job resources. According to them, job resources refer to those physical, physiological, social, or organisational job aspects that may be functional in achieving work-related goals, reduce job demands and associated physiological and psychological costs and stimulate personal growth and development (Xanthopoulou et al., 2007). Although some perceive job resources

as intertwined with job demands, it must be noted that job resources could be investigated within its own context. In this regard, Rattrie and Kittler (2014) noted that job resources in itself play an important role in preventing health impairment and acting as antecedents to motivation related outcomes such as improved commitment and dedication in the workplace.

Job resources are known to be salient at times of high job demands and serve as means of coping while under strain or overtaxed by said job demands (Bakker & Demerouti, 2007). Demerouti and Bakker (2011) indicated that job resources can be provided at different levels within organisations. These are:

1. Macro organisational level (e.g. salary or wages, career opportunities, and job security).
2. Interpersonal level (e.g. supervisor and co-worker support, and team climate).
3. Specific job position (e.g. role clarity and participation in decision making).
4. Level of the task (e.g. skill variety, task identity, task significance, autonomy, and performance feedback).

A reasonable assumption would be that sufficient resources are key across all levels of leadership as described by the leadership pipeline (see 3.4). Tremblay and Messervey (2011) argued that, when individuals (e.g. leaders) get empowered with the necessary resources, it may serve as motivation to thrive within the job and enable them to control and influence their environment. This notion supports Hakanen et al.'s (2008) argument that resources foster both extrinsic and intrinsic motivation. Extrinsic motivation refers to the resources necessary to deal with job demands and which, in turn, contribute to organisational commitment and engagement (Rattrie & Kittler, 2014). Resources are also intrinsically motivating for individuals when it satisfies the basic psychological needs of autonomy, belongingness, and competence (Hakanen et al., 2008; Rattrie & Kittler, 2014).

Where a positive relationship has been confirmed between job resources and organisational commitment and engagement, it has also been found that sufficient resources would protect individuals from burnout (Llorens et al., 2006). Bakker et al. (2004) went as far as saying that, when employees do possess resources (such as support from colleagues or having the ability

to organise one's own work), they tend to go beyond actual goal accomplishment. Such behaviour is contradictory to the notion of both depersonalisation and decreased personal accomplishment, which are some of the core elements of burnout (see 2.2.1.2, & 2.2.1.3).

In light of the above discussion it is concluded that the lack of job resources would adversely impact individuals in the leadership pipeline. Bakker et al. (2004) discovered that a lack of job resources precludes actual goal accomplishment, which causes failure and frustration in turn. Demerouti, Bakker, Nachreiner, and Schaufeli (2001) also revealed that job resources are primarily and negatively related to withdrawal behaviour which precede disengagement from work.

### **3.2.3 Interplay between demands and resources**

Bakker et al. (2004) reminded us that, under normal circumstances, individuals become tired by their everyday work activities, but generally have sufficient energy resources to meet their job demands. Therefore, when they go home to rest and recover, physiological and emotional levels will return to normal when the parasympathetic nervous system is activated. Given enough time for rest and restoration, individuals such as leaders and others working with them, will be able to return to the workplace and continue with their daily tasks. Incomplete or insufficient recovery from workload demands, on the other hand, not only disrupts energetic homeostasis, but also has a gradual accumulation effect. This disruptive homeostasis may lead to chronic negative effects in terms of health and wellbeing, while the accumulation effect will be carried from one day to a next. As a result, energy resources are diminished (Bakker et al., 2004). It is under these circumstances that acute stress turns into chronic stress (see 3.3). The chronic stress will result in extreme fatigue, which in turn negatively impact job performance (Bakker et al., 2004). In the end, affected individuals are caught up in a vicious cycle whereby they, in order to cope with high job demands and increasing job strain, invest an increasing amount of resources in work at the expense of recovery and recreation during their leisure time (Hakanen et al., 2008).

The above discussion around the JD-R Model and the interplay between job demands and resources tends to emphasize the existence of stressors when considering burnout. It is however

necessary to also gain an understanding of the relationship of these stressors and burnout. The GAS theory as discussed in the next section will be utilized in this regard.

### **3.3 The general adaptation syndrome (GAS) theory**

The second theory to be discussed is the GAS theory. It is postulated that this theory could be used to explain how burnout is the result of the ineffective coping with stressors over the span of three phases.

The theory dates back to 1936 and was proposed by the Austrian-born Hungarian scientist, Hans Selye (1907–1982). Selye noted a triphasic pattern of nonspecific physiological responses when studying the human body's physiological reactions to an injury or illness (Jackson, Ramsden, & Cantor, 2014). He named this nonspecific physiological responses “stress” and is deemed by many as the father of stress research (Tan & Yip, 2018). Selye refined the definition and suggested that stress is the nonspecific response of the body to any demand, also known as a stressor (Szabo, 1985). Jackson et al. (2014) elaborated and indicated that the GAS theory depicts a generalised effort by the body to adapt to stressors. Generalised adaptation syndrome can therefore be considered as the sum of all non-specific, systemic reactions of the body resulting from long continued exposure to stress (Jackson et al., 2014). At this point it is important to note that the GAS model was used to explain the occurrence of prolonged, or chronic stress (De Kloet, 2016; Jackson et al., 2014; Szabo, 1985; Tan & Yip, 2018). When looking at chronic stress, the GAS theory takes into account individual differences but states that the body has a general or uniform array of sequential, adaptive responses to stressors (Martini, 2001). Stress (both chronic and acute stress) goes hand in hand with a cascade of changes in the nervous, cardiovascular, endocrine, and immune systems. Acute stress is short-term and typically lasts for a period of minutes to hours in reaction to an immediate threat, whether real or perceived (Dhabhar, 2018). Acute stress responses get mediated and the body returns to its normal state of homeostasis (Schneiderman, Ironson, & Siegel, 2005). Chronic stress persists for several hours per day for weeks or months. An important characteristic of chronic stress is that the physiological response either persists long after the stressor has ceased, or is activated repeatedly to result in an overall increase in exposure to stress hormones and dysregulation of stress-related and other physiological processes such as sleep, metabolism,

and behaviour (Dhabhar, 2018). The longer one experiences chronic stress, the greater the chances of there being detrimental health effects, which in turn is believed to lead to burnout.

Although some researchers later found that stress can also be experienced as eustress or distress (Brown & Waslien, 2003; See also 2.2.3.1), Chapter 2 clearly shows that burnout should be perceived as a form of distress. Hence no further attention will be given to the distinctions between the two forms of stress or eustress in particular.

Since Selye’s theory specifically refers to exhaustion, which in 2.2.1.1 was noted to be a critical component of burnout, a decision was made to focus on this theory to explain the evolution of burnout. According to Selye (1950), this evolution takes place in the form of three phases.

### 3.3.1 Three phases of general adaptation syndrome (GAS)

Tan and Yip (2018, p. 171) summarised the three phases of the GAS model as follows: “When individuals are exposed to a stressor, they are at first taken off guard, then attempt to maintain homeostasis by resisting the change, and eventually fall victim to exhaustion in countering the stressor”. These three phases can be visually presented as follows:



Figure 3.2. Three stages of general adaptation syndrome (GAS)

Following, each phase will be discussed and attention will be paid to the physiological responses associated with the different phases.

### 3.3.1.1 Alarm phase

The alarm phase or reaction refers to the body's immediate reaction or response to a stressor. Within the leadership pipeline of financial divisions, such a stressor refers to "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Kumar & Jain, 2012, p. 2). Job-related stress could therefore be considered as a misalignment between demands and resources (see 3.2). Examples of such stressors are the announcement of a looming deadline being brought forward, a significant and costly mistake detected when financial statements were externally audited and announced, or retrenchments to cut costs.

Initiation of the alarm phase is associated with the arousal of the body from a resting state by the autonomic nervous system (ANS) (Brannon & Feist, 2004; Karren, Hafen, Smith, & Frandsen, 2002). The ANS activates the hypothalamus. The main function of the hypothalamus is the regulation of heart rate, blood pressure, respiration, body temperature, digestion, hunger, thirst, and the activation of libido (Brown & Waslien, 2003). The hypothalamus serves as the body's initiator towards action, whilst being guided by the limbic system through powerful emotions (Brodal, 2004). When the threat / stressor is perceived, the hypothalamus signals the ANS (i.e. parasympathetic and sympathetic branches) through the HPA-axis to start secreting dominant chemicals or hormones (Brown & Waslien, 2003; Martini, 2001). The key hormones are displayed below:

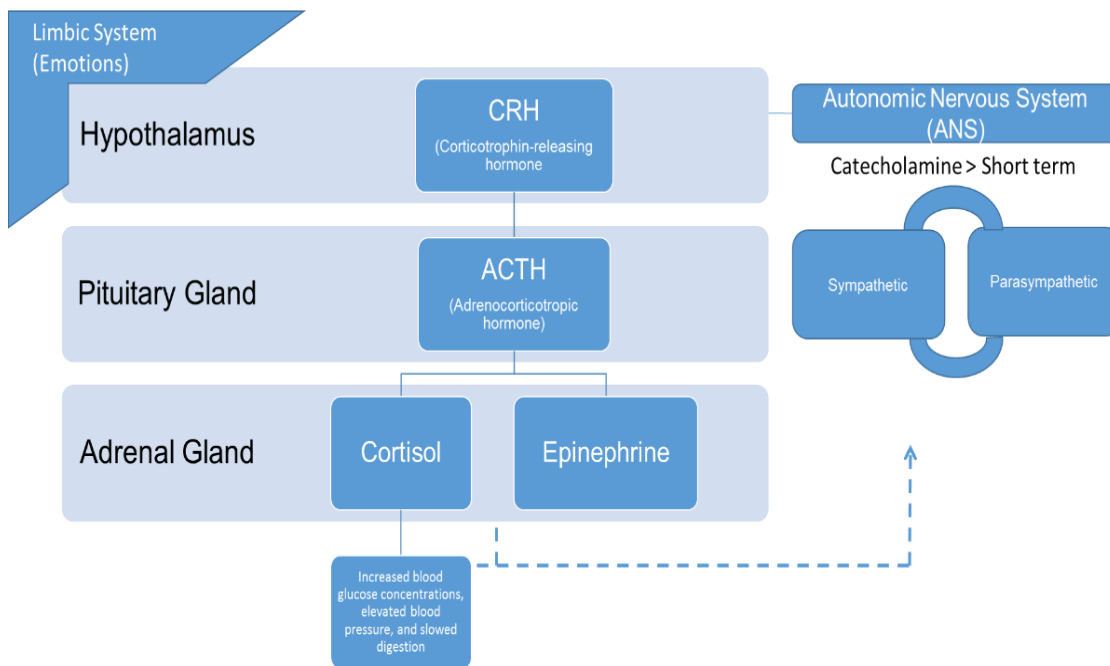


Figure 3.3. Hormonal activity during alarm phase

In turn, the hormonal activity arouses or activates the body to respond to the stressor, which is perceived as disturber of homeostasis (Tsigos & Chrousos, 2002). Homeostasis is the optimal balance of hormones, immunity and nervous system functioning to protect the body from environmental threats (Karren et al., 2002). During the body's attempt to restore the homeostasis and given the mobilisation of glucose and adrenaline-like chemicals, individuals may tend to experience a burst of energy. This is often referred to as the 'adrenaline-rush', yet it tends to be short-lived (Fives, Hamman, & Olivarez, 2007).

Characteristics of the alarm phase include an increase in mental alertness, increased energy consumption by skeletal muscles and many other tissues; mobilisation of energy reserves; accelerated heartbeat, elevated blood pressure levels; an increased amount of blood flow to the muscles; decreased blood flow to skin, kidneys, and digestive organs; lungs dilating to increase respiratory effort; drastic reduction in digestion and urine production; as well as an increased sweat gland secretion (Baqtayan, 2015; Brown & Waslien, 2003; Martini & Wood, 2001; Wood, Green-Wood, & Boyd, 2008). This is often experienced as mental 'sharpness', high blood pressure, muscle tension, fast breathing, sweaty hand palms, and indigestion (Coetzee, 2005; Martini, 2001). Following the above, the body is ready to fight or flee (known as fight or flight), which leads to the second phase of the GAS, which is known as the resistance phase.

### 3.3.1.2 Resistance phase

During the resistance phase physiological changes designed to help the body adapt and adjust to prolonged threats occur (Anbazhagan & Rajan, 2013; Baqutayan, 2015). During this phase, defence and adaptation are sustained and optimal, which refer to the body’s ideal mobility to withstand the threat and return to a level of homeostasis (McEwen, 2005). If homeostasis cannot be achieved and the stressor is not dealt with in a constructive manner, the immune system, which is perceived as the body’s main ‘fighter’ against infection or disease, will become compromised (Jooste, 2011). A decline in immune responses to infection will occur as the body starts failing to utilise defence or coping mechanisms (Brannon & Feist, 2004).

In addition to a compromised immune system, other physiological and psychological resources may eventually become depleted (Sandström, 2010). Such depletion are often associated with neurological, hormonal and metabolic changes. Figure 3.4 illustrates the main hormonal and metabolic changes that takes place during the resistance phase.

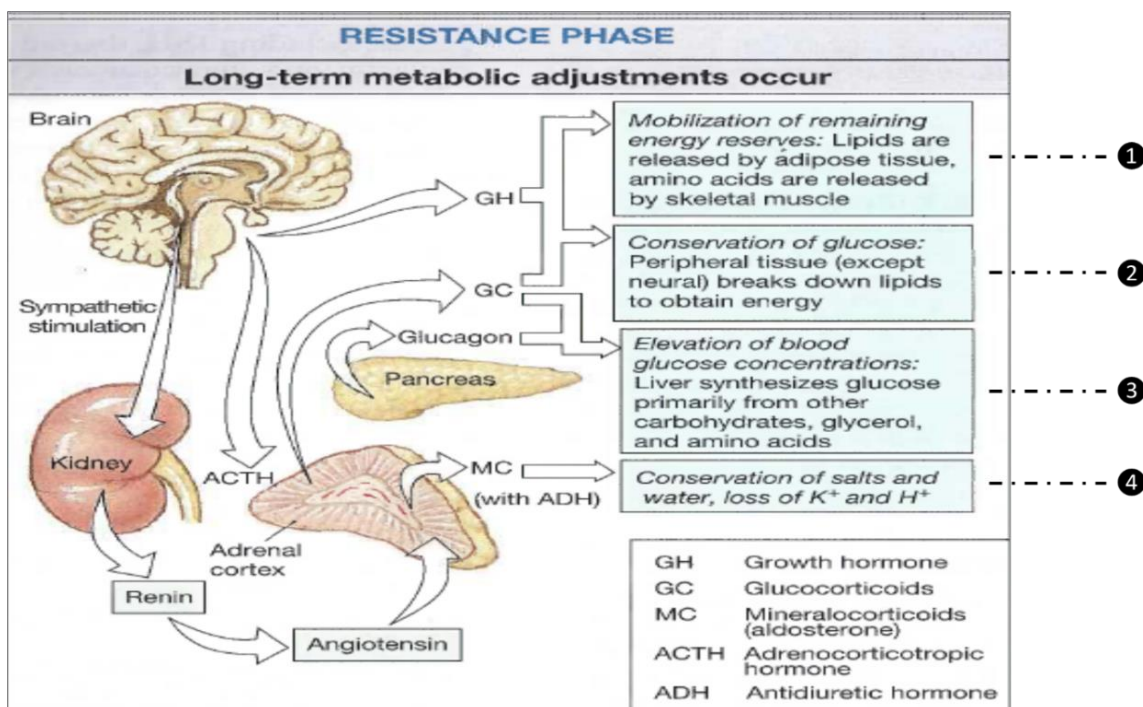


Figure 3.4. Phase 2: Resistance phase of general adaptation syndrome

Adapted from “The General Adaptation Syndrome”, by Martini, 2001, p. 613.

As can be seen in Figure 3.4, energy demands are higher than usual due to the combined effects of hormones such as glucocorticoids, epinephrine, growth hormone, and various thyroid



hormones. The higher energy demands necessitates an increased supply of glucose (Martini, 2001). If the body fails to supply these, neural function deteriorates, coupled with a propensity towards a) diseases such as peptic ulcers, ulcerative colitis, hypertension, hyperthyroidism and bronchial asthma; b) slowing down of wound healing action and infection in general; and c) extra pressure on the cardiovascular system (Martini, 2001).

One of the problematic features of the resistance phase is that individuals going through this phase tend to generate an outward appearance of normality, despite the physiological dysfunction that is negatively impacting the body's internal functioning (Brannon & Feist, 2004). In this phase the individual will most likely continue fulfilling his or her job duties as normal, ignoring the inner physiological turmoil and thereby not allowing the time necessary for recovery. It should be noted that, although optimal workplace stress are related to maximum performance, excess stress occurs when the demands on a person exceed their capabilities (Brown & Waslien, 2003). The accumulation of the excess stress coupled with failure to adapt and reach a healthy homeostasis, leads up the third phase of GAS, namely the exhaustion phase.

### **3.3.1.3 Exhaustion phase**

During this third phase, the parasympathetic nervous system (PNS) gets activated (Brannon & Feist, 2004). Under normal circumstances, the PNS' function is to counteract the ANS' activation by returning the body to a level of homeostasis (Brodal, 2004). During periods when the body has a stress response and is exposed to the stressor, which is perceived as threat to the body, the PNS starts to function at an abnormally low level. Therefore during this phase, the body's natural homeostasis not only gets interrupted, but broken down (Brodal, 2004; Karren et al., 2002). Differently stated, the body finally loses its ability and the energy required to keep up with the threatening demands. According to Brown and Waslien (2003), this results in a downward spiral where individuals will experience more stress and exhaustion. At the same time physical and psychological wellbeing get curtailed to the extent of being perceived as ill health, decreasing the quality of life (Brown & Waslien, 2003). In addition to eustress becoming distress, stress now gets converted to full blown burnout (Kumar & Jain, 2012).

The body's immune system now drops to a level of exhaustion and causing, if no corrective action is taken, long term damage and organ malfunction (Brannon & Feist, 2004; Karren et

al., 2002; Sandström, 2010). The compromised immune system mentioned in 3.3.1.2 and malfunctioning organs, might lead to severe illnesses such as psychosomatic disorders, cardiovascular and kidney disease and could even cause death (McEwen, 2005). Selye referred to the loss of energy that is associated with the exhaustion phase as the ‘wear and tear’ of life and drew a direct parallel between the exhaustion phase on the one hand and processes of aging and dying on the other (Jackson et al., 2014).

In light of the above it is postulated that individuals experiencing this phase of the GAS theory will no longer be productive in the workplace and the resultant continued absenteeism in the form of sick leave would negatively impact workplace performance and the financial wellbeing of the company.

In the next section, the discussion will focus on the stages individuals go through to become managers and how each of these stages bring about its own form of stress.

### **3.4 Leadership pipeline model**

People respond better to love than to fear. An effective leader not only engages the mind, but the heart. One can only engage at the rational and the emotional level provided you care and are prepared to serve. If you care, and are prepared to serve, you take your relationship with your people to a different level. All of a sudden people become more engaged, more committed, more inspired and more enthusiastic and then they deliver great results. If you want to create leadership magic, and it is not easy, you have to touch the heart before you can ask for a hand. You need to set the right example, and you do it by providing quality advice and guidance and giving direction, but also, by showing interest, coaching and caring. (B. Pretorius, personal communication, January 17, 2017).

One of South Africa's most notable corporate leaders, Brand Pretorius, who is known for his turn-around of the insolvent and close to bankrupt McCarthy Group, considers EQ a key part of effective leadership. He strongly advocates servant leadership (Pretorius, 2013). The focus of a servant leader is on serving others by developing them to a level of flourishing, while focusing on the process as opposed to results (Stone, Russell, & Patterson, 2004). For this to realise, the relationship between leaders and their subordinates should be one entrenched into

personal values, such as respect and trust. Research findings indicated that the quality of the relationship between leaders and their followers forms the basis of the servant leadership style. Whereas the closeness of such a relationship can serve as buffer against burnout, burnout problems can as easily be aroused if the quality of this relationship deteriorates (Kaya et al., 2016). In addition, if a servant leader would force unrealistic ambitions upon others, it may cause others to experience burnout. Another pitfall of servant leadership that may give rise to burnout is the tendency for the servant leader to extend him- or herself by giving more emotionally and over-empathising (Tee, 2018). This seems to be in line with what was coined as compassion fatigue and initially believed as only possible amongst those in the helping professions.

Over the years, several research studies were conducted on leadership (Basu, 2015; Esfahani, & Soflu, 2013; Malcolm, 2017; Pillay, 2013; Prati, Douglas, Ferris, Ammeter, & Buckley, 2003; Zopiatis & Constanti, 2010). Although various leadership styles and leader competencies had been identified, most researchers agreed that effective leadership is a scarce commodity (Kaya et al., 2016; Pretorius, 2013). There is also an ongoing debate whether leaders are born or created, and whether the search for leaders should be in-house through succession planning and talent management, or external recruitment (Charan, Drotter, & Noel, 2011; Cremo & Bux, 2017; Dai, Tang, & De Meuse, 2011).

Initial research done at General Electric in the 1970s brought along Mahler's model of "critical career crossroads". This was perceived as the first detailed description of how leading corporations planned for the replacement of key executives or leaders (Kesler, 2002). For many years, Charan et al. (2011) built upon and refined the critical career crossroads' model and eventually tested it in more than 80 companies. The outcome was what they considered as a six-passage leadership model to understand the leadership requirements in organisations, now known as the leadership pipeline (Hattangadi, 2016).

### **3.4.1 The leadership pipeline's six-passages**

As was mentioned in 3.4, research on leadership gained much attention over the years. During this time it has been determined that organisations are in desperate need of succession planning and need to create, a) a roadmap for leadership development and, b) know what experiences

are necessary for developing the critical leadership skills for each level of management (Charan et al., 2011; Dai et al., 2011; De Boer, Olwagen, & Bothma, 2012). One such a roadmap is the leadership pipeline, which defines the crucial skills for successful management transitions from the very bottom of an organisation (managing oneself) to the very top (managing the enterprise). Each of the six management transitions / passages in this model involves a major change in job requirements, demanding new skills, time applications, and work values (Dai et al., 2011). According to Charan et al. (2011), every leader should proceed through these transitions / passages to be considered successful within the world of work. It also rings true that some approaches, behaviours or actions, that counteract effectiveness, will have to be abandoned along the way (Dai et al., 2011). Some of these approaches, behaviours or actions may be those that rather encourage disengagement and lead to burnout, as opposed to those paving the way to commitment and dedication. Letting go of the aforementioned is often difficult as newly promoted leaders tend to cling to thinking, behaviours, attitudes, and skills that made them successful in the past (De Boer et al., 2012).

The six transitions / passages mentioned above are the following:

1. Managing yourself to managing others
2. Managing others to leading managers
3. Leading managers to functional manager
4. Functional manager to business manager
5. Business manager to group manager
6. Group manager to enterprise manager

The above transitions can be displayed as per figure below:

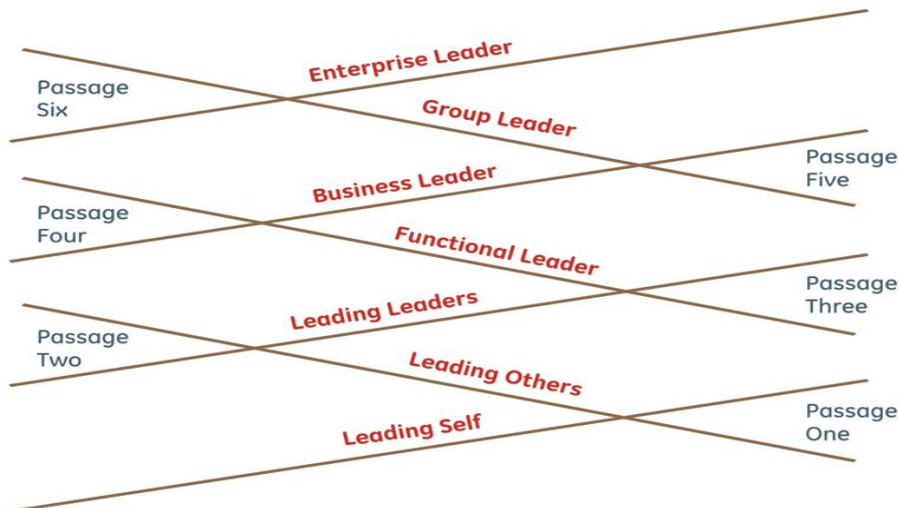


Figure 3.5. The leadership pipeline

Adapted from “Leadership pipeline implementation” by The Leadership Pipeline Institute (n.p.)

Each passage will be discussed in turn.

### 3.4.1.1 Passage one: Managing yourself to managing others

Managing self is seen as the starting or entry point towards the leadership pipeline. It often entails an entry to an organisation or career, where the individual’s contribution is based on skill and knowledge proficiency. The greatest initial stressor would involve the move from being managed (being told what to do) to self-management (applying yourself) (Charan et al., 2011; De Boer et al., 2012).

De Boer et al. (2012) viewed the honing of individual skills and collaborating with others as the most important proficiency at this stage. This process involves the need to become aware of, a) the self in terms of strengths and weaknesses, and b) the ability to build mutually beneficial relationships. Becoming aware of the latter already implies the presence of EQ. This is in line with the self-awareness and emotional awareness of others dimensions as per the Genos model of EQ or maturity, which was described in Chapter 2 (see 2.3.1). Albeit the leadership pipeline is not restricted to a single leadership style, the importance of EQ and mutually beneficial relationships throughout speaks to servant leadership’s core values as mentioned above (see 3.4). The fact that the leadership pipeline is not leadership style specific though can be viewed as adding to its versatility.

An increase in self-awareness and good interpersonal relationships in the organisation will lead to the individual becoming a greater contributor to the organisation's strategy, vision, and eventually overall success (Charan et al., 2011). As a result he/she would most likely be considered for promotion. Promoted individuals who demonstrate an ability to collaborate, usually receive additional responsibilities (Drotter & Charan, 2001). These responsibilities are known as "job demands" according to the JD-R model (see 3.2) and are perceived as stressors by many researchers in the field of organisational psychology (Bakker et al., 2014). If the new leader is not supplied with the necessary resources to cope with job demands, the propensity towards burnout may already arise at this early stage in the individual's career (Maslach & Leiter, 2008). Individuals who are able to cope with job demands and adhere to the company's values would once again receive promotion, this time to first-line manager. The latter transition is seen as entering the first passage (De Boer et al., 2012).

#### **3.4.1.2 Passage two: Managing others to leading managers**

The second passage moves beyond the self and demands that managers must move away from doing the work to managing others (Drotter & Charan, 2001). Managing others may sound straightforward, yet it requires a new value system in which managing assumes a higher value than doing self-managed work (Drotter, 2003). The challenge here would be to let go of some of the individual's technical expertise and get the job done through others (De Boer et al., 2012). For some individuals, this is the most stressful transition—to delegate the work that he/she was once praised for doing.

De Boer et al. (2012) further stated that the main focus should be on effective communication to facilitate open dialogue, i.e. communicating clear expectations to direct subordinates; assisting them in planning and organising the workload and delegating tasks to others. This open dialogue can be viewed as equipping the subordinates with the necessary resources to meet their job demands. Differently stated, good managers do not solve others' problems, they support others to solve their own problems. Drotter (2003) noted that the most difficult transition for managers to make during this passage is to learn to *value* managerial work rather than just tolerating it. The challenge is in learning how to value making others productive more than to value your own contributions, while at the same time getting job satisfaction from managing and leading others (Cremo & Bux, 2017).

Overall, this passage often gets overseen by organisations. Training and coaching rarely occur at level-two management and therefore increases the stress levels of leaders in this passage. Drotter and Charan (2001) urged organisations to emphasise training and coaching at this level in order to create a solid foundation for future managers or leaders. Level-two managers select and develop the people who will eventually become an organisation's leaders (Drotter, 2003).

### **3.4.1.3 Passage three: Leading managers to functional manager**

Leading managers must manage the integration of work in a more holistic manner in addition to achieving best practice, while ensuring that the work flow is streamlined across teams (De Boer et al., 2012). In doing so, operational effectiveness can be ensured during the implementation of business strategy. Throughout implementation, the manager who leads other managers needs to coach potential leaders from lower levels of the leadership pipeline and assign managerial tasks to them (Drotter, 2003). He/she should further begin to engage with other stakeholders in the transition towards a functional manager.

This passage further requires mandating the development of new communication skills, including active listening, coupled with an increase in managerial maturity (De Boer et al., 2012). At this level, the leader must be able to effectively communicate with multiple levels of management and learn to communicate across functions (Charan et al., 2011). This implies that leader must now manage subordinates in areas outside the manager's immediate field of expertise. The thinking and action of this leader should akin to that of a functional *leader*, instead of a functional *member*. The focus has now shifted to broad, long-term strategy (Knighton, 2006). Drotter and Charan (2001) identified team-play with other functional managers and competition for resources based on business needs as two major skills that must be learnt during this passage. These researchers also stated that managers at this level should learn how to blend the strategy for their own unit with the business' overall strategy. Managers should now start to spend less time on purely functional *responsibilities*, but rather focus on creating a functional *strategy* to push for a competitive edge (Charan et al., 2011).

Given the above expectations to be considered in line with the JD-R model, it is clear that the general job demands are likely to increase at this stage. In the event of the functional leaders not going through the leadership pipeline and is not equipped with the necessary resources over

time, a mismatch between job demands and resources could occur. The perceived risk for burnout is likely to increase if the mismatch is prolonged.

#### **3.4.1.4 Passage four: Functional manager to business manager**

This passage or transition from functional manager to business manager is often perceived as the most stressful and challenging, yet most satisfying of one's career (De Boer et al., 2012). The balancing act between future goals and present needs and making trade-offs between the two are considered as one of the stressors of this passage (Charan et al., 2011). Charan et al. (2011) elaborated on this passage by stating that it requires more than just an understanding of and working with other functions, instead it entails becoming in charge of the integration of these functions. These authors also advised that, during this passage, managers need to stop 'doing' every second of the day, meaning they should stop being absorbed with being actively busy with operations all the time, but instead reserve time for reflection and analysis. This allocated time serves as valuable mediator to becoming overwhelmed by the job demands in itself, while allowing for energy resources to be replenished. Unfortunately, few managers make use of this time to reflect which increase their propensity for burnout during this passage (Bakker et al., 2014; Maslach & Leiter, 2008).

The increasing complexity of becoming a business manager is likely to add to the risk for burnout (Bakker & Costa, 2014; Dóci & Hofmans, 2015). Business managers usually have significant autonomy which is positively perceived as a sense of freedom (De Boer et al., 2012). This autonomy however implies becoming responsible for bottom-line results, which in turn increase complexity. It is explained as follows:

There are probably more new and unfamiliar responsibilities here than at other levels. For people who have only been in one function their entire careers, the position of business manager represents unexplored territory; they are suddenly responsible for many unfamiliar functions and outcomes. Not only do they have to learn to manage different functions, but they also need to become skilled at working with a wider variety of people than ever before; they need to become more sensitive to functional diversity issues and able to communicate clearly and effectively. (Drotter & Charan, 2001, p. 24)



From the above and given the expectation of having sufficient resilience and an understanding of others, it can be assumed that the greater the business manager's level of EQ, the greater the probability for success. This seems to be in line with the Genos model discussed in Chapter 2 (see 2.3.1).

#### **3.4.1.5 Passage five: Business manager to group manager**

According to Charan et al. (2011), a business manager values the success of his/her own business, while a group manager values the success of other people's businesses. General business thinking should expand to factor in community, industry, government, and ceremonial activities. De Boer et al. (2012) posited that the group manager needs to be able to shift, balance and integrate thinking preferences to be successful. At the same time, the group manager must be able to take hard objective decisions based on critical and global reasoning, while inspiring and maintaining good relationships with their direct report managers (De Boer et al., 2012; Drotter & Charan, 2001).

Drotter and Charan (2001) identified four skills that should be mastered by group managers:

- Evaluate strategy in order to allocate and deploy capital.
- Develop business managers.
- Develop and implement a portfolio strategy.
- Assess whether they have the right core capabilities to win.

If the abovementioned four skills are not mastered, managers will return to previous leadership levels or passages in their thinking and action, instead of operating on the required level of being a group manager to the detriment of the organisation (De Boer et al., 2012; Drotter & Charan, 2001). It can once again be viewed as the job demands being too high to be met and therefore opening the probability for lowered psychological wellbeing and in turn higher risk for burnout.

### 3.4.1.6 Passage six: Group manager to enterprise manager

The final transition in the leadership pipeline model is considered more in terms of values than actual skill. According to Charan et al. (2011), this passage evolves around outward-thinking. In other words, when within this top leadership role, one must understand that he/she has duties towards different stakeholders like the investors, board members, partners, employees, direct reports, government, authorities, and local communities. This role therefore requires understanding the industry, the ability to manage external shifts, and always looking for growing opportunities to expand the business (Winston et al., n.d.). The ideal is also to ensure a subtle but fundamental shift in responsibility from strategic to visionary thinking and from an operations to a global perspective. De Boer et al. (2012) indicated that the enterprise manager must initiate, maintain, manage and inspire the business process. In doing so, the enterprise manager must also have the ‘softer thinking skills’ ability to engage with stakeholders and to release the energy necessary to inspire the entire employee population through communication (De Boer et al., 2012). Considering the aspect of *inspiring* communication, self-control and effective emotional expression—as identified in the Genos EQ model (see 2.3.1)—are critically important at this level. An inspired workforce is more likely to dedicate and commit themselves, their skill, time and energy, which in turn contribute towards greater engagement (Breevaart, Bakker, Demerouti, & Derks, 2016). In the absence of the ability to inspire others, the higher the propensity towards disengagement and lowered personal accomplishments, in turn raises the risk for burnout.

In addition to identifying the six transitions / passages, the leadership pipeline model identified three possible sources of stress that leaders would be confronted with as they progress. These are:

- The pressure to spend less time on individual work and more time on managing will increase at each passage.
- A major shift in skills, time application and work values must take place to proceed throughout the six passages.
- The need for coaching as mean of support and feedback, become more and more prominent (Drotter & Charan, 2001).

In line with the JD-R model (see 3.2), it is argued that transitioning through the leadership pipeline add to the job demands of leaders. Should there be insufficient resources, such as emotional intelligence as a means of coping, it might lead to the accumulation of prolonged stress that will cause exhaustion. Being exhausted might indicate the presence of burnout.

In the next section an explanation will be provided on how the models and theories discussed above are related to the constructs under investigation.

### 3.5 Theoretical models or frameworks explained within the context of the study

Roothman (2010) categorised theoretical models or approaches into three clusters, namely individual approaches, interpersonal approaches, and organisational approaches. The researcher acknowledged the existence and value of these three clusters respectively. Incorporating these clusters is likely to effectively encapsulate the multi-dimensionality of the construct of burnout. The GAS theory represented the individual cluster, followed by the leadership pipeline that embodied the interpersonal elements. The JD-R Model served as the overarching organisational cluster. The clustered or multi-layer effect is displayed in Figure 3.6.



Figure 3.6. Theoretical clusters

In keeping with the basic principles or assumptions of the different theoretical models, the researcher proposed an integration thereof (see Figure 3.7). This integration is important since various studies have been conducted regarding burnout and one of the theoretical clusters respectively, but not much has been done across all three of these clusters at once.

The theoretical clusters chosen work together as follows. The core assumption of the JD-R model with regards to burnout is that of a discrepancy between the job demands and job resources. If the demands get accumulated over time without having the resources to fulfil these demands, the leader (manager)—which was measured within a financial context in this study—will experience stress. The experience of stress will initiate the alarm phase of the GAS theory, which in turn will arouse the body in an attempt to adapt. Should the perception of the higher demands and lower resources continue, job stress will increase and the impact thereof on the body will be experienced through the resistance phase of the GAS theory. At this point, the leader is already likely to experience the exhaustion cluster of burnout, while negatively impacting the psychological wellbeing. Without the necessary recovery time or provision of resources, the job demands will remain and the body will no longer be able to keep up. This will signal the body entering the exhaustion phase or shut down of the body, which is perceived as burnout.

Throughout these phases, which can occur throughout any of the passages of the leadership pipeline, leadership can either serve as buffer / mediator or heighten the risk of burnout. In the presence of EQ as key element of effective leadership (see Genos model in 2.3.1), as well as psychological wellbeing (See Ryff's model in 2.3.2), it can be assumed that the risk for burnout will be lowered. In the absence thereof and the leader not embracing the values throughout the leadership pipeline, it may not only contribute to burnout in the leader, but also have a contagious effect on subordinates. The integration can be visually displayed as in the figure below:

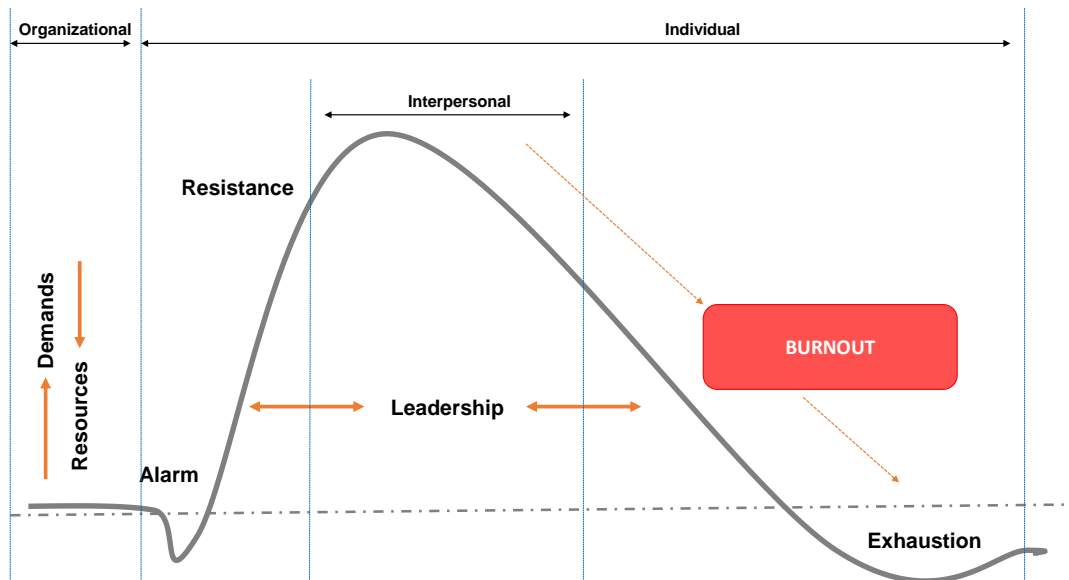


Figure 3.7. Integrative theoretical model

The GAS-theory, leadership pipeline, and JD-R model were chosen to suit the nature of this burnout study. Firstly, it was important to view burnout holistically instead of repeating similar studies addressing it as a one-sided phenomenon. This is to best serve the chosen definition of burnout, where it is viewed as a complex, multifaceted, response syndrome to chronic occupational stresses and insufficient recovery (Langelaan et al., 2006; Salvador & Rothmann, 2005).

According to Cunanan et al. (2018), the GAS theory provides a mechanistic model to understand the relationship between stress, adaptation, and fatigue. Burnout is viewed as a response to prolonged stress, but also likely to occur when the body can no longer keep up or adapt to cope with stress. Extreme fatigue is a symptom thereof. Differently stated, the development of stress-induced burnout is characterized by four consecutive stages: compensation (0), alarm (I), resistance (II), and exhaustion (III), which are similar to those of classical adaptation syndrome described by Hans Selye (Kotov & Revina, 2012). The similarities of the process of burnout and the essential but easy understandable physiological explanation surrounding prolonged stress, served as main rationale for the inclusion of the GAS theory.

Further to the above, researchers suggested that affective outcomes of job demands and resources might be related to profiles of functioning in several biological systems and may

therefore be relevant to the risk of development of physical illness (Demerouti & Bakker, 2011). The latter, similar to the principles of GAS theory, raises the possibility of illness, through the accumulation of demands in the absence of the necessary resources. A leader can initially cope with the lack of resources, but needs more and more energy to do so. Energy depletion as a result of exertion may, in the long run, contribute to burnout. The more equal spread of demands and resources allows for the motivational factor of health and wellbeing. The JD-R model helps to bridge the gap between ill-health and wellbeing within the workplace (Hakanen et al., 2008).

The JD-R model also offers a more flexible approach, embracing a wide variety of work-related factors that impact on wellbeing, thereby allowing the choice of factors to be tailored to particular work context (Boyd et al., 2011). In this study, the context was the financial arena. According to Llorens et al. (2006) who tested the robustness of the JD-R model, the basic structure of the JD-R model is maintained even when applied in different national and occupational contexts, when using different ways of gathering data (computerised versus paper and pencil), and when using slightly different measures to assess the key variables of the model. This proven robustness, amongst other, was the motivation to include the JD-R model as point of theoretical departure. Furthermore, the JD-R model has demonstrated its usefulness as a parsimonious yet comprehensive model for conceptualising and investigating occupational wellbeing, burnout, and engagement, while being successfully applied in numerous contexts (Bakker et al., 2004; Boyd et al., 2011).

Researchers also suggested that management, or more specifically leadership, can influence employees' job demands and resources (Nielsen, Randall, Yarker, & Brenner, 2008), and may indirectly influence employee engagement and performance. Instead of advocating a particular management or leadership style, it was instead considered fit to align it with the JD-R model's assumption of increasing demands across the transition towards an increase in seniority. The leadership pipeline was chosen to identify where the greatest risk for burnout during the different transitions of management or leadership lies. This was considered more relevant to the workplace where a more targeted intervention can be created and subsequently be more successful.

Having a clear roadmap for leadership development acknowledging the potential weaknesses (i.e. increased propensity for burnout) is, in turn, greatly beneficial to the organisation. Charan et al. (2011) identified three benefits of the leadership pipeline, namely, a) it reduces emotional stress by minimising skipped leadership passages; b) helps people move through leadership passages at the right speed; and c) reduces the time period typically needed to prepare an individual for the top leadership position in a large organisation. It is also believed that the leadership pipeline provides a fast and effective way to establish role clarity. Role clarity is considered a job resource that counteract burnout (Moss, 2019). In utilising the leadership pipeline model, the study can also be replicated more easily as the pipeline is timeless and applicable across industries and different organisational sizes.

### **3.6 Conclusion**

This chapter explained the three theoretical models or frameworks which were considered as the building blocks of this study. The foundation was divided to cover an organisational, individual, and interpersonal perspective respectively. The chapter started with a discussion around the JD-R model that serves as motivation for the organisational perspective. This was followed by an overview of the individual perspective by means of the GAS theory, explaining the physiological markers behind burnout. The interpersonal perspective was addressed by means of an explanation of the leadership pipeline. The chapter concluded by showing why these theoretical frameworks were considered best suited for this study. The next chapter will explain the methodology used.

## CHAPTER 4

### RESEARCH METHODOLOGY

#### 4.1 Introduction

Methodology is the central aspect of research and it is therefore important that the chosen method be appropriate to achieve the objectives of the study. This chapter will discuss the chosen methodology in terms of research design, sampling, measures, and data collection. Reference will be made to the data analysis followed by ethical considerations. The section below contains a brief overview of the aims and objectives of the current study.

#### 4.2 Aims and objectives

The primary aim of this study was to determine to what extent burnout exists among leaders describe by the South African leadership pipeline that works in the finance departments of corporate institutions. The study also aimed to investigate the prevalence of emotional and psychophysiological markers of burnout, as well as to establish if these markers can act as buffers against burnout. As was stated in 1.3 the following objectives were set to attain the primary aim:

- To determine the prevalence of burnout among those employees within the South African leadership pipeline, specifically those working in financial departments of corporate institutions.
- To investigate if significant differences occur between leaders who experience burnout (burnout group) and those who do not (non-burnout group) with regard to psychophysiological markers, such as psychological wellbeing, cognitive patterns, and cardio stress index rates.
- To determine whether emotional markers, such as emotional intelligence (EQ), could prevent burnout.
- To determine whether psychological markers, with specific reference to psychological wellbeing could prevent burnout.



- To explore the subjective experiences of those participants who were suffering from burnout.

### 4.3 Research design

Mixed-methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination, provides a better understanding of research problems than either approach alone. (Creswell & Plano Clark, 2007, p.5)

Given the above definition and following the nature and complexity of the concepts measured, a mixed-method research design was deemed to be best suited for this study. The mixed-methods approach is gaining support amongst social scientists as it is believed that the incorporation of quantitative and qualitative findings may act to increase confidence in the results of the study (Holtzhausen, 2016; Povee & Roberts, 2015). Moving towards mixed-methods also translate into researchers conducting stronger research and increasing the likelihood to overcome intrinsic bias related to single-methods, single-observer, and single-theory studies (Rocco, Bliss, Gallagher, & Perez-Prado, 2003).

Along with other researchers, Hossain (2012) considered mixed-methods as the third methodological movement. Denscombe (2008) referred to this movement as a research strategy that crosses the boundaries of conventional paradigms of research by deliberately combining methods drawn from different traditions within different underlying assumptions. Pluye and Hong (2014) elaborated on the latter when they postulated that mixed-methods can be conceptualized from epistemological debates between advocates of quantitative methods and those of qualitative methods. These debates are often centred on two ideal types (i.e. analytical tool based on the concept of an 'idea') of epistemology namely (a) logical empiricism (materialism, realism, and objective arguments) usually related with quantitative methods, and (b) constructivism (idealism, relativism, and subjective arguments) usually peculiar to qualitative methods (Pluye & Hong, 2014). Therefore, when used in combination, the strengths

of both qualitative and quantitative methods complement each other and the limitations can be compensated for.

The abovementioned attempt to enrich and add value is the rationale behind choosing an explanatory design as typology of mixed-methods. The explanatory design is a two-phase approach where the data collection is quantitative followed by qualitative. According to Cooper, Porter, and Endacott (2011), the weighting is predominately quantitative; and the mixing of data follows analysis of quantitative data leading to collection and analysis of qualitative data. As a result, the initial quantitative psychological and physiological measurements were used before the semi-structured interviews were conducted. The sets of results were then brought together to interpret as a whole. More detail will be provided on this later in the chapter.

Mixed-methods also serve as an aid to sampling where the information generated from one method can be used as the basis of selecting samples for another method (Hossain, 2012). In this particular study, the information generated by the psychological measurements was firstly used to select the sample for the physiological measurements. This in turn was the determining factor for the sample utilised during the final phase of research, which was the semi-structured interviews.

The following section will hence provide more information regarding the sampling compilation that happens to be as crucial to the success of a study than the chosen research design (Jooste, 2011).

#### **4.4 Sample**

Samples were carefully chosen in order to be most viable and representative in answering the research problem and adhering to the aims and objectives of the particular research study. The sub-sections below provide an overview of the sampling technique utilized, the realized sample and its respective characteristics.

#### 4.4.1 Sampling

The initial target population was chosen based on a purposive sampling technique, which is defined as “intentionally selecting specific cases that will provide the most information for the question under study” (Kemper, Stringfield, & Teddlie, 2003, p. 279). Hence within the context of this study, the following inclusion criteria were set:

- Participants had to fulfil a financial role and/or working in financial departments of a medium to large corporate institution.
- Participants had to be operating within at least one of the leadership pipeline passages.
- Participants had to be proficient in English since the measures administered were in English.

The sample was drawn across South Africa’s medium to large corporate institution and was done by approaching either the human resources department or management to identify probable participants and/or making use of referrals obtained individuals who already agreed to participate in the study.

The data collection procedure consisted of three phases and hence sampling was conducted as one phase progress to another.

##### 4.4.1.1 Sampling: First phase

Individuals identified as possible participants were emailed. A copy of the electronic invite with relevant background to the study is attached in Appendix A. The email contained in-depth information about the study and the aim thereof as well as what will be required from participants should they agree to participate in this study. In the end, 100 individuals volunteered to participate. These individuals participated in the first phase of the data collection procedure that will be discussed in detail in 4.6.1.

#### **4.4.1.2 Sampling: Second phase**

The second phase of data collection (see 4.6.2) involved the use of physiological measures to compare participants in terms of burnout levels. Due to time and cost constraints, not everybody from the initial sample could be included in this phase. The results of the Oldenburg Burnout Inventory (OLBI) (See 4.5.2.1) were therefore used to reduce the initial sample and to establish two groups.

According to the scoring instructions accompanying the OLBI (see 4.5.2.1), individuals with a score of 2.5 and above are suffering from burnout. A score below 2.5 indicates the absence of burnout. Based on the results yielded by the OLBI, the sample of the first phase was divided into two groups, namely the burnout group and the non-burnout group. This categorization of the two groups (e.g. burnout and non-burnout) has been done in accordance to the guidelines provided by the test developer, (A Bakker, personal communication, November 29, 2017). Participants were then randomly chosen from each group and asked to volunteer to participate in the second phase of data collection (see 4.6.2). Six participants (burnout = 3; non-burnout = 3) agreed to participate. All six participants were situated in Gauteng.

#### **4.4.1.3 Sampling: Third phase**

The third phase of data collection (see 4.6.3) involved conducting semi-structured interviews with participants of the burnout group. Six participants of the first phase's burnout group, volunteered and agreed to participate.

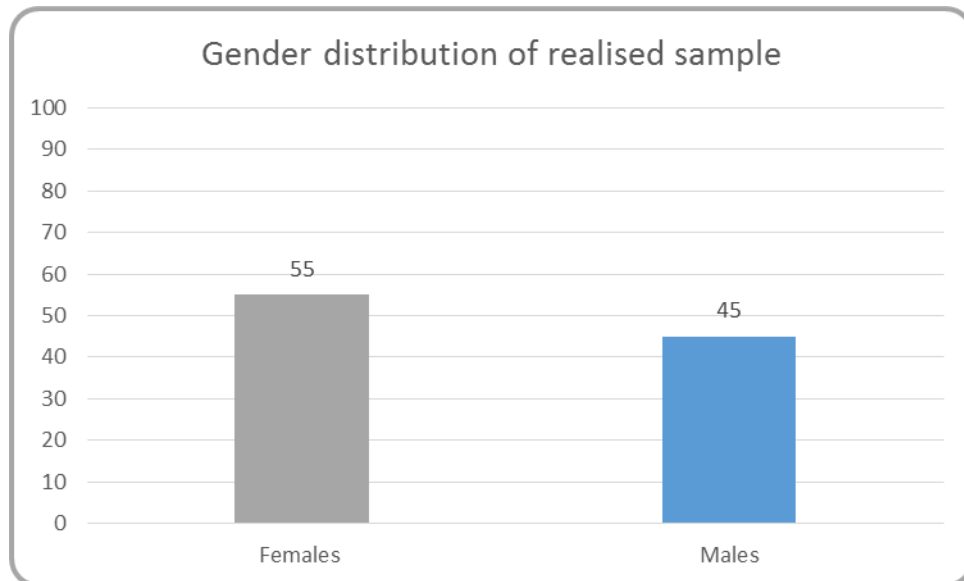
### **4.4.2 Sample one**

Following the purposive sampling technique as described above, an initial sample of employees (n = 100) within the leadership pipeline and working in financial departments of medium to large size corporate institutions in South Africa, voluntarily agreed to participate in this study.

#### 4.4.2.1 Sample characteristics

In this section the characteristics of the sample will be highlighted to provide an overview of the sample.

##### 4.4.2.1.1 Sample gender



*Figure 4.1.* Gender distribution of realised sample

Following Figure 4.1 slightly more females ( $n = 55$ ) than males ( $n = 45$ ) participated in the study. Females made up 55% of the sample.

#### 4.4.2.1.2 Sample age

Table 4.1  
*Age distribution of realised sample*

Age Group Coded					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 30 years	23	23.0	23.0	23.0
	31 - 40 years	47	47.0	47.0	70.0
	41 - 50 years	17	17.0	17.0	87.0
	51 - 60 years	11	11.0	11.0	98.0
	61 - 65 years	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Table 4.1 contains a summary of the age group distribution of the sample. Given this, the majority ( $n = 47$ ) was within the 31 – 40 years age group, followed by the 20 – 30 years age group ( $n = 23$ ). Only 2% was close to retirement by being within the 61 – 65 years age group.

#### 4.4.2.1.3 Sample level of education

Table 4.2  
*Level of education of realised sample*

		Education Level			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Doctoral Degree	2	2.0	2.0	2.0
	Master's Degree	17	17.0	17.0	19.0
	Graduate Diploma	9	9.0	9.0	28.0
	Graduate Certificate	8	8.0	8.0	36.0
	Bachelor Degree	54	54.0	54.0	90.0
	Advanced Diploma	2	2.0	2.0	92.0
	Diploma	5	5.0	5.0	97.0
	Certificate	1	1.0	1.0	98.0
	Grade 12 (Matric)	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

When considering the level of education across the sample, it can be seen that 54% holds a bachelor's degree. A further 17% holds a master's degree. The lowest level of education was matric ( $n = 2$ ).

#### 4.4.2.1.4 Sample level of leadership

Table 4.3  
*Level of leadership of realised sample*

		Level of Leadership			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Manage a company	16	16.0	16.0	16.0
	Manage a function	40	40.0	40.0	56.0
	Manage a team	29	29.0	29.0	85.0
	Manage self	15	15.0	15.0	100.0
	Total	100	100.0	100.0	

The level of leadership of the sample was considered meaningful in relation to the leadership pipeline as part of the theoretical framework of the study. Only four of the pipeline stages appeared in sample one (see Table 4.3). A majority ( $n = 40$ ) thereof manages a function within the organization, followed by those managing a team ( $n = 29$ ).



#### 4.4.2.1.5 Position and organisation tenure

Table 4.4  
*Position and organisation of realised sample*

<b>Tenure</b>		Position Tenure	Organisation Tenure
N	Valid	100	100
	Missing	0	0
Mean		5.25	7.09
Std. Deviation		5	5.96
Minimum		0	0
Maximum		21	21
Percentiles	25	2.00	3.00
	50	3.00	5.50
	75	7.00	10.00

Participants spent an average of 5.25 years ( $SD = 5$ ) within their position, and on average 7.09 years ( $SD = 5.96$ ) in their respective organisations. Hence, it can be deduced that none of the participants were completely new to their jobs and novelty in this regard could be excluded as a contributing variable to the risk for burnout.

### 4.4.3 Sample two

Sample one was divided between a burnout group and non-burnout group based on their OLBI results. Three participants of each group volunteered to undergo the physiological phase, which included the use of the Vi-port (See 4.5.3.1) and Biopac (See 4.5.3.2) respectively. The sample of the second phase consisted of a total of six ( $n = 6$ ) female participants.

#### 4.4.3.1 Sample characteristics

An overview of sample two's characteristics will be provided below.

#### 4.4.3.1.1 Sample age

Table 4.5  
*Age distribution of sample two*

Age Group Coded					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 30 years	1	16.7	16.7	16.7
	31 - 40 years	5	83.3	83.3	100.0
	Total	6	100.0	100.0	

All six participants were between the ages of 20 and 40 years. The majority (83.3%) fell within the 31 – 40 years age group.

#### 4.4.3.1.2 Sample level of education

Table 4.6  
*Level of education of sample two*

Education Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Graduate Diploma	2	33.3	33.3	33.3
	Graduate Certificate	1	16.7	16.7	50.0
	Bachelor Degree	3	50.0	50.0	100.0
	Total	6	100.0	100.0	

Table 4.6 indicates that three of the participants hold a bachelor's degree only. The remaining three furthered their studies, one of whom obtained a graduate certificate and two of them a graduate diploma in addition to their bachelor's degrees.

#### 4.4.3.1.3 Sample level of leadership

Table 4.7  
*Level of leadership of sample two*

		Level of Leadership			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Manage a function	4	66.7	66.7	66.7
	Manage a team	1	16.7	16.7	83.3
	Manage self	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

Another interesting trend (also see Table 4.3 in relation to Table 4.7) emerged when looking at Table 4.7 as yet another leadership pipeline stage, namely managing a company, got excluded during the second phase. Only three of the pipeline stages remained. The majority (n = 4) of sample two manages a function within the organization.

#### 4.4.3.1.4 Position and organisation tenure

Table 4.8  
*Position and organisation tenure of sample two*

Tenure			
		Position Tenure	Organisation Tenure
N	Valid	6	6
	Missing	0	0
Mean		3.50	6.33
Std. Deviation		4.32	3.14
Minimum		0	2
Maximum		10	10
Percentiles	25	0.75	3.50
	50	1.00	6.50
	75	8.50	9.25

Following Table 4.8, the six participants spent an average of 3.50 years ( $SD = 4.32$ ) within their respective positions, and on average 6.33 years ( $SD = 3.14$ ) within their organisations. This, once again, confirmed that all would have settled within their positions when the study was conducted.

#### 4.4.4 Sample three

Sample three comprised of six females of the burnout group whom volunteered towards being interviewed.

##### 4.4.4.1 Sample characteristics

Sample three's characteristics appear fairly similar to those of sample two and will be displayed below.

#### 4.4.4.1.1 Sample age

Table 4.9  
*Age distribution of sample three*

Age Group Coded					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 30 years	1	16.7	16.7	16.7
	31 - 40 years	5	83.3	83.3	100.0
	Total	6	100.0	100.0	

When considering the age distribution across sample three and as displayed in Table 4.9, all six participants ( $n = 6$ ) were 40 years and below of age. 83.3% of the sample was within the 31 – 40 years age group at the time of the study.

#### 4.4.4.1.2 Sample level of education

Table 4.10  
*Level of education of sample three*

Education Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Graduate Diploma	5	83.3	83.3	83.3
	Bachelor Degree	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

The level of education indicated that five of the six participants pursued studies post-degree and also obtained a graduate diploma. One of the participants holds a bachelor's degree only.

#### 4.4.4.1.3 Sample level of leadership

Table 4.11  
*Level of leadership of sample three*

		Level of Leadership			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Manage a function	5	83.3	83.3	83.3
	Manage a team	1	16.7	16.7	100.0
	Total	6	100.0	100.0	

Table 4.11 shows that five of the participants of sample three managed a function as per the leadership pipeline, while the remaining participant manages a team.

#### 4.4.4.1.4 Position and organisation tenure

Table 4.12  
*Position and organisation tenure of sample three*

		Tenure	
		Position Tenure	Organisation Tenure
N	Valid	6	6
	Missing	0	0
Mean		4.00	5.67
Std. Deviation		5.20	4.04
Minimum		1	2
Maximum		10	10
Percentiles	25	1.00	2.00
	50	1.00	5.00
	75		

Table 4.12 indicates that the participants of sample three spent an average of four years (SD = 5.20) within their position, and on average 5.67 years (SD = 4.04) in their respective organizations. Given this overview of both the position and organization tenure in relation to

where they function on the leadership pipeline, it can be reasoned that all six participants made career progression over a relatively short period of time. All six can be considered as experienced in their respective positions.

## **4.5 Measurement instruments**

In order to address both the psychophysiological and emotional markers of burnout, it was deemed necessary to include psychological, emotional, and physiological measures for the purposes of the study. The measurement instruments discussed next were chosen for their relevance to the aims of the study.

### **4.5.1 Biographical information sheet**

A short biographical information sheet was used to access information pertaining to:

- Name and surname (replaced by unique number for research purposes).
- Gender.
- Age Group.
- Contact Details (for follow-up or second research phase).
- Designation (to support where participant falls within the leadership pipeline passages).

An example of the biographical information sheet is attached in Appendix B.

### **4.5.2 Quantitative psychological and emotional measures**

Three measures were used to determine the difference in psychological and emotional markers of burnout respectively between the burnout group and non-burnout group. These measures will be discussed next.

#### 4.5.2.1 Oldenburg Burnout Inventory (OLBI)

The Oldenburg Burnout Inventory (OLBI) has been developed by Demerouti, Bakker, Vardakou and Kantas (Andreyko, 2010). The OLBI can be divided into two subscales namely exhaustion and disengagement. Exhaustion is perceived beyond affective aspects in order to allow for physical and cognitive aspects (Bakker et al., 2004; Demerouti & Bakker, 2008). Exhaustion is thus defined within the OLBI as the result of prolonged and intense physical, cognitive and affective strain subsequent to prolonged exposure to specific work stressors (Bosman et al., 2005). Disengagement on the other hand, includes extensive and intensive responses in terms of emotional, cognitive and behavioural rejection of the job and describes occupational disillusionment. According to Demerouti and Bakker (2008), the disengagement subscale concerns the relationship between employees and their jobs with regards to the identification with work and willingness to continue in the same occupation.

The OLBI overall consists of 16 items. Each subscale consists of eight items that are measured on the following four-point Likert-type scale: (1) Strongly agree; (2) Agree; (3) Disagree; and (4) Strongly disagree.

Subscales of exhaustion and disengagement include positive worded items and negative worded items (Andreyko, 2010). This distinctive feature is recommended by conventional psychometric standards and has a higher probability to avoid artefacts due to acquiescence tendencies (Bakker et al., 2004).

Examples of items:

I always find new and interesting aspects in my work (positively phrased)

There are days when I feel tired before I arrive at work (negatively

The OLBI is regarded as a highly reliable instrument (Bosman et al., 2005). In further support for the use thereof in this case, a high internal consistency ( $\alpha = 0.88$ ) was obtained when considering the South African context (Abdool Karrim Ismael, 2010).



The following reliability statistics were calculated for the use of the OLBI and its respective two subscales in this study:

Table 4.13  
*Reliability of overall OLBI*

Reliability Statistics		
Overall OLBI		
Cronbach's Alpha	Sample size	N of Items
.875	100	16

Table 4.14  
*Reliability of OLBI subscales*

Reliability Statistics					
Disengagement			Exhaustion		
Cronbach's Alpha	Sample size	N of Items	Cronbach's Alpha	Sample size	N of Items
.741	100	8	.857	100	8

The calculated reliability coefficients are evident of relatively high internal consistency and the OLBI was thus suitable for use in this study.

#### 4.5.2.2 Ryff's Scales of Psychological Wellbeing (SPWB)

In line with the holistic approach taken throughout this study, Ryff's Scales of Psychological Wellbeing (SPWB) was chosen since it a) defines wellbeing as multidimensional construct instead, and b) it is based on an integration of theories such as mental health, clinical and life span respectively (Kafka & Kozma, 2002). Other wellbeing instruments were considered as a-theoretical and decentralised when having to operationalise wellbeing, and hence the SPWB was developed to address these shortcomings.

Overall, Ryff's SPWB is a self-report instrument constructed to measure six theoretically motivated constructs of psychological wellbeing, which are:

- Autonomy.
- Environmental mastery.
- Personal growth.
- Positive relations with others.
- Purpose in life.
- Self-acceptance.

These six constructs are assumed to measure all aspects of wellbeing which is described in Table 4.15 (Strauser, Lustig & Çiftçi, 2008, p. 22-23).

Table 4.15  
*SPWB construct descriptions*

<b>Construct</b>	<b>Description</b>
<b>Autonomy</b>	The ability to evaluate oneself according to personal standards and not look to others for approval.
<b>Environmental mastery</b>	An individual's ability to choose and create environments that meet their specific needs.
<b>Personal growth</b>	A feeling of continued personal development, being open to new experiences, aspiring to one's full potential, sensing improvement in the self over time, and being able to change in ways that reflect more self-knowledge and personal effectiveness.
<b>Positive relations with others</b>	Warm and trusting interactions with other individuals, being concerned about the welfare of others, and having the capacity to display empathy, affection, and intimacy.
<b>Purpose in life</b>	The feeling that there is purpose and meaning to life, usually manifested through goals, direction, and clear objectives for living.
<b>Self-acceptance</b>	Having a positive view of the self, generally feeling positive about past events, and acknowledging the presence of both good and bad qualities.

Participants respond to 14-items per subscale (84 items in total) using the following six point Likert scale: (1) Strongly disagree; (2) Moderately disagree; (3) Slightly disagree; (4) Slightly agree; (5) Moderately agree; and (6) Strongly agree.

Higher scores on each scale indicate greater wellbeing on that dimension. Research has indicated internal consistency (alpha) coefficients for the six scales ranging from 0.82 to 0.90 (Kafka & Kozma, 2002). Further to its psychometric properties, the inclusion of the scales is likely to provide insight into the type of psychological and emotional markers that come into play during the experience of burnout.

The following reliability statistics were calculated overall as well as for the use of the six subscales of the SPWB in this study:

Table 4.16  
*Reliability of SPWB overall and subscales*

<b>Reliability Statistics</b>			
<b>Subscales</b>	<b>Cronbach's Alpha</b>	<b>Sample size</b>	<b>N of Items</b>
Autonomy	.866	100	14
Environmental mastery	.881	100	14
Personal growth	.840	100	14
Positive relations with others	.858	100	14
Purpose in life	.850	100	14
Self-acceptance	.894	100	14
Overall	.961	100	84

Given the above statistics, a high internal consistency was obtained. The SPWB was thus deemed fit as a measurement for this study.

#### **4.5.2.3 Genos Emotional Intelligence (EQ)**

The original Genos EQ was developed by Dr Ben Palmer and Professor Con Stough in the late 1990's. It was initially published as the Swinburne University Emotional Intelligence Test (SUIET). Over the course of time the items were refined and improved. The Genos EQ in its present form measures the frequency of typical EQ behaviour as observed day-to-day as opposed to the ideal or maximum capacity. Palmer, Stough, Harmer, and Gignac (2009, p. 108) noted three unique features of the Genos EQ:

- The taxonomic 7-factor model it assesses is simple in comparison to some of the larger models in the area and each model's related inventory.
- It's high "workplace face validity" comprising items that represent emotionally intelligent workplace behaviours aligned to the seven factors of the model.
- It is not a measure of EQ per se, but a measure of typical rather than maximal performance, specifically measuring individual differences in how often people demonstrate emotionally intelligent workplace behaviours.

The taxonomic 7-factor Genos model is captured within seven emotional factors / skills (Palmer et al., 2009, p. 108). These skills are described in Table 4.17.

Table 4.17  
*Genos 7-factor model*

<b>Factors / Skill</b>	<b>Description</b>
<b>Emotional Self-Awareness</b>	The skill of perceiving and understanding your own emotions.
<b>Emotional Expression</b>	The skill of effectively expressing your own emotions.
<b>Emotional Awareness of Others</b>	The skill of perceiving and understanding others' emotions.
<b>Emotional Reasoning</b>	The skill of using emotional information in decision-making.
<b>Emotional Self-Management</b>	The skill of managing your own emotions.
<b>Emotional Management of Others</b>	The skill of positively influencing the emotions of others.
<b>Emotional Self-Control</b>	The skill of effectively controlling your own strong emotions.

The Genos EQ self-report inventory consists of 70 items designed to measure the frequency with which an individual displays emotionally intelligent behaviours across the seven dimensions (10 items per dimension) presented in Table 4.17. Participants respond by means of a five-point Likert scale, ranging from "Almost Never" to "Almost Always" as per below:

- Almost Never (1)
- Seldom (2)

- Sometimes (3)
- Usually (4)
- Almost Always (5)

Similar to the distinguishing feature of the OLBI, the Genos EQ's items cover a range of different positive and negative emotions. Palmer et al. (2009) identified the following in this regard:

- Positive emotions: satisfaction, enthusiasm, optimism, excitement, engagement, motivation, and feeling valued by colleagues.
- Negative emotions: anxious, anger, stressed, annoyed, frustrated, disappointed, upset and impatient.

According to the Genos EQ Certification Manual (version 14), reliability coefficients all exceeded  $\alpha > .70$  (Palmer & Stough, 2007). A further total score of  $\alpha = .945$  has been obtained with regards to the Genos EQ test/re-test reliability. The Genos EQ tool includes a Genos Impression Management Index (GIMI) to assess potential fake-ability which increased face value and general validity of the instrument.

The Cronbach alphas coefficients obtained by the Genos in the current study are displayed in Table 4.18.

Table 4.18  
*Reliability statistics for Genos EQ*

<b>Reliability Statistics</b>			
<b>Subscales</b>	<b>Cronbach's Alpha</b>	<b>Sample size</b>	<b>N of Items</b>
Emotional Self-Awareness	.748	100	10
Emotional Expression	.821	100	10
Emotional Awareness of Others	.868	100	10
Emotional Reasoning	.665	100	10
Emotional Self-Management	.794	100	10
Emotional Management of Others	.827	100	10
Emotional Self-Control	.844	100	10
Overall	.958	100	70

Given the Cronbach alpha values reported in Table 4.18 it is inferred that the reported reliability coefficients are indicative of good internal consistency, hence making the instrument viable for use in this study.

### 4.5.3 Quantitative physiological measures

Numerous research studies revealed a negative correlation between stress and physical health. Since burnout is believed to be the result of prolonged and more important unmediated stress, it can be deduced that burnout will have a direct effect on the individual's health. According to a study done by Abidi, Mangi, Soomro, and Chandio (2014), burnout is the most vital agent for developing health issues among employees in the workforce. Hence the inclusion of the physiological phase within the study. For the purposes of practicality and access to relevant measure instruments, two health elements, namely a cardiovascular index and cognitive / brain functioning were incorporated as focus areas within this study.

In support of the above-mentioned and albeit being discussed in greater length in Chapter 2 (See 2.4.2), research showed that burnout alters cardiovascular functioning (Cursoux, Lehucher-Michel, Marchetti, Chaumet, & Delliaux, 2012). It is also associated with a higher prevalence of reported cognitive failures amongst those suffering from burnout (Abidi et al., 2014; Öhman, Nordin, Bergdahl, Slunga-Birgander, & Neely, 2007; Österberg, Karlson, & Hansen, 2009). Electroencephalogram (EEG) findings in burnout patients also advised on clear

differences to those not suffering from burnout (Van Luitelaar et al., 2010). All these researchers, however, suggested that further research be done regarding the physiological markers of burnout. This study hence is an attempt to do so and therefore the inclusion of cardiovascular stress indexes and EEG findings. The following physiological measurement instruments were used in the study:

#### 4.5.3.1 Vi-port



(EuroMedix, 2020)

*Figure 4.2.* The Vi-port, its three-dimensional presentation of results as well as positioning on the chest wall

The Vi-port provides a quick and easy measurement of cardiovascular stress. It is a small battery-operated medical device that allows for various risk factors to be identified. The Vi-port gets positioned on the chest wall and to be kept steady for two minutes. The latter is therefore considered non-invasive, less expensive and not too time consuming. Its validity is based on heart rate variability parameters that are derived from an ECG signal, which, in turn, allows for the calculation of a cardio stress index (CSI). It further provides a reading for heart rhythm and -rate. These readings are shown graphically in the form of a three-dimensional, coloured portrait of one's heart. Only the readings were downloaded on a PC for recordkeeping and further analysis. The device was used according to the specifications of the manufacturer. Studies conducted by Muehlsteff, Thijs, Pinter, Morren, and Muesch (2007) as well as Persad et al. (2012) indicated that the Vi-port is adequate for determining cardiovascular stress index.

#### 4.5.3.2 Biopac BioNomadix



(Biopac Systems Inc., 2020)

Figure 4.3. The Biopac BioNomadix smart centre

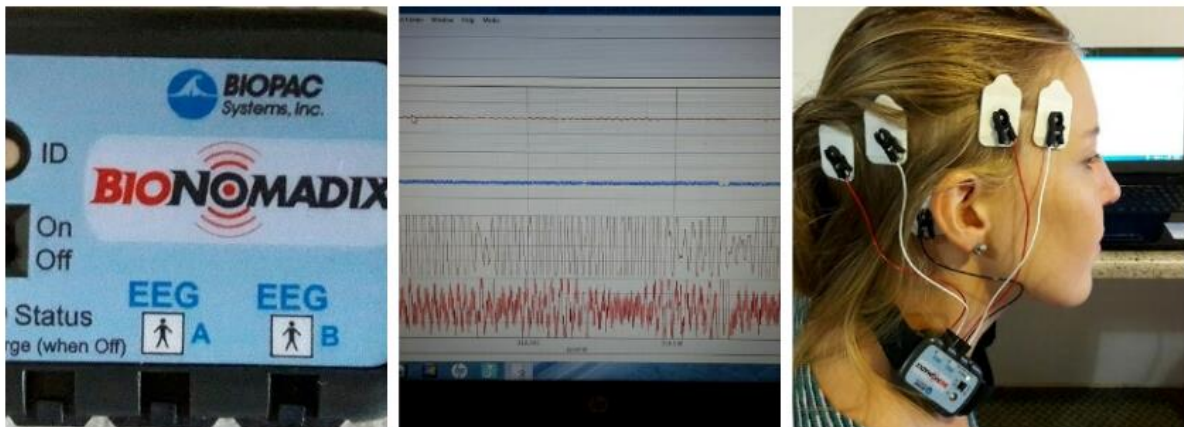


Figure 4.4. Photos taken by researcher with permission of EEG logger, screen-print of brain waves during testing and placement of electrodes

The product sheet of the BioNomadix series describe the system as a “wireless, multi-channel physiological recording platform” (Biopac Systems Inc., n.d., n.p.). Its untethered design allows for nearly unlimited freedom of movement and unsurpassed comfort, enabling subjects to easily relax into their protocol (Biopac Systems Inc. n.d.). The latter was considered of great importance to the researcher in order to make the physiological phase as comfortable and convenient and non-invasive on the participant as possible. It also contributed to the ease of being conducted at the participants’ premises instead of inconvenience them by having to arrange for a mutual get together at a set and expensive laboratory. The following product information is considered relevant as extracted from the supplier’s website (Biopac Systems Inc., n.d., n.p.):



The Dual Wireless EEG BioNomadix Pair consists of a matched transmitter and receiver module. The matched pair is specifically designed to measure two channels of Electroencephalogram (EEG) data and emulates a “wired” connection from the computer to subject, with all the benefits of a fully-wireless recording system. These units interface with the MP160 (or older MP150) and data acquisition and analysis platform and AcqKnowledge software, allowing advanced analysis for multiple applications and supporting acquisition of a broad range of signals and measurements.

EEG signal data is transmitted at a rate of 2,000 Hz, providing an extremely high resolution EEG waveform at the receiver’s output. Raw data from the pair is bandlimited from 0.1 Hz to 100 Hz, to provide a very high quality recording. The matched pair incorporates internal high pass and low pass filters to provide for high quality amplification of the EEG waveform with its associated discharges, spindles and other synchronous neuronal activity. The high signal to noise ratio and high time-based sampling resolution permit the pair to be used for exacting episodic counting studies or event-related potentials, such as P300.

This product was utilized to determine the EEG signals for the participants during phase two of the research. Four electrodes were positioned at the same location on all participants’ heads (See Figure 4.6). The product was used in accordance with the manufacturer’s specifications. Studies conducted by Abdul-Latif, Cosic, Kumar, Polus, and Da Costa (2004), Host’ovecký, and Babušiak (2017) and Vijayalakshmi, Sridhar, and Khanwani (2010) indicated the effectiveness of the Biopac to provide accurate EEG readings with specific reference to alpha waves.

#### **4.5.4 Qualitative measures: Semi-structured interviews**

In order to provide qualitative themes related to the subjective experience of burnout, semi-structured interviews were conducted with sample three (n=6) (see 4.4.1.3).

A general structure or interview guide was compiled in advance to guide the researcher when interviewing participants. A copy of the interview guide is attached in Appendix C. The aim of the questions specified in the interview guide was to obtain rich data with regards to the burnout group’s subjective experience of burnout.

## 4.6 Data collection procedure

As previously mentioned, this study consisted of three phases of data collection. These three phases are displayed in Figure 4.5.

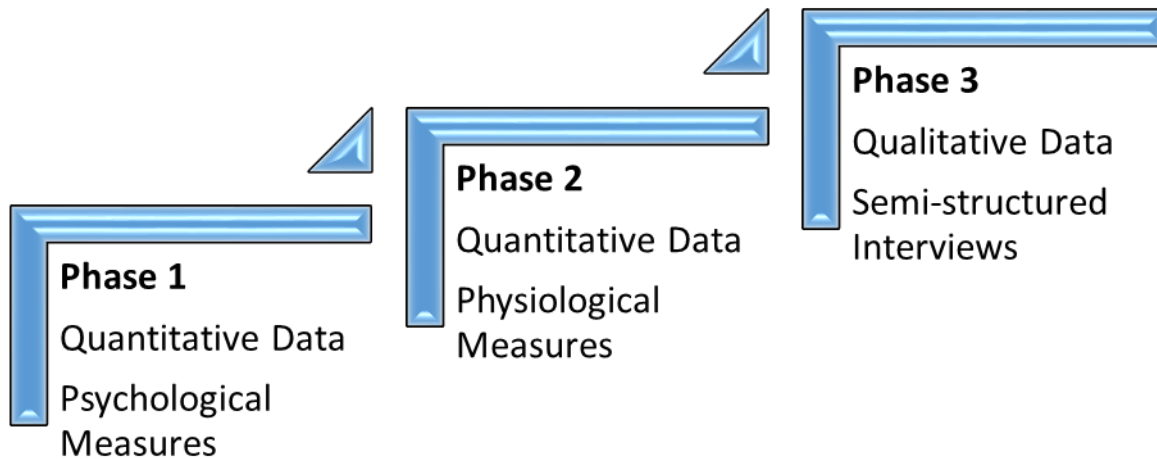


Figure 4.5. Three-phase psychophysiological research study

### 4.6.1 Data collection procedure: First phase

The psychological measures were converted to electronic versions using Type Form. An electronic link to the psychological measures was emailed to the participants of sample one. The obtained data was captured in Microsoft Excel spreadsheets.

### 4.6.2 Data collection procedure: Second phase

The physiological measures conducted on sample two took place during one-on-one sessions in allocated conference rooms at the workplace of the participants. The Vi-port data was captured in an Excel spreadsheet. The Biopac data was converted to Excel by a software programme supplied by the manufacturer. All participants underwent the physiological phase at approximately 08:00 prior to the start of their respective working days.

### 4.6.3 Data collection procedure: Third phase

The semi-structured interviews conducted with the participants of sample three took place yet again at allocated conference rooms at the participants' workplace. With the permission of the participants, these interviews were audio-recorded.

## 4.7 Data analysis

### 4.7.1 Quantitative data analysis

All the quantitative data obtained was captured into a database and analysed using SPSS version 24© In addition to determining the internal reliability by means of computing Cronbach alphas (see 4.5.2.1 – 4.5.2.3), the following calculations were conducted for each measure:

- OLBI: A Multivariate Analysis of Variance (MANOVA) was performed to determine if there were significant differences between the burnout and non-burnout groups on the two subscales (Exhaustion and Disengagement) and the overall score obtained on the OLBI.
- SPWB: A Multivariate Analysis of Variance (MANOVA) was performed to determine if there were significant differences between the burnout and non-burnout groups on the six subscales (see 4.5.2.2) of the SPWB.
- SPWB: A stepwise multiple regression analysis was performed to determine which of the SPWB's subscales can be considered as predictors of or buffers against burnout.
- Genos: A Multivariate Analysis of Variance (MANOVA) was performed to determine if there were significant differences between the burnout and non-burnout groups on the seven subscales of the GENOS (see 4.5.2.3).
- Genos A stepwise multiple regression analysis was performed to determine which of the Genos' subscales can be considered as predictors of or buffers against burnout.
- Vi-port: Only descriptive statistics could be calculated for this measure due to the small size of the sample.
- Biopac: Similar to the Vi-port and also due to the small sample size, the Biopac results had to be calculated using descriptive statistics. The Biopac measurements recorded for the six participants were graphically depicted by means of clustered bar charts.

### 4.7.2 Qualitative data analysis

The recorded interviews were transcribed by a professional transcriber. Thematic analysis was conducted on the qualitative data retrieved from the transcribed interviews. According to Braun and Clarke (2006) thematic analysis, through its theoretical freedom, provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data. This flexibility, which in turn does not tie it to a particular epistemological or theoretical perspective, is viewed as considerable advantage given that this study used a mixed-method design (Maguire & Delahunt, 2017).

Braun and Clarke's six-phase approach was followed because it offers such a clear and usable framework for doing thematic analysis (Maguire & Delahunt, 2017). Incorporating such a widely used and supported framework is also considered as contributing factor to the credibility of this study's qualitative analysis.

This six-phase approach is summarised in Table 4.19 (Braun & Clarke, 2006).

Table 4.19  
*Six-phase approach of thematic analysis*

Phase	Description
1	Researcher became familiar with the content of the transcribed interviews by reading through it and making relevant notes of easy observable patterns.
2	Allocating initial codes to data.
3	Interpreting the data by searching for themes or repetitive patterns.
4	Reviewing and refining themes, while ensuring it is representative across the whole set of data obtained by means of interviews.
5	Named and defined themes.
6	Compiling of outcome report.

### 4.8 Ethical considerations

Prior to the start of the study, ethical clearance was obtained from the Research and Ethics committee of the Faculty of Humanities at the University of Pretoria (see Appendix D). Information regarding the nature, procedure and rationale of the research study was electronically communicated to all relevant stakeholders and informed and written consent was (see Appendix E) was obtained from all participants. It was clearly indicated that participants

will not be compensated for participating in the study. Informed and written consent was obtained from all the participants involved and the voluntarily nature of participation was repeatedly stressed. Hence a participant was allowed to exit from the study at any time without experiencing any negative consequences.

Confidentiality was deemed crucial to the success of the field work. Therefore, particulars of the participants were treated as confidential and anonymity was ensured. This was done by allocating unique numbers / codes to the participants instead of using any of their personal details as a mean of reference. Furthermore, participants were informed that the results of the study was purely obtained for research purposes. A free debriefing and/or counselling session by an appropriate professional was offered in the event of psychological trauma caused.

Participants were also informed that all data collected will be stored at the Department of Psychology for a minimum of 15 years.

#### **4.9 Conclusion**

The research methodology described in this chapter provided information pertaining the sample used and processes followed to obtain the respective research results. The chapter also discussed the various measurements and data collection methods used across the different phases of the study. Both quantitative and qualitative approaches were incorporated and chosen to address the primary and secondary aims of the research study. The next two chapters provide information regarding the process of analysis and the results it yielded.

## CHAPTER 5

### QUANTITATIVE RESULTS

#### 5.1 Introduction

Chapter 4 explained the research methodology employed. The present chapter pinpoints the quantitative results obtained, based on statistical and mathematical analysis conducted on the realized sample. The analysis will be preceded by descriptive statistics, where applicable.

#### 5.2 Descriptive statistics for the psychological and emotional measures

As was mentioned in previous chapters, the following three psychological and emotional measures were utilised during the first phase of the study:

- Oldenburg burnout inventory (OLBI)
- Ryff's scales of psychological wellbeing (SPWB)
- Genos emotional intelligence (EQ)

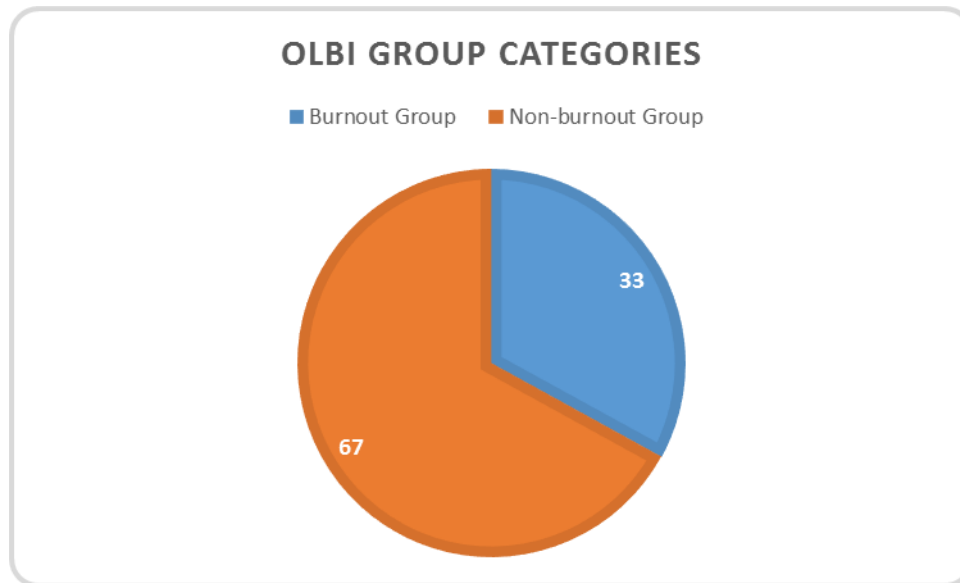
All of the above were presented to the realised sample ( $n = 100$ ).

Parametric techniques were used during data analysis since the Kolmogorov-Smirnov test of normality indicated that the data across the psychological measures was normally distributed. Multivariate analysis of variance (MANOVA) tests followed by stepwise multiple regression analysis in particular were utilised to attain the aims and objectives set for the study.

##### 5.2.1 Oldenburg Burnout Inventory (OLBI)

The two groups, burnout group and non-burnout group, were identified based on the OBLI cut-off score of 2.50 (See 4.4.1.2). Those participants scoring 2.50 and higher ( $\geq 2.50$ ) were categorised as the burnout group, whilst those scoring below 2.50 ( $< 2.50$ ) were categorised as the non-burnout group. The non-burnout group consisted of 67 participants and the burnout

group consisted of 33 of the participants. The number of participants in each group is visually displayed in Figure 5.1.



*Figure 5.1.* OLBI group categories for burnout

Albeit the above mentioned burnout group was smaller in size than expected, it remained a third of the sample and thus still noteworthy.

The descriptive statistics in Table 5.1 show the central tendencies and variation for the two subscales of the OLBI as well as the overall score for the latter.

Table 5.1  
 Descriptive statistics of the OLBI ( $n = 100$ )

Descriptive Statistics				
		Disengagement	Exhaustion	Overall
N	Valid	100	100	100
Mean		2.16	2.47	2.31
5% Trimmed Mean		2.17	2.47	2.33
Median		2.13	2.50	2.31
Std. Deviation		0.38	0.56	0.42
Minimum		1.13	1.00	1.06
Maximum		3.00	3.88	3.19

### 5.2.2 Ryff's Scales of Psychological Wellbeing (SPWB)

The descriptive statistics for psychological wellbeing as measured by the SPWB are displayed in Table 5.2.

Table 5.2  
 Descriptive statistics of the SPWB ( $n = 100$ )

Descriptive Statistics							
		Autonomy	Environmental mastery	Personal growth	Positive relations with purpose in life	Self-acceptance	
N	Valid	100	100	100	100	100	100
Mean		4.64	4.58	5.11	4.73	4.96	4.76
5% Trimmed Mean		4.66	4.61	5.14	4.75	4.98	4.81
Median		4.71	4.61	5.25	4.71	5.14	4.96
Std. Deviation		0.81	0.81	0.67	0.78	0.71	0.80
Minimum		3.00	2.57	3.14	2.36	3.21	2.43
Maximum		6.00	6.00	6.00	6.00	6.00	6.00



### 5.2.3 Genos Emotional Intelligence (EQ)

Table 5.3 displays the mean(s), median, variance, and standard deviation of the sample with regard to emotional intelligence.

Table 5.3  
*Descriptive statistics of the Genos (n = 100)*

		Descriptive Statistics						
		Self-awareness	Emotional Expression	Emotional Awareness of Others	Emotional Reasoning	Emotional Self-Management	Emotional Management of	Emotional Self-Control
N	Valid	100	100	100	100	100	100	100
Mean		4.11	3.89	3.96	3.86	3.78	4.00	3.93
5% Trimmed Mean		4.11	3.90	3.97	3.85	3.79	4.00	3.96
Median		4.10	3.90	4.00	3.85	3.80	4.00	4.00
Std. Deviation		0.42	0.56	0.52	0.40	0.53	0.47	0.59
Minimum		3.00	2.60	2.10	2.90	2.10	2.80	1.80
Maximum		5.00	5.00	5.00	4.90	5.00	5.00	5.00

### 5.3 Results: Measuring the differences between the burnout and non-burnout groups using psychological and emotional measures

In order to determine if there are significant differences between the burnout and the non-burnout group, a MANOVA was performed on the subscales and overall score of the OLBI. The results are presented in the next section.

### 5.3.1 Results from MANOVA for the OLBI: The burnout and non-burnout groups

Before the MANOVA was calculated, the descriptive statistics for the two groups were calculated. The results are displayed in Table 5.4.

Table 5.4  
*Descriptive statistics of the OLBI scores of burnout group (n = 33) and non-burnout group (n = 67)*

<b>Descriptive Statistics</b>			
OLBI Categories	Mean	Std. Deviation	N
<b>DISENGAGEMENT</b>			
Non-burnout Group	1.99	0.31	67
Burnout Group	2.51	0.24	33
Total	2.16	0.38	100
<b>EXHAUSTION</b>			
Non-burnout Group	2.20	0.43	67
Burnout Group	3.01	0.35	33
Total	2.47	0.56	100
<b>OVERALL</b>			
Non-burnout Group	2.10	0.32	67
Burnout Group	2.76	0.19	33
Total	2.31	0.42	100

The first step in conducting a MANOVA is to determine if there were significant differences between the groups under investigation in the study. This is done by performing multivariate tests. The results of the multivariate tests conducted to determine if there are significant differences between the burnout and non-burnout groups on the overall score and the subscales (Disengagement and Exhaustion) of the OLBI are displayed in Table 5.5.

Table 5.5  
 OLBI: Multivariate tests

Multivariate Tests							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
OLBI	Pillai's Trace	0.55	59.83 <sup>b</sup>	2.00	97.00	<0.001	0.55
Category	Wilks' Lambda	0.45	59.83 <sup>b</sup>	2.00	97.00	<0.001	0.55
	Hotelling's Trace	1.23	59.83 <sup>b</sup>	2.00	97.00	<0.001	0.55
	Roy's Largest Root	1.23	59.83 <sup>b</sup>	2.00	97.00	<0.001	0.55

b. Exact statistic

According to Pallant (2016), Wilks' Lambda is one of the most commonly reported statistics when studying the results of the multivariate tests conducted when performing a MANOVA. When studying Wilks' Lambda in Table 5.5, it is clear that there were significant differences ( $p < 0.01$ ) between the scores obtained by the burnout and the non-burnout group on the OLBI overall scores and two of the subscales (Disengagement and Exhaustion).

Since Wilks' Lambda indicated that there were significant differences between the two groups, the next step of the MANOVA involves performing tests of between-subject effects. The results of this test is displayed in Table 5.6.

Table 5.6  
*OLBI: Tests of between-subjects effects*

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	OLBI: Disengagement	5.99 <sup>a</sup>	1	5.99	70.90	<0.001	0.42
	OLBI: Exhaustion	14.30 <sup>b</sup>	1	14.30	85.78	<0.001	0.47
	OLBI: Overall Score	9.70 <sup>c</sup>	1	9.70	120.48	<0.001	0.55
Intercept	OLBI: Disengagement	446.64	1	446.64	5284.01	<0.001	0.98
	OLBI: Exhaustion	600.37	1	600.37	3601.48	<0.001	0.97
	OLBI: Overall Score	520.67	1	520.67	6465.84	<0.001	0.98
OLBI Category	OLBI: Disengagement	5.99	1	5.99	70.90	<0.001	0.42
	OLBI: Exhaustion	14.30	1	14.30	85.78	<0.001	0.47
	OLBI: Overall Score	9.70	1	9.70	120.48	<0.001	0.55

a. R Squared = .420 (Adjusted R Squared = .414)

b. R Squared = .467 (Adjusted R Squared = .461)

c. R Squared = .551 (Adjusted R Squared = .547)

After the Bonferroni adjustment was applied, the new alpha level was set at 0.017 (Pallant, 2016). The results of Table 5.6, shows that there were significant differences between the burnout and the non-burnout groups on Disengagement, Exhaustion and the overall score of the OLBI ( $p < 0.017$ ). The eta squared values reported in Table 5.6 indicate that the effect size related to the significant differences was large in all three instances (Pallant, 2016).

### 5.3.2 Results from MANOVA for the SPWB Scales: The burnout and non-burnout groups

Descriptive statistics for the SPWB scales across the OLBI groups were calculated first. The results are displayed in Table 5.7.

Table 5.7  
 Descriptive statistics of the SPWB scores of burnout group ( $n = 33$ ) and non-burnout group ( $n = 67$ )

DESCRIPTIVE STATISTICS				
	OLBI categories	Mean	Std. Deviation	N
Autonomy	<sup>a</sup> Lower than 2.50	4.80	0.74	67
	<sup>b</sup> 2.5 and higher	4.32	0.86	33
	Total	4.64	0.81	100
Environmental mastery	<sup>a</sup> Lower than 2.50	4.86	0.69	67
	<sup>b</sup> 2.5 and higher	4.01	0.75	33
	Total	4.58	0.81	100
Personal growth	<sup>a</sup> Lower than 2.50	5.28	0.54	67
	<sup>b</sup> 2.5 and higher	4.76	0.77	33
	Total	5.11	0.67	100
Positive relations with others	<sup>a</sup> Lower than 2.50	4.86	0.77	67
	<sup>b</sup> 2.5 and higher	4.46	0.76	33
	Total	4.73	0.78	100
Purpose in life	<sup>a</sup> Lower than 2.50	5.20	0.58	67
	<sup>b</sup> 2.5 and higher	4.45	0.69	33
	Total	4.96	0.71	100
Self-acceptance	<sup>a</sup> Lower than 2.50	5.06	0.60	67
	<sup>b</sup> 2.5 and higher	4.15	0.83	33
	Total	4.76	0.80	100

<sup>a</sup> Non-risk group

<sup>b</sup> Risk-group

Similar to the OLBI (see 5.3.1), multivariate tests were performed to indicate probable significant difference(s) between the burnout and non-burnout groups. Table 5.8 displays the multivariate tests' results as obtained across the SPWB subscales.

Table 5.8  
 SPWB: *Multivariate tests*

Multivariate Tests							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
OLBI Category	Pillai's Trace	0.37	9.12 <sup>a</sup>	6.00	93.00	.000	0.37
	Wilks' Lambda	0.63	9.12 <sup>a</sup>	6.00	93.00	.000	0.37
	Hotelling's Trace	0.59	9.12 <sup>a</sup>	6.00	93.00	.000	0.37
	Roy's Largest Root	0.59	9.12 <sup>a</sup>	6.00	93.00	.000	0.37

a. Exact statistic

In line with the value of Wilks' Lambda (Wilks'  $\Lambda = 0.63$ ) and its associated significance level (Sig. = 0.00), it can be deduced that another significant difference ( $p < 0.01$ ) between the burnout and non-burnout groups occurred. In this regard (see Table 5.8), the results are indicative of a significant statistical difference obtained between the burnout and non-burnout group considering their psychological wellbeing as measured by the SPWP.

Given the above outcome, Pallant (2016) suggested further investigation in relation to each of the dependent variables, which were the SPWP subscales in this regard. Tests of between-subject effects were performed and the results thereof are displayed in Table 5.9.

Table 5.9  
 SPWB: Tests of between-subjects effects

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Autonomy	5.06 <sup>a</sup>	1	5.06	8.38	0.01	0.08
	Environmental mastery	15.88 <sup>b</sup>	1	15.88	31.63	0.00	0.24
	Personal growth	5.95 <sup>c</sup>	1	5.95	15.36	0.00	0.14
	Positive relations with others	3.41 <sup>d</sup>	1	3.41	5.85	0.02	0.06
	Purpose in life	12.55 <sup>e</sup>	1	12.55	32.90	0.00	0.25
	Self-acceptance	18.24 <sup>f</sup>	1	18.24	39.52	0.00	0.29
Intercept	Autonomy	1838.52	1	1838.52	3046.42	0.00	0.97
	Environmental mastery	1740.85	1	1740.85	3468.06	0.00	0.97
	Personal growth	2225.93	1	2225.93	5751.61	0.00	0.98
	Positive relations with others	1920.23	1	1920.23	3292.25	0.00	0.97
	Purpose in life	2060.58	1	2060.58	5401.53	0.00	0.98
	Self-acceptance	1872.46	1	1872.46	4056.86	0.00	0.98
OLBI Category	Autonomy	5.06	1	5.06	8.38	0.01	0.08
	Environmental mastery	15.88	1	15.88	31.63	0.00	0.24
	Personal growth	5.95	1	5.95	15.36	0.00	0.14
	Positive relations with others	3.41	1	3.41	5.85	0.02	0.06
	Purpose in life	12.55	1	12.55	32.90	0.00	0.25
	Self-acceptance	18.24	1	18.24	39.52	0.00	0.29

- a. R Squared = .079 (Adjusted R Squared = .069)  
 b. R Squared = .244 (Adjusted R Squared = .236)  
 c. R Squared = .136 (Adjusted R Squared = .127)  
 d. R Squared = .056 (Adjusted R Squared = .047)  
 e. R Squared = .251 (Adjusted R Squared = .244)  
 f. R Squared = .287 (Adjusted R Squared = .280)

Pallant (2016) suggested a Bonferroni adjustment to reduce the risk of a Type 1 error. In doing so, the new alpha level was set at 0.008. The tests of between-subjects effects reflect significant differences only on some of the subscales measured. There is a significant difference between the burnout and non-burnout group in terms of the following subscales where the probability value (Sig.) is less than the adjusted alpha level ( $p < 0.008$ ):

- Environmental mastery

- Personal growth
- Purpose in life
- Self-acceptance

In keeping with the above significant differences obtained, the partial eta squared values reported in Table 5.9 were evident of a large effect size ( $\eta^2_p \geq 0.138$ ) across all four these subscales (Pallant, 2016).

Since significant differences between the two groups were obtained in this regard, the next step was to determine to what extent psychological wellbeing would predict burnout. In order to do so, a stepwise multiple regression analysis was done with burnout as dependent variable and the SPWB subscales as the independent variables.

### **5.3.3 Results from stepwise regression analysis for burnout and SPWB scales**

A stepwise multiple regression analysis was conducted which allowed for the investigation of more than one independent variable and its effects on the dependent variable (Pallant, 2016). This was done to determine which of the SPWB subscales best predicted burnout.

Preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality and multicollinearity. Thereafter step one of the analysis was conducted on all six of the SPWB subscales namely: Autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, as well as self-acceptance. Following the stepwise analysis and thus the reduction of insignificant variables, the final model reflected two independent variables which can be considered as significant predictors of burnout.

Table 5.10 provides information on the amount of variance explained by the SPWB subscales which were considered the independent variables in this regard.



Table 5.10  
*Model evaluation / SPWB*

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.649 <sup>a</sup>	0,421	0,409	0,32395

a. Predictors: (Constant): SPWP: Self-acceptance; Environmental mastery

b. Dependent Variable: OLBI\_Overall\_Score

Table 5.10 indicates that 42.1% of the variance in the OLBI overall scores was explained by the independent variables.

Table 5.11  
*Statistical Significance of Model Evaluation Results / SPWB*

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
<b>1</b>	Regression	7,414	2	3,707	35,322	.000 <sup>b</sup>
	Residual	10,180	97	0,105		
	Total	17,594	99			

a. Dependent Variable: OLBI\_Overall\_Score

b. Predictors: (Constant), SPWP: Self-acceptance; Environmental mastery

Table 5.11 demonstrates that two of the independent variables entered into the final model were significant predictors of burnout. Table 5.12 indicates the variables that were the significant predictors.

Table 5.12  
*Evaluation of the independent variables / SPWB*

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,002	0,204		19,661	0,000		
	Environmental mastery	-0,160	0,063	-0,307	-2,528	0,013	0,405	2,470
	Self-acceptance	-0,201	0,064	-0,382	-3,150	0,002	0,405	2,470

a. Dependent Variable: OLBI\_Overall\_Score

The greatest predictor of burnout in terms of psychological wellbeing subscales (facets), was self-acceptance (beta = -0.382;  $p < 0.05$ ) followed by environmental mastery (beta = -0.307;  $p < 0.05$ ). An inverse relationship for both was determined. It can therefore be argued that, in terms of this study, the lower an individual's self-acceptance and environmental mastery, the higher the risk for burnout.

#### 5.3.4 Results from MANOVA for the Genos Scales: The burnout and non-burnout groups

Table 5.13 comprises the results obtained when calculating the descriptive statistics for the Genos scales using the burnout and non-burnout groups.

Table 5.13

*Descriptive statistics of the Genos scores of burnout group (n = 33) and non-burnout group (n = 67)*

Descriptive Statistics				
	OLBI categories	Mean	Std. Deviation	N
Genos: Emotional Self-Awareness	<sup>a</sup> Lower than 2.50	4.17	0.43	67
	<sup>b</sup> 2.5 and higher	3.99	0.38	33
	Total	4.11	0.42	100
Genos: Emotional Expression	<sup>a</sup> Lower than 2.50	4.03	0.50	67
	<sup>b</sup> 2.5 and higher	3.62	0.58	33
	Total	3.89	0.56	100
Genos: Emotional Awareness of Others	<sup>a</sup> Lower than 2.50	4.09	0.48	67
	<sup>b</sup> 2.5 and higher	3.68	0.49	33
	Total	3.96	0.52	100
Genos: Emotional Reasoning	<sup>a</sup> Lower than 2.50	3.94	0.40	67
	<sup>b</sup> 2.5 and higher	3.69	0.34	33
	Total	3.86	0.40	100
Genos: Emotional Self-Management	<sup>a</sup> Lower than 2.50	3.93	0.43	67
	<sup>b</sup> 2.5 and higher	3.47	0.57	33
	Total	3.78	0.53	100
Genos: Emotional Management of Others	<sup>a</sup> Lower than 2.50	4.11	0.44	67
	<sup>b</sup> 2.5 and higher	3.78	0.46	33
	Total	4.00	0.47	100
Genos: Emotional Self-Control	<sup>a</sup> Lower than 2.50	4.06	0.47	67
	<sup>b</sup> 2.5 and higher	3.65	0.70	33
	Total	3.93	0.59	100

<sup>a</sup> Non-risk group

<sup>b</sup> Risk group

The set of multivariate tests is considered as one of the key aspects of the output generated by MANOVA (Pallant, 2016). Multivariate tests were performed to determine whether there were significant differences between the burnout and non-burnout groups when measuring their emotional intelligence. Table 5.14 displays the results of the multivariate tests as obtained by the Genos' respective subscales.

Table 5.14  
*Genos: Multivariate tests*

Multivariate Tests							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
OLBI Category	Pillai's Trace	0.22	3.699 <sup>b</sup>	7.00	92.00	.001	.22
	Wilks' Lambda	0.78	3.699 <sup>b</sup>	7.00	92.00	.001	.22
	Hotelling's Trace	0.28	3.699 <sup>b</sup>	7.00	92.00	.001	.22
	Roy's Largest Root	0.28	3.699 <sup>b</sup>	7.00	92.00	.001	.22
b. Exact statistic							

In line with Pallant's (2016) recommendation for general use when performing a MANOVA and to remain consistent across the analysis of the entire data set obtained, the Wilks' Lambda was once again the preferred multivariate test. Wilks' Lambda in Table 5.14, clearly shows that there were significant differences ( $p < 0.01$ ) between the scores obtained by the burnout and the non-burnout group respectively when measuring their EQ by means of the Genos.

Since Wilks' Lambda indicated that there were significant differences between the two groups, tests of between-subject effects were performed across the Genos' subscales. The results of this test are displayed in Table 5.15.

Table 5.15  
*Genos: Tests of between-subjects effects*

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Emotional Self-Awareness	0.71 <sup>a</sup>	1	0.71	4.16	.044	0.04
	Emotional Expression	3.67 <sup>b</sup>	1	3.67	13.23	<0.001	0.12
	Emotional Awareness of Others	3.81 <sup>c</sup>	1	3.81	16.21	<0.001	0.14
	Emotional Reasoning	1.44 <sup>d</sup>	1	1.44	9.80	<0.001	0.09
	Emotional Self-Management	4.68 <sup>e</sup>	1	4.68	20.29	<0.001	0.17
	Emotional Management of Others	2.48 <sup>f</sup>	1	2.48	12.63	.001	0.11
	Emotional Self-Control	3.68 <sup>g</sup>	1	3.68	11.90	.001	0.11
Intercept	Emotional Self-Awareness	1472.59	1	1472.59	8616.99	<0.001	0.99
	Emotional Expression	1293.79	1	1293.79	4669.81	<0.001	0.98
	Emotional Awareness of Others	1335.81	1	1335.81	5678.70	<0.001	0.98
	Emotional Reasoning	1285.54	1	1285.54	8734.48	<0.001	0.99
	Emotional Self-Management	1212.57	1	1212.57	5254.95	<0.001	0.98
	Emotional Management of Others	1375.07	1	1375.07	7010.08	<0.001	0.99
	Emotional Self-Control	1316.78	1	1316.78	4253.47	<0.001	0.98
OLBI Category	Emotional Self-Awareness	0.71	1	0.71	4.16	.044	0.04
	Emotional Expression	3.67	1	3.67	13.23	<0.001	0.12
	Emotional Awareness of Others	3.81	1	3.81	16.21	<0.001	0.14
	Emotional Reasoning	1.44	1	1.44	9.80	.002	0.09
	Emotional Self-Management	4.68	1	4.68	20.29	<0.001	0.17
	Emotional Management of Others	2.48	1	2.48	12.63	.001	0.11
	Emotional Self-Control	3.68	1	3.68	11.90	.001	0.11

- a. R Squared = .041 (Adjusted R Squared = .031)  
 b. R Squared = .119 (Adjusted R Squared = .110)  
 c. R Squared = .142 (Adjusted R Squared = .133)  
 d. R Squared = .091 (Adjusted R Squared = .082)  
 e. R Squared = .171 (Adjusted R Squared = .163)  
 f. R Squared = .114 (Adjusted R Squared = .105)  
 g. R Squared = .108 (Adjusted R Squared = .099)

Following the Bonferroni adjustment, the new alpha level was set at 0.071 (Pallant, 2016). The results were therefore considered significant only when the probability value (Sig.) was less than 0.071. When one studies the results of Table 5.15 in line with the new alpha level, it

becomes clear that there were significant differences between the burnout and non-burnout groups based on all seven EQ subscales ( $p < 0.071$ ) measured.

The partial eta squared ( $\eta^2p$ ) values reported in Table 5.15 indicate different effect sizes (Pallant, 2016).

- Significant differences obtained on the following subscales reflected a *large effect size* ( $\eta^2p \geq 0.138$ ):
  - Emotional self-management ( $\eta^2p = 0.17$ )
  - Emotional awareness of others ( $\eta^2p = 0.14$ )
  
- Significant differences obtained on the following subscales reflected a *medium effect size* ( $0.06 \leq \eta^2p < 0.138$ ):
  - Emotional expression ( $\eta^2p = 0.12$ )
  - Emotional management of others ( $\eta^2p = 0.11$ )
  - Emotional self-control ( $\eta^2p = 0.11$ )
  - Emotional reasoning ( $\eta^2p = 0.09$ )
  
- Significant differences obtained on the following subscales reflected a *small effect size* ( $\eta^2p < 0.06$ ):
  - Emotional self-awareness ( $\eta^2p = 0.04$ )

In keeping the above significant differences between groups and similar to what was done with psychological wellbeing subscales (facets) as potential predictors of burnout, the need also aroused to determine to what extent EQ would predict burnout. In order to do so, a stepwise multiple regression analysis was also done with burnout as dependent variable and the Genos subscales as the independent variables.

### 5.3.5 Results from stepwise regression analysis for burnout and Genos scales

When the preliminary analyses revealed no violations of normality and multicollinearity assumptions, a stepwise multiple regression analysis was conducted to explore the relationship between the continuous dependent variable and numerous independent variables (Pallant,

2016). Step one of the analysis conducted included all of the seven subscales of the Genos, namely emotional self-awareness, emotional expression, emotional awareness of others, emotional reasoning, emotional self-management, emotional management of others, as well as emotional self-control. The final model was indicative of two of the subscales, which then in turn were considered as significant predictors of burnout.

Table 5.16 provides information on the amount of variance explained by the Genos subscales which were considered the independent variables in this regard.

Table 5.16  
*Model evaluation / Genos*

<b>Model Summary<sup>b</sup></b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
<b>1</b>	.581 <sup>a</sup>	0,338	0,324	0,34656

a. Predictors: (Constant), Genos\_ Emotional Management of Others, Emotional Self-Management.

b. Dependent Variable: OLBI\_Overall\_Score

Table 5.16 indicates that 33.8% of the variance in the OLBI overall scores was explained by the independent variables.

Table 5.17  
*Statistical Significance of Model Evaluation Results / Genos*

<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>1</b>	Regression	5,944	2	2,972	24,745	.000 <sup>b</sup>
	Residual	11,650	97	0,120		
	Total	17,594	99			

a. Dependent Variable: OLBI\_Overall\_Score

b. Predictors: (Constant), Genos\_ Emotional Management of Others, Emotional Self-Management

Table 5.17 shows that two of the independent variables entered into the final model were significant predictors of burnout. Table 5.18 indicates the variables that were the significant predictors.

Table 5.18  
*Evaluation of the independent variables / Genos*

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,372	0,304		14,369	0,000		
	Emotional Self-Management	-0,280	0,095	-0,349	-2,939	0,004	0,484	2,068
	Emotional Management of Others	-0,250	0,107	-0,277	-2,333	0,022	0,484	2,068

a. Dependent Variable: OLBI\_Overall\_Score

The greatest EQ related predictor of burnout was emotional self-management (beta = -0.349;  $p < 0.05$ ) followed by emotional management of others (beta = -0.277;  $p < 0.05$ ). These results thus suggested that the lower the individual's emotional self-management and emotional management of others are, the greater the risk for burnout would be.

#### 5.4 Quantitative results of physiological measures

Since the study aimed to determine whether differences in physiological markers, such as cardio stress index for one, occurred between the burnout group and non-burnout group, the following two measures were employed during the second phase of the research:

- Vi-port
- Biopac

As was stated in 4.4.3, 4.5.3, 4.6.2 and 4.7.1, this involved the second phase of the study which included a small sample size. The results for the above-mentioned measures will be reported next.



### 5.4.1 Vi-port

The descriptive statistics in Table 5.13 illustrate the central tendencies and variation of the Vi-port results for both the burnout group and non-burnout group.

Table 5.19

*Descriptive statistics of the VI-port scores of burnout group (n = 3) and non-burnout group (n = 3)*

Descriptive Statistics					
Vi-port	Group	Mean	Std. Deviation	Minimum	Maximum
Cardio Stress Index (Percentage / %)	Burnout Group (n = 3)	41.33	8.51	33	50
	Non-burnout Group (n = 3)	10.67	2.89	9	14
Heart Rate (beats per min / bpm)	Burnout Group (n = 3)	91.67	4.51	87	96
	Non-burnout Group (n = 3)	67.67	1.16	67	69
QRS duration (milliseconds / ms)	Burnout Group (n = 3)	75.67	7.37	70	84
	Non-burnout Group (n = 3)	92.00	8.89	85	102

Cardio stress index is a transformed measure of heart rate variability (HRV). A normal HRV is any value below 20% (Persad et al., 2012). Following this, the above scores are indicative of the non-burnout group to present with a normal heart rate variability (mean = 10.67; SD = 2.89; minimum = 9; maximum = 14) in comparison to the burnout group with severely elevated scores (mean = 41.33; SD = 8.51; minimum = 33; maximum = 50). The elevated scores suggest a reduced variability (low HRV) among the burnout group.

Although traditionally the normal resting adult heart rate range has been defined as 60 to 100 beats per minute (bpm), a range of 50 to 90 at rest may actually be more reflective of normal physiology (Ganz & Link, 2020). The non-burnout group's heart rate with a mean of 67.67 bpm (SD = 1.16) is therefore well within the normal range. Given that it was measured at rest,

the burnout group's maximum heart rate of 96 bpm is slightly above the normal range, yet still below the traditionally allowed range up to 100bpm. Therefore the burnout group's rate is not considered high or a health risk.

The QRS complex reflects ventricular muscular electrical activation, whereas the duration thereof is the time required for ventricular depolarization (Ganz & Link, 2020). The normal QRS duration in adults lasts between 75 and 110 milliseconds (ms). Both the burnout (mean = 75.67; SD = 7.37) and non-burnout (mean = 92.00; SD = 8.89) groups' QRS mean duration fall within the normal ranges. However, the minimum duration obtained for the burnout group is slightly below the norm.

#### 5.4.2 Biopac

There has been a surge of interest in EEG-based biomarkers in the alpha frequency range (8–13 Hz). The alpha rhythm has several trait-like properties which contribute to its robustness for use within research studies. Tement et al. (2016) advised on the following properties in this regard: (a) it dominates EEG recordings during relaxed wakefulness; b) it is stable over time, and c) it is under strong genetic control. Hence extracting the alpha wave readings as measured via the Biopac during the second phase of this study.

Given the sample size, neither parametric nor non-parametric statistics could be employed when studying the differences between the burnout and the non-burnout group. The clustered bar charts (Figures 5.3 and 5.4) display the results obtained across the alpha waves of the burnout group and non-burnout group, measured throughout a cycle of eyes open, eyes closed and eyes open again. The alpha waves were measured at two locations, namely right sided frontal lobe (F8) and right sided temporal lobe (T6). Figure 5.2 serves as a rough visual representation of the locations mentioned.

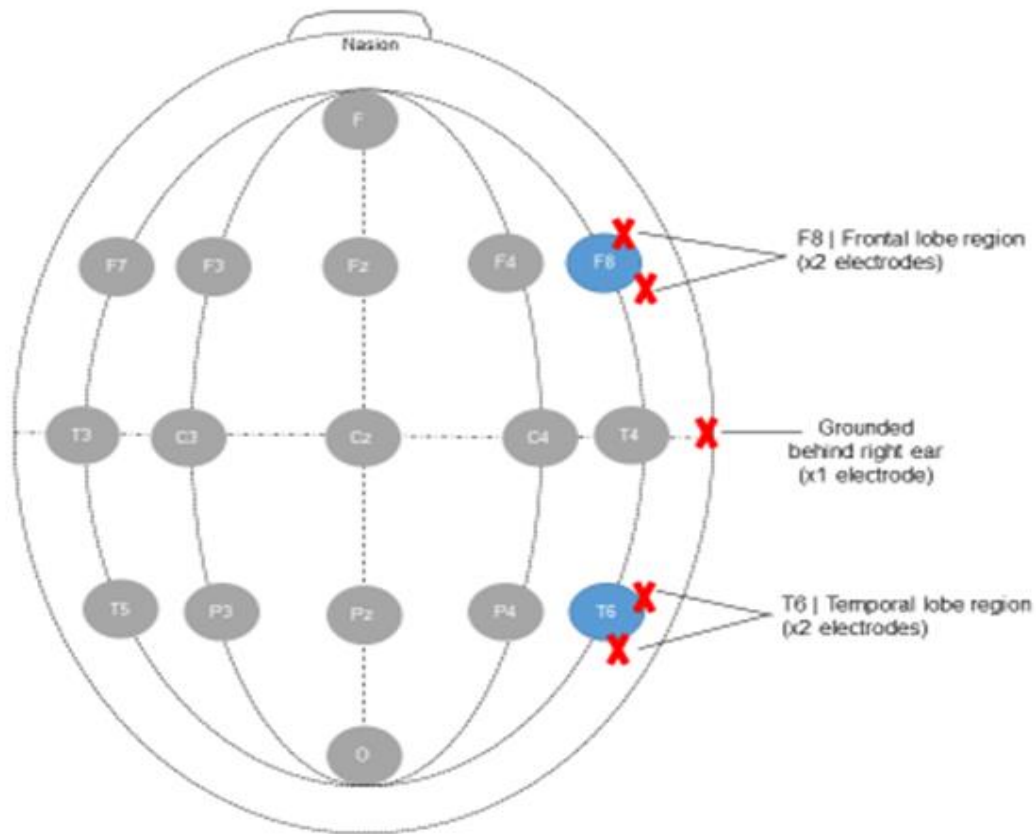


Figure 5.2. Bird's eye view of electrode placements

The results of the above are illustrated in Figure 5.3.

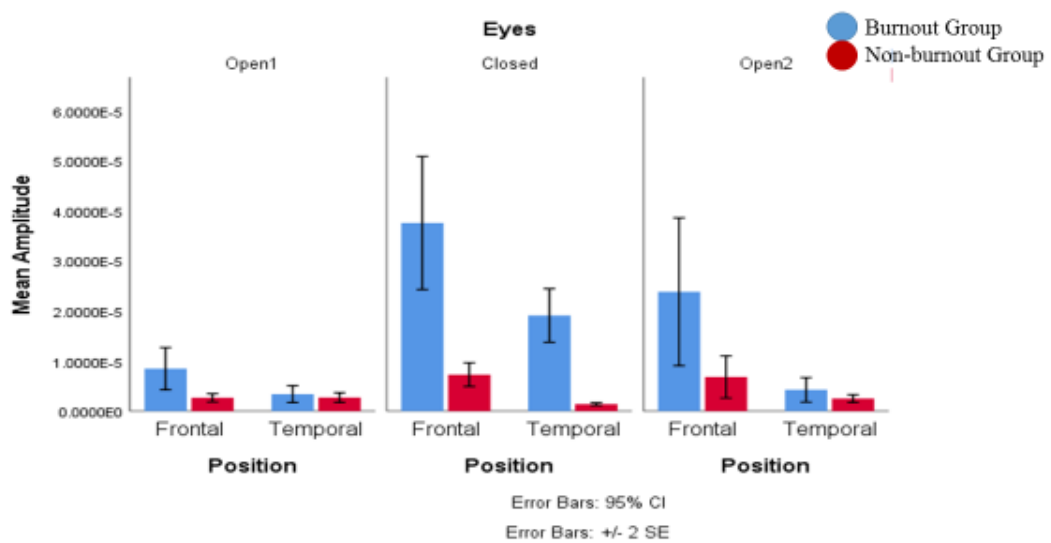


Figure 5.3. Mean amplitude for different locations

Figure 5.3 is evident of the mean amplitude for the alpha power obtained for the different locations for the burnout group and non-burnout group. Those in the non-burnout group displayed a reduced amplitude across the spectrum measured when compared to those in the burnout group. The latter reduced result was mostly evident when measured during closed eyes at both the frontal and temporal lobe positions.

Figure 5.4 shows the alpha peak frequency for the different brain regions across both groups.

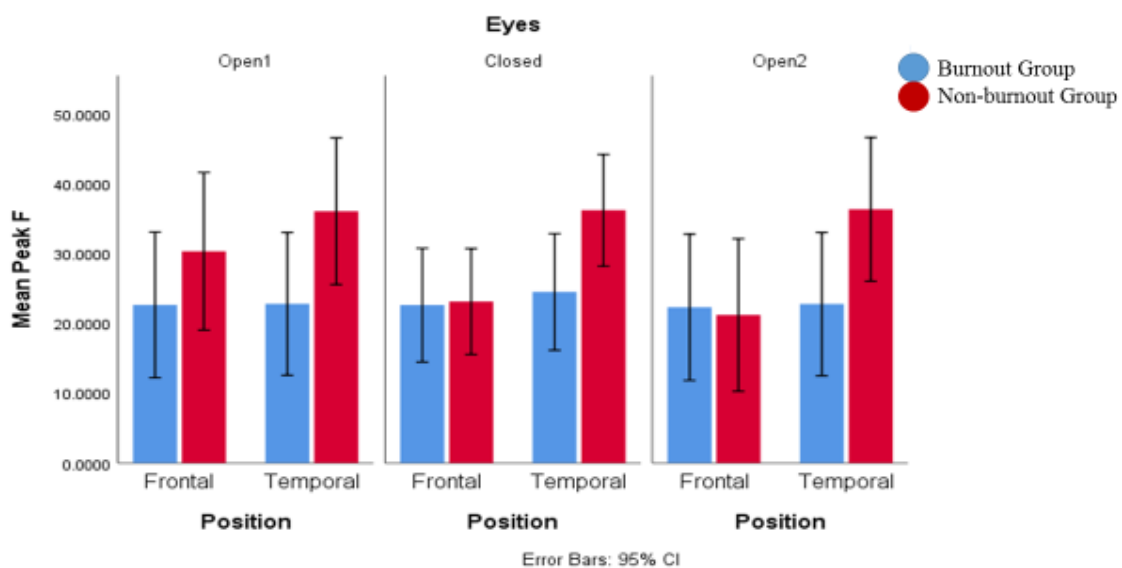


Figure 5.4. Mean of the alpha peak frequency for different locations

The alpha peak frequency as measured in Hertz (Hz) refers to the frequency at which the maximum power occurs during the epoch or time period measured. The burnout group shows a lower alpha frequency during the initial epoch (period) of eyes open at both locations. A slight difference is evident during the eyes closed epoch between the two groups at the frontal position, where the burnout group remained with a reduced alpha frequency at the temporal lobe position during the epoch of closed eyes. During the last epoch where eyes were open again, the burnout group's peak frequency was slightly higher than that of the non-burnout group at the frontal lobe position. This in contrast with the temporal position's peak frequency measured, where the non-burnout group displayed a higher alpha frequency.

The mean frequency or the frequency at which the average power within the epoch is reached, is displayed in Figure 5.5.

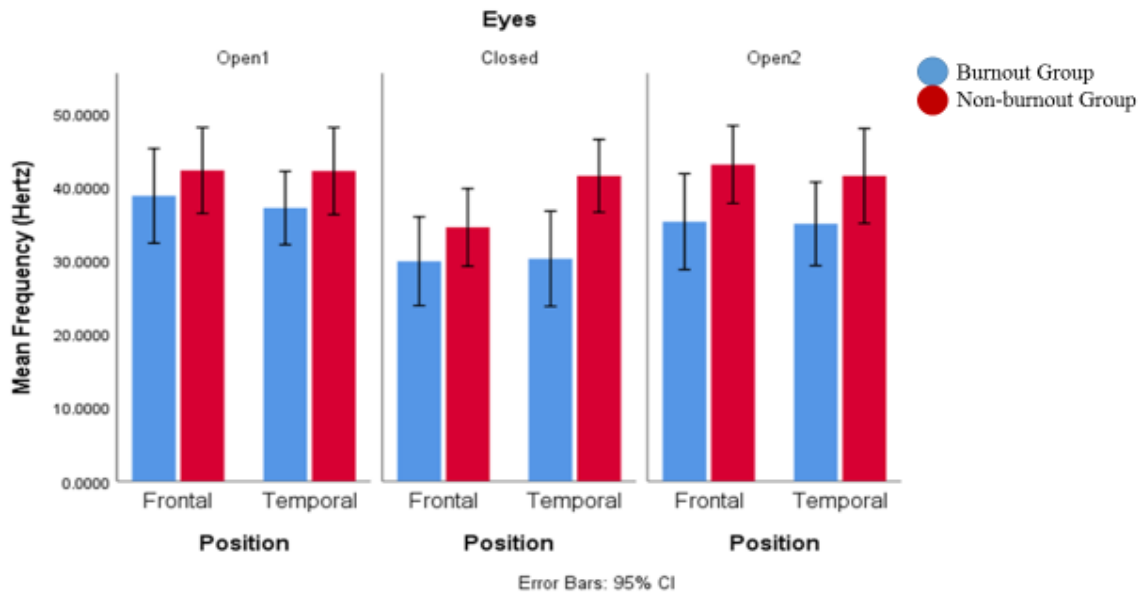


Figure 5.5. The alpha mean frequency for different locations

The alpha power was higher during all three epochs measured (eyes open, eyes closed, eyes open again) and at both locations for the non-burnout group.

## 5.5 Conclusion

The results of the statistical analyses of the quantitative data were presented in this chapter. MANOVAs were used to test for group differences in scores on the different psychological and emotional domains. Results indicated significant differences when the burnout group was compared with the non-burnout group based on their EQ and psychological wellbeing respectively. Stepwise multiple regressions revealed that burnout can be predicted by some subscales/facets of psychological wellbeing and EQ in turn. Differences between the two groups were further observed across the physiological markers measured. In the next chapter, the results of the qualitative data will be discussed.

## Chapter 6

### QUALITATIVE RESULTS

#### 6.1 Introduction

Chapter 5 contained descriptions of the quantitative analyses done and the results it yielded for the data collected during the first two phases of the study. The present chapter will focus on the thematic analysis done on the qualitative data obtained during the third phase of this study (See 4.5.4, 4.6.3 & 4.7.2). The themes identified from this analysis will also be briefly discussed.

#### 6.2 Qualitative results of semi-structured interviews

Semi-structured interviews were conducted during the third phase of the research study (see 4.5.4 & 4.6.3). The recorded interviews were transcribed by professional transcribers to ensure the credibility of the transcriptions. The qualitative data obtained by means of the transcriptions were then analysed by the researcher using Braun and Clarke's six-phase approach for thematic analysis (See 4.7.2). This approach is often seen as the most appropriate method to use in mixed-methods studies due to its flexibility and because it is not associated with any specific qualitative paradigm (Maguire & Delahunt, 2017). Since the analysis was not theoretically driven, an inductive thematic analysis was conducted. A step-by-step overview of how the six-phase approach was utilised will be presented next.

##### 6.2.1 Phase 1: Familiarisation of data

During the first phase the transcribed interviews were read and reread to become familiar with the content. Pens of different colours were used to highlight certain responses that appeared as key concepts relevant to the study. It was initially done in a more observational and casual manner to serve as memory aids or triggers for further coding and analysis. Braun and Clarke (2006) advised this marking of ideas during the first phase as a bedrock for the rest of the analysis and a good initiator towards the coding to be done in the next phase.

## 6.2.2 Phase 2: Initial coding

Braun and Clarke (2006) regarded this phase as the production of initial codes from the data. Codes refer to the most basic element or feature of the raw data that is assessed in line with the research aim and objectives of the study. Therefore, manual codes were allocated to possible patterns that emerged from each transcribed interview individually, that appeared to align with the research aim and objectives. This was done in order to start organising data in a meaningful and systematic way (Maguire & Delahunt, 2017). The initial codes identified, which includes supportive data as extracted verbatim from the actual transcripts, are presented in Table 6.1. Letters, as indicated in brackets next to the extracts, were assigned to distinguish between the different participants. This was done in order to ensure confidentiality.

Table 6.1  
*Codes generated during Phase 2 of thematic analysis*

	Code	Data extract
1	Challenges associated with the job	<p>“...<b>novelty</b> plays a huge role” (A)</p> <p>“...especially the problem that we have is that it’s not like law where you talk in a court room and then you are done, we are <b>sitting in front of number the whole time and they don’t speak back so it is a very lonesome job sometimes, extremely lonesome.</b> I actually made a point of actually going out and speaking to my staff just to get some company for the day, you know just to get some conversation.” (B)</p> <p>“if you already come in at management level they almost leave you in the silo and if you can’t get any cross-pollination from other places of the company you just <b>stagnate completely.</b> And that’s when burnout happens and I think it is <b>part boredom</b> as well.” (B)</p> <p>“how we <b>sitting and our posture</b> and we don’t walk around...” (B)</p> <p>“...starting to feel that there could be a little bit more I would not say challenges to the job but stimulation... you know to <b>break the monotony of the job.</b>” (B)</p> <p>“<b>systems</b> definitely were a problem as well...<b>never time to train the team</b>” (C)</p>

		<p>“...<b>very deadline driven</b> and the <b>deadlines cannot be moved or missed</b> due to the <b>knock-on impact</b> on departments and group results” (D)</p> <p>“There are <b>multiple regulatory requirements</b> and financial reporting requirements that need to be met and the <b>compliance requirements are continuously growing...</b>” (F)</p>
2	Finance and burnout	<p>“...<b>every function revolves around finance</b>, every function in the entity functions on their own separately but the <b>core is back to finance</b> so finance is the link with the different divisions running with their information. Those divisions, they constantly bring on new duties to finance, which they think is part of finance job.” (A)</p> <p>“... they are also <b>high achievers and striving to achieve everything and getting to everything, but without the financial recognition or the growth in hierarchy.... striving for perfection ...</b>” (A)</p> <p>“...it could be very <b>emotionally and physically draining</b>. Physically and emotionally because you <b>don’t use your right side of the brain</b>, you <b>don’t use your creativity</b> except if you do creative accounting which we are not allowed to do because it is illegal, but you have to understand that we make stupid jokes like that. From that point of view you <b>do not have any creative stimulation</b>, unless you get a hobby or something that creatively helps your mind... it is <b>almost like your left brain and your right brain don’t want to talk anymore because you are purely focused left brain, analytical the whole time even in relationships you don’t see a joke as a joke.</b>” (B)</p> <p>“...from a financial point of view <b>when things go wrong in the company the very first place they look at is the financial department</b>, what does the numbers say.” (B)</p> <p>“financial people are definitely more prone to burnout just because of the <b>very demanding type of work</b> and there is <b>extreme long hours</b>, you work seven days a week, you work until 1 or 2 o clock in the morning, the next day you need to be early at the office again, you <b>deal with auditors that are demanding</b>, you <b>deal with all the subsidiaries</b> in the business unit and I think the problem within the financial function it’s something that <b>there is not really a time period for recover.</b>” (C)</p>



		<p><i>“everything needs to be 100% and checked and double checked”</i> (C)</p> <p><i>“...it is definitely the <b>extreme long hours</b> that are required in this line of job. It is a <b>very demanding job</b>, it’s very stressful in the sense that you need to be <b>100% accurate all the time</b>, you <b>cannot afford to make any mistakes</b> and you are working with billions of Rands in terms of reporting figures. So, there is a very big reliance that you do everything <b>100% correctly</b> and it is a <b>job that is absolutely driven by deadlines</b> so it is <b>deadline on deadline on deadline.</b>”</i> (C)</p> <p><i>“... group finance’s <b>deadlines are ongoing and never-ending</b>... Weekly, monthly, quarterly, half-yearly and annual reporting commitments to be adhered”</i> (D)</p> <p><i>“... because of the <b>ever growing reporting and regulatory frameworks and legislations</b>. Pressure is both <b>internally and externally</b>”</i> (E)</p> <p><i>“<b>Fraud and negligence</b> get so much media attention, which put extra pressure on the finance people. This also tends to increase the workload as companies often put <b>extra controls</b> in place to prevent becoming part of the statistics similar to the big 4 ...”</i> (F)</p>
3	Managers and leaders	<p><i>“...a <b>man being assertive is a good leader, a female being assertive is a bitch.</b>”</i> (A)</p> <p><i>“<b>They want the results, they don’t care.</b>”</i> (A)</p> <p><i>“...issues with our management... they <b>don’t have the patience</b> to run people or to lead people”</i> (A)</p> <p><i>“across the company... I think obviously within the <b>leadership level there is much more stress</b> ... While again probably for the <b>lower levels there’s maybe sometimes more uncertainty</b> on that level that can again enhance burnout on that level again.”</i> (C)</p> <p><i>“I think that is sometimes the bigger problem from a leadership point of view from the company there is <b>not always that appreciation for dealing with emotions and what people go through.</b>”</i> (C)</p> <p><i>“...because of the finance work environment it is all about meeting deadlines and being results-driven and <b>not about the people</b>”</i> (D)</p>

		<p><i>“People in management roles are often <b>specialists and not necessarily good leaders</b>” (E)</i></p> <p><i>“Seniors’ core focus is everything but to create a happy and healthy environment” (F)</i></p>
4	Resources and demands	<p><i>“<b>under-resourced staff, the over utilisation</b> of people, to the maximum of where they leave, pushing those limits constantly” (A)</i></p> <p><i>“...in general you would have <b>two to three people running the function that I am running</b> and the support people would almost be double” (A)</i></p> <p><i>“...resources didn’t meet the demands ... could probably have doubled up our team in size to really meet the job demands.” (C)</i></p> <p><i>“Finance is considered to be a support function within a company and not a profit centre, therefore companies always look towards finance for <b>cost cutting and to control budget spending</b> and as a result finance departments are usually <b>run very lean</b>. Hence the <b>small number of people often need to see to double workloads</b>” (D)</i></p> <p><i>“Often <b>not sufficient budget to adjust systems</b> to comply with the new regulatory and reporting requirements which result into a <b>lot of manual work and duplication of effort</b>” (F)</i></p>
5	Individual understanding of burnout	<p><i>“...get so <b>chucked into one sphere of my life</b> and that is <b>taking over the whole of my mind, my whole life</b>. Whole day, thoughts everything, everything just revolves around that and then physically <b>I don’t start feeling well, I don’t sleep well</b> so it has <b>effects on my health, mental state</b>. Burnout for me is more being <b>too involved in one sphere of my life, no balance due to my lack of boundaries</b>...” (A)</i></p> <p><i>“I think it is a <b>psychological / physiological problem</b> ... <b>your mind does not switch off</b>” (B)</i></p> <p><i>“I think burnout comes into play when a person <b>struggles to meet demands</b> and there is almost on <b>both a physical and emotional level you get to a point where you are just so tired</b>. Like I said, both physically and emotionally and you can no <b>longer keep up with the</b></i></p>

		<p><i>pace and it's like you almost collapse from both points of views that you can just not keep up.” (C)</i></p> <p><i>“... a direct <b>negative and spiralling experience</b> on your <b>health and emotional wellbeing</b> ...” (D)</i></p> <p><i>“The <b>complete opposite of a work-life balance</b> as it is absorbing everything” (F)</i></p>
6	Individual experiences of burnout	<p><i>“... my <b>mind doesn't stop</b> ... You <b>don't sleep well</b>, you <b>don't recover</b>, your <b>serotonin doesn't recover</b>, you <b>feel depressed</b>, not depressed as in I am going to kill myself but depressed as in lethargic, you <b>have no energy</b>. It taxes your whole body with <b>malnutrition</b> because if you are in that state that I know of you are in fight or flight mode, your body doesn't recover and stop in that sense. So, your major organs start functioning less, so I have <b>stomach issues</b>, I <b>have reflux</b>. I have <b>diarrhoea without a virus</b>, purely from that nervousness, I get <b>palpitations</b>, I get <b>migraines</b>, my <b>eyes don't want to focus</b>, I get <b>light and noise sensitive</b> ...” (A)</i></p> <p><i>“I sleep, but I <b>don't rest</b>, I <b>don't switch off</b> so I don't think you ever reach that beta phase sleep. It <b>affects your eating habits</b>, so that just makes it worse on your body and the influence it has on your physical symptoms...I had <b>reflux attacks</b>, I now have this <b>upper respiratory tract infection</b>, I got <b>fever blisters</b> from my body just like rebelling to that.” (A)</i></p> <p><i>“...spent about six months trying to figure out what actually happened with me ... <b>health wise my whole body was fine but internally I was crumbling</b>.” (B)</i></p> <p><i>“I felt like <b>physically I am going crazy</b>... it almost <b>sucks the joy out of life</b>. Because you wake up and you are fine, no anxiety, you feel like you are your normal self and then something can trigger it and you <b>start hyperventilating</b>. The worst is to hyperventilate in a meeting sitting in front of board members and stuff.” (B)</i></p> <p><i>“it started with <b>sleeplessness, very low energy</b>, I am talking fatigue that you feel like you can go to the bathroom at 14h00 in the afternoon a 15 minutes power nap on the floor” (B)</i></p> <p><i>“<b>physically so tired</b>... get <b>limited sleep</b>...<b>brain just doesn't switch off</b>...<b>can no longer focus</b> fully on your work...<b>struggle to remember</b>”</i></p>

		<p><i>the figures...get much <b>more irritated</b> with people...<b>feel down</b> all the time...<b>feel unhappy</b>...start asking yourself the question: <b>Do you still want to be here?</b>...<b>constantly stressed, headaches, you have stomach pain ...</b>” (C)</i></p> <p>“<b>Constantly tired, struggling to stay positive, often feel demotivated and disengaged</b>” (D)</p> <p>“<b>I no longer feel happy, satisfied and accomplished in my job</b>” (E)</p> <p>“<b>Terribly tired</b> which let me <b>crave chocolates, sugary drinks and junk food</b> in an attempt to up my energy levels” (F)</p>
7	Gender	<p>“<b>...a man being assertive is a good leader, a female being assertive is a bitch.</b>” (A)</p> <p>“...men don't want to deal with that, especially at work, they don't want to have a discussion that's more of an emotional discussion or even have you, because being in a state of burnout or to a point where you can burnout makes you more emotional and you can't control your emotions as it should be. <b>Especially being female</b> and especially at certain times of the month it's way worse to manage that and they for example want to have a discussion on that day and you can't control your emotions or you try very hard, it's just very difficult. It has happened and they <b>literally can't deal with that, especially most of them being men.</b> They can't.” (A)</p> <p>“<b>I don't cry.</b> I was taught in my articles you don't cry also by my mother, you don't show your weaknesses <b>especially as a woman ...</b>” (B)</p> <p>“majority of the people are <b>older males who do not always have that preference for showing emotions and dealing with emotions, helping staff to get through and there is almost this kind of expectation that you just need to almost cowboys don't cry type of scenario</b> where you just need to push, push, push and they just want to see physical results, they <b>want to see profits</b>, the do not really care about how you get there and the emotions behind it and what the person is really going through” (C)</p> <p>“As a female you quite often have to <b>adopt multiple roles, such as employee, leader, wife and mom.</b> These straining demands can easily contribute to a greater likelihood towards burnout” (E)</p>

8	Ineffective emotional expression	<p>“...men don’t want to deal with that, especially at work, they don’t want to have a discussion that’s more of an emotional discussion or even have you, because being in a state of burnout or to a point where you can burnout makes you more emotional and you can’t control your emotions as it should be. <b>Especially being female and especially at certain times of the month it’s way worse to manage that and they for example want to have a discussion on that day and you can’t control your emotions or you try very hard, it’s just very difficult. It has happened and they literally can’t deal with that, especially most of them being men. They can’t.</b>” (A)</p> <p>“...a man being assertive is a good leader, a female being assertive is a bitch.” (A)</p> <p>“I don’t cry. I was taught in my articles you don’t cry also by my mother, you don’t show your weaknesses <b>especially as a woman...</b>” (B)</p> <p>“But my problem is that I didn’t take the criticism go home, have a good cry about it, think about it I turned it into anger and then I started <b>supressing that anger and then that anger just started boiling up, boiling up.</b> I hated being criticised, I had this motto- I would show you, which is also not good but you know hindsight is a wonderful thing” (B)</p> <p>“majority of the people are <b>older males who do not always have that preference for showing emotions and dealing with emotions,</b> helping staff to get through and there is almost this kind of expectation that you just need to <b>almost cowboys don’t cry type of scenario</b> where you just need to push, push, push and they just want to see physical results, they <b>want to see profits,</b> the do not really care about how you get there and the emotions behind it and what the person is really going through. I think that is sometimes the bigger problem from a leadership point of view from the company there is <b>not always that appreciation for dealing with emotions and what people go through.</b>” (C)</p> <p>“Showing <b>compassion and self-care are considered to be a weakness and not a necessity</b>” (D)</p> <p>“You are <b>expected to act and behave in a certain manner</b> according to preconceived ideas of an accountant and you <b>cannot be true to your own emotions and experiences</b>” (F)</p>
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9	Reasons and effect of burnout	<p><i>“I completely <b>lose track of people</b> and what’s going on and then three weeks later I would hear someone’s dad passed away and I would feel even worse about it because I couldn’t connect on that emotional level with people...” (A)</i></p> <p><i>“<b>Not taking time for yourself</b> that is probably the biggest thing” (B)</i></p> <p><i>“I <b>don’t set boundaries</b> , I don’t respect my time, I don’t value myself enough to say I’m sorry but this is after hours and this is my personal time” (A)</i></p> <p><i>“<b>lack of self-respect for yourself, your time, no boundaries</b>, the company can add what they want but if you set your boundaries, if you have respect for your time people will start respecting your time as well.” (A)</i></p> <p><i>“My <b>personal health and emotional wellbeing no longer take priority</b> as everything evolve around my job and results” (F)</i></p>
10	Cost of burnout to individual and (corporate institution (aka company)	<p><i>“...it might take a bit of a cost to actually get someone doing what they are doing but the salary would have been no-one is going to be working for what they are working for so there will be a <b>financial implication for burn out</b>. I don’t think that or even if they have to get a temp to do that but I think if that happens maybe then they would realise that they overtaxing their employees” (A)</i></p> <p><i>“your <b>production and output isn’t the same</b>, your <b>interactions in meetings isn’t the same</b> because your brain isn’t there, you are <b>not present</b>... you just completely <b>a nil on a contract</b>.” (B)</i></p> <p><i>“I believe it is a big impact because they are always saying that employees are any company’s biggest asset and if that asset is not in a good state or you don’t protect that asset it almost becomes a <b>negative asset</b> and apart from the fact that the staff <b>morale is low</b> so people start almost pulling each other down or the talk in the corridors is negative ... they are <b>more tired and more irritated</b> they tend to <b>fight more</b> so it’s not a healthy environment to be in.” (C)</i></p> <p><i>“...issue with <b>productivity</b>...takes people much longer to achieve <b>certain goals</b>, and they <b>do not meet the deadlines</b>...people are <b>absent</b> from work... when employees are negative they talk about it outside of the company as well and the <b>rumours are starting to</b></i></p>

		<p><i>spread in the public ...cost of that is much bigger than any company can really calculate.” (C)</i></p> <p><i>“Burnout often interferes with a successful and growing career path as the individual often chooses to leave the company and even the profession instead.</i></p> <p><i>When high performers tend to leave the company due to the ripple impact of burnout, companies need to replace them and sometimes their followers, which add to recruitment costs and training of new staff.” (D)</i></p> <p><i>“... knock-on impact on individual’s personal life, health and happiness outside of their jobs” (E)</i></p> <p><i>“Increasing company’s reputational risk as disgruntled and burned out employees tend to badmouth the company in return” (F)</i></p>
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*Readers will notice that some of the data extracts appear more than once because they were rich in meaning and hence were assigned to more than one code.*

### **6.2.3 Phase 3: Searching for themes**

Embedded in the third phase is sifting through the codes in order to create sub- themes. When considering such a small set of data, Maguire and Delahunt (2017) advised on the probability of a considerable overlap between the coding stage and the stage of identifying sub-themes.

It was however important to revisit the meaning of what counts as a theme. According to Braun and Clarke (2006, p. 82) “a theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set”. Given this, a couple of patterned responses occurred across the coded data and when collated, were used to form sub-themes.

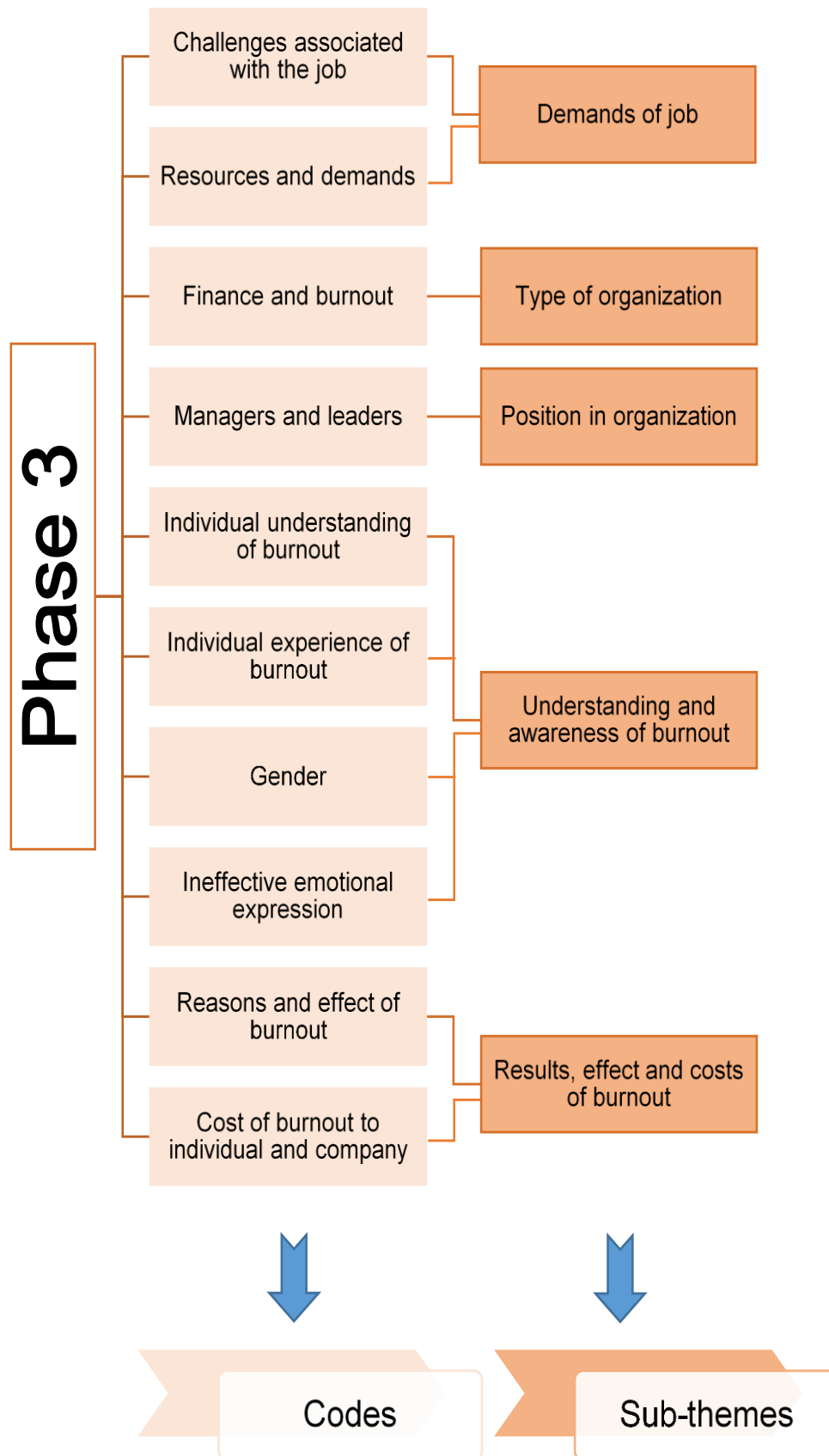


Figure 6.1. Phase 3: Sub-themes



#### 6.2.4 Phase 4: Reviewing themes

During the fourth phase, the sub-themes identified in 6.2.3 were revisited and modified to develop themes. Since themes need to be coherent and distinct (Maguire & Delahunt, 2017), some of the sub-themes which had a similar underlying meaning, were grouped. For the sake of clarity and understanding, others were renamed. This process generated three themes, namely nature of the job, perception of burnout and negative outcomes of burnout. The process is depicted in Figure 6.2.

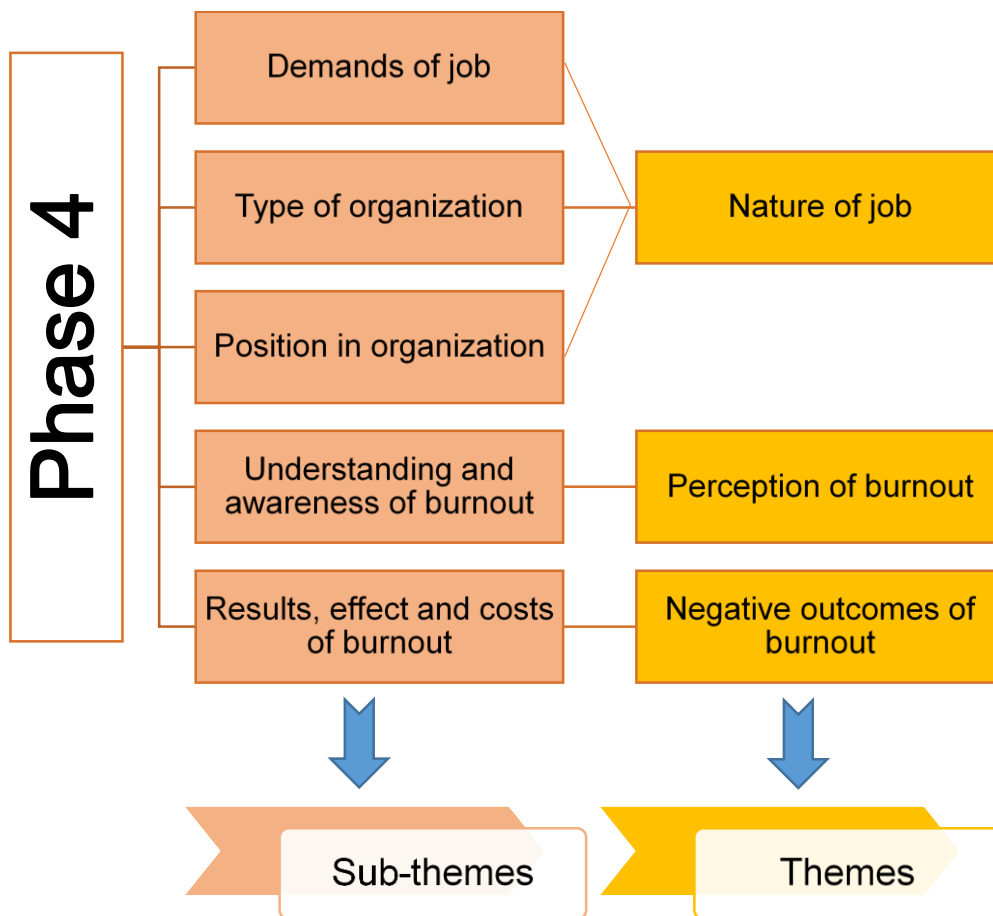


Figure 6.2. Thematic map: Overview of sub-themes and actual themes

After the themes had been identified, they were carefully reviewed to ensure that they were representative of the data extracts and entire data set. Braun and Clarke (2006) suggested the latter check for representation will provide insight into how the themes fit together and whether it is telling the overall story about the data.

## **6.2.5 Phase 5: Defining and naming themes**

Following the refinement of the themes in phase four, definitions were allocated to the final themes. These definitions enabled the researcher to associate the themes with the research aim and objectives set at the beginning of the study. According to Braun and Clarke (2006), this phase also includes identifying the essence of what each theme is about. Each theme and its respective definition will be presented next.

### **6.2.5.1 Nature of the job**

The first theme identified relates to the nature of the job. The nature of the job refers to the expectations the corporate institutions have and how these expectations relate to the notion that the participants are in leadership positions. Being a leader means that the participants have specific responsibilities. These expectations and responsibilities could, however, place undue stress on the participants to the extent that they start to experience burnout. Another issue associated with the nature of the job is the notion that individuals working in finances are not allowed to make any mistakes since this can have negative cost implications for the company. As a result, the participants work under a lot of stress, which makes them vulnerable to burnout. Other elements associated with the nature of the job that could induce burnout are the long working hours, the monotony of the job (which leads to the absence of creativity) and the little time given to meet deadlines. Lack of leadership from those who manages the participants is also deemed problematic and could contribute to the experience of burnout.

### **6.2.5.2 Perception of burnout**

This theme considers how individuals perceive the concept of burnout, and how they make sense thereof. Their perceptions are based on their personal understanding, awareness, and experience thereof, coupled with what they consider as inter- and intrapersonal factors contributing towards burnout. Included in this theme is the notion that burnout consists of both physical and psychological elements and is associated with extreme fatigue. The latter seem to be the reason why the participants suffer from ailments associated with the suppression of the immune system.

It is important to note, that the perception of burnout also addresses the role that gender plays in burnout. The participants, who were all female, argued that females in leadership positions tend to be susceptible to burnout since they are not allowed to be emotionally expressive. Financial departments in corporate institutions in particular appear to frown upon individuals who want to discuss their problems and express their frustrations. The participants noted that their male counterparts were less inclined to express emotions appropriately and expected the same from their employees. It seems that the need to and effectiveness of displaying emotions are related to the individual's level of EQ.

### **6.2.5.3 Negative outcomes of burnout**

The third and final theme addresses the implications and complications that occur when individuals suffer from burnout. These could be considered as problematic and costly to both the individual and corporate institution (alias 'company'). The negative outcomes of burnout often tend to be underestimated by management of the respective companies. Negative outcomes of burnout range from lowered levels of production and compromised performance to the physical and psychological elements negatively impacting the general wellbeing and engagement of employees.

### **6.2.6 Phase 6: Outcome report**

For the purposes of the study, the outcome report will not be presented. Instead, the themes will be discussed in the next chapter.

## **6.3 Conclusion**

This chapter described the phases that had been followed as part of the thematic analysis that was conducted on the qualitative data. Three themes, namely the nature of the job, perception of burnout, and negative outcomes of burnout, were identified. As was mentioned in 6.2.6, these themes will be discussed in-depth in Chapter 7 where it will be combined with the quantitative results.

## CHAPTER 7

### DISCUSSION, LIMITATIONS OF THE STUDY, RECOMMENDATIONS FOR FUTURE RESEARCH AND CONCLUSION

#### 7.1 Introduction

Chapters 5 and 6 presented the results of the quantitative and qualitative data analyses conducted. The present chapter will discuss the findings obtained in terms of the study's primary aim and objectives and integrate both the quantitative and qualitative results. Attention will be given to the limitations of the study, recommendations for future research, as well as the study's conclusion.

#### 7.2 Quantitative results

Quantitative results were obtained from the psychophysiological and EQ measurements conducted during the first two phases of this study. The aim was to determine the prevalence of burnout and related markers among the participants and to ascertain if differences exist between the burnout and non-burnout groups. It was further aimed to establish whether the markers can also predict and therefore serve as buffer against burnout. The results will be discussed in the next sections.

##### 7.2.1 The prevalence of burnout

The sample consisted of employees within the South African leadership pipeline, specifically those who work in finance departments in corporate institutions. The prevalence of burnout amongst participants was measured using the OLBI (see 4.5.2.1). The OLBI was given during the first phase of the study to the whole sample ( $n = 100$ ) (see 4.4.2). The majority of this sample was female ( $n = 55$ ) and fell within the 31 – 40 years age group ( $n = 47$ ). Most participants had a bachelor's degree ( $n = 45$ ) and manages a function ( $n = 40$ ) that is associated with the leadership pipeline. Participants spent an average of 5.25 years ( $SD = 5$ ) within their position, and on average 7.09 years ( $SD = 5.96$ ) in their respective organisations.

When considering the OLBI result findings in relation to the cut off scores (see 5.2.1), the sample ( $n = 100$ ) was subdivided into a burnout group ( $n = 33$ ) and a non-burnout group ( $n = 67$ ). This shows that most of the participants were not experiencing burnout and that the prevalence for burnout was small among the sample. This contradicts the findings of Maslach et al. (2001) who discovered that levels of burnout were higher for those between the ages of 30 and 40 years. Maslach et al. (2001) furthermore noted that individuals in this age group tend to resign from their jobs when experiencing a high amount of job demands that could result in burnout. Since the participants of the present study spend an average amount of 7.09 years in their respective organisations, indicating a tendency not to resign in the face of adversity, one can assume that they successfully transitioned through the initial passages of the leadership pipeline and demonstrated the ability to adapt to the major changes in job requirements, learnt new skills, and managed their time better (Dai et al., 2011).

Although the size of the burnout group was less than expected, significant differences were present between the burnout group and non-burnout group on the psychological and emotional measures used in the study. The results of the MANOVA performed on the data yielded by the OLBI indicated significant differences between the two groups on the OLBI overall score ( $p < 0.001$ ), as well as the two subscales of exhaustion ( $p < 0.001$ ) and disengagement ( $p < 0.001$ ) (See Table 5.6).

The significantly higher scores obtained by the burnout group on the exhaustion subscale confirmed research findings that indicate that exhaustion is a core dimension of burnout (Metin, 2010; Twigg & Kang, 2011). As a result of the higher scores on exhaustion, it is posited that the burnout group would be more inclined to experience the affective prolonged strain of their job in terms of exhaustion on physical, cognitive, and emotional level (Bakker, et al. 2004; Bosman, et al., 2005; Demerouti & Bakker, 2008). In a similar vein, it is fair to argue that the leaders within the burnout group are more prone to move beyond mere tiredness, but instead becoming cognitively, physically, and emotionally drained of energy. This leaves them less able to function optimally in any given workplace.

The significant differences on the exhaustion subscale of the OLBI are also indicative of individuals who were not able to successfully deal with prolonged stressors and other job demands during the first two phases of the GAS model and as a result ended up in the final

phase, exhaustion (Tan & Yip, 2018). Their bodies most probably lost the ability and the energy required to keep up with the job demands required by their position as leaders (Brown & Waslien, 2003). These individuals are now in danger of experiencing ill health and a decline in their psychological wellbeing (Brown & Waslien, 2003). Some examples of ill health are the development of psychosomatic disorders, cardiovascular illnesses, and kidney diseases (McEwen, 2005).

According to the OLBI findings, the burnout group also presented with significantly higher levels of disengagement when compared to the non-burnout group. The burnout group is therefore more inclined to disengage or reject their financial related job from an emotional, cognitive, and behavioural perspective and hence more at risk for occupational disillusionment (Bosman et al., 2005; Demerouti & Bakker, 2008). The ideal is rather to actively engage and commit which will contribute to successful transitions through the leadership pipeline as opposed to the aforementioned kind of disengaged behaviour.

Vesty, Sridharan, Northcott, and Dellaportas (2018) explained that workload pressure is a key antecedent of exhaustion, which in turn leads to disengagement among accounting professions. The findings of Vesty et al. (2018) were iterated by the findings of this study, that yielded high levels of exhaustion, disengagement and reported workload (see qualitative findings) are evident when considering the prevalence of burnout. Hansen et al. (2015) also suggested that the greater the level of disengagement, the lower the level of psychological wellbeing. This corresponds with this study's higher levels of disengagement and lower levels of psychological wellbeing obtained by the burnout group.

### **7.2.2 Burnout and psychological markers**

Similar to the OLBI, a MANOVA was performed to determine if the burnout group and non-burnout group displayed significant differences with regards to psychological wellbeing. As can be seen in Table 5.9, significant differences occurred between the two groups on environmental mastery ( $p < 0.008$ ), personal growth ( $p < 0.008$ ), purpose in life ( $p < 0.008$ ), and self-acceptance ( $p < 0.008$ ). The results concurred with the studies done which considered those suffering from burnout to present with lower levels of psychological wellbeing at the same time (Bakker et al., 2011; Cerezo et al., 2015). Loonstra, Brouwers, and Tomic (2009)

determined that self-acceptance and self-actualization displayed significant inverse relationships with the cynicism and exhaustion dimensions of burnout. The same constructs, however, exhibited significant positive correlations with efficacy. According to these researchers, those individuals who accept themselves and their limitations are less dependent on the acceptance, recognition, and appreciation of others. They spend less energy satisfying others and therefore do not run the risk of premature exhaustion, thus decreasing the risk of suffering from burnout (Loonstra et al., 2009).

In addition to the above, significant differences also occurred between the two groups on the subscales of the SPWB and the OLBI subscale of exhaustion (see 7.2.1). These results confirmed that exhaustion results in lower levels of psychological wellbeing (Moodley, 1995; Schaufeli, 2003). Decreased levels of psychological wellbeing are also associated with general feelings of emptiness and a strong need for rest, which in turn results in disengaging from others as well as one's job responsibilities (Roothman, 2010). In the end, an endless negative spiral is established where exhausted leaders disengage from their work and colleagues and because of the isolation, they experience the absence of psychological wellbeing (Roothman, 2010).

In light of the above, it is posited that psychological wellbeing could act as a psychological marker of burnout. Leaders in financial positions who experience burnout will therefore also experience lowered levels of psychological wellbeing. Contrariwise, research findings of Kareaga, Exeberria, and Smith (2009) noted that the presence of psychological wellbeing is likely to prevent the onset of burnout. Fick's (2017) research outcome concurred when he stated that psychological wellbeing acts as moderator of burnout. It is therefore suggested that leaders with high levels of psychological wellbeing are better equipped to withstand burnout. The results of the stepwise regression analysis (see 5.3.3) confirmed this. Here it was noted that the strongest significant predictor of burnout, was self-acceptance ( $\beta = -0.382$ ;  $p = 0,002$ ) followed by environmental mastery ( $\beta = -0.307$ ;  $p = 0,013$ ). Leaders displaying self-acceptance and environmental mastery is therefore least at risk of developing burnout. Not only were these findings confirmed by the MANOVA, but was also evident in the qualitative findings where participants experiencing burnout commented on their struggle to manage their own lives and environment due to burnout sequelae. These results are also confirmed by the finding of Garcia et al. (2014) who noted that self-acceptance and environmental mastery acted

as buffers against the destruction or disharmony caused by burnout. In a similar vein, Blom (2011) noted that the absence of self-acceptance relates to individuals' continuous efforts to obtain recognition. During these efforts, individuals become exhausted, often resulting in burnout. It is important to note that leaders working in the financial departments of corporations often strive for their work to be recognised since the latter demonstrates not only their effectiveness as leaders, but also serve as a testament of the quality of their work.

Furthermore, previous research referred to psychological wellbeing as the hypothetical antipode by having positive effect on burnout and during times of distress, thereby lessening the negative effects of or pushing back the onset of burnout (Bakker et al., 2011; Kareaga et al., 2009; Vazi et al., 2011; Yu & Chae, 2020). Although only two subscales from the SPWB were found to be significant predictors of the absence of burnout, the present findings and other research seem to suggest that the presence of certain elements or facets of psychological wellbeing would serve as buffer or mediator against burnout (Cerezo et al., 2015). More research is, however, needed on the matter.

### **7.2.3 Burnout and emotional markers**

As was indicated in 5.3.4, a MANOVA was used to test for significant differences between the burnout group and non-burnout group related to EQ. Significant differences were obtained across all seven subscales of the Genos namely, emotional self-awareness ( $p < 0.071$ ), emotional expression ( $p < 0.001$ ), emotional awareness of others ( $p < 0.001$ ), emotional reasoning ( $p < 0.001$ ), emotional self-management ( $p < 0.001$ ), management of others ( $p < 0.071$ ), and emotional self-control ( $p < 0.07$ ) (see Table 5.15). The results suggest that the non-burnout group displayed higher levels of EQ (see Tables 5.13 – 5.15). These results confirmed the finding of Barkley (2013) who observed a significant inverse relationship between emotional intelligence and burnout. Zysberg et al. (2016) believed that burnout was experienced due to a lack of effective emotional regulation and management.

Emotional intelligence is also often associated with the suppression and avoidance of emotions (Armon, 2014; Grandey, 2000; Karren et al., 2002). Since the latter are associated with physiological and psychological problems, it can be theorised that leaders who display such behaviours would not be able to deal with the demands of their jobs, resulting in them



experiencing serious mental and health issues such as depression, cardiovascular disease and so forth (Armon, 2014; Grandey, 2000; Karren et al., 2002).

In light of the discussion presented above, it is postulated that emotional markers in the form of EQ play a role in the experience of burnout. The discussion also suggested that EQ could serve as a predictor of burnout. This became evident in the results of the stepwise regression analysis which indicated that emotional self-management ( $\beta = -0.349$ ;  $p = 0,004$ ) and emotional management of others ( $\beta = -0.277$ ;  $p = 0,022$ ) are significant predictors of burnout. These results were also evident among the participants of the qualitative phase of the study who noted that the lack of effective display of emotion from their peers and superiors resulted in their working environment not being experienced as safe and positive. The participants in turn have to adhere to preconceived ideas in terms of recognising and managing their own emotions.

The present study was however not the only to note how the presence of EQ could prevent burnout from occurring. A study conducted by Benson, Truskette, and Findlay (2007) found that emotional control, recognition, and understanding of emotions were significant predictors of burnout. Zapf et al. (2001) postulated that burnout is associated with the individual's inability to effectively manage their emotions when dealing with other individuals, employees, colleagues, and clients. Emotional intelligence in the form of the ability to manage one-self and others is hence deemed necessary to avoid burnout from occurring. However, although the burnout and non-burnout group differed significantly with regards to all the subscales of the Genos, only two of these scales emerged as significant predictors of burnout, it is argued that more research is needed to investigate the issue.

#### **7.2.4 Burnout and physiological markers (Vi-port and Biopac)**

The physiological markers used in the study was the cardio stress index of participants, their heart rate as well as EEG parameters. The results related to these measures will be discussed next.

#### 7.2.4.1 Cardio stress index and heart rate (Vi-port)

The Vi-port was utilized to measure the cardio stress index and heart rate of participants (see 4.5.3.1). As a result of the small sample, only descriptive statistics could be used to compare the burnout group with the non-burnout group. According to the results presented in Table 5.19, visible differences were noticeable between the cardio stress index and heart rates of the two groups. When comparing the means of the two groups related to the cardio stress index, it was noted that the mean of the burnout group was higher (mean = 41.33) than that of the non-burnout group (mean = 10.67). The higher mean of the burnout group is indicative of lower or reduced heart rate variability. As already mentioned in 5.4.1, the cardio stress index is a transformed measure of heart rate variability (HRV), which in turn refers to physiological rhythms imbedded in the beat-to-beat heart rate signal (Malik & Task Force of the European Society of Cardiology, 1996). The results confirm the findings of De Looff et al. (2018), who concluded that individuals with burnout displayed an increased heart rate and decreased heart rate variability. Leaders experiencing burnout is therefore at risk of the development of cardiovascular disease as indicated by McEwen (2005) (also see 7.2.1).

The findings of the study furthermore confirms that changes in HRV are indicative of someone moving through the three phases of the GAS (see 3.2.1). Lennartsson, Jonsdottir, and Sjörs (2016) discovered that, not only was low HRV in burnout patients related to adverse health, but that the low HRV was indicative of low parasympathetic activity that resulted in the body's inability to increase anabolic / regenerative actions that are needed for recovery. This is in line with Selye's suggestion that prolonged exposure to stress keeps the sympathetic system activated and prevents the body to return to homeostasis where the parasympathetic system plays a dominant role. As a result, extreme fatigue or exhaustion, which is characteristic of burnout, will be experienced (Brannon, & Feist, 2004; Danhof-Pont et al., 2011; De Looff et al., 2018).

The results pertaining to heart rate slightly contradicted the findings related to the cardiovascular index. Here it was noted that, although, the burnout group's mean heart rate ( $M = 91.67$ ;  $SD = 4.51$ ) was visibly higher than that of the non-burnout group ( $M = 67.67$ ;  $SD = 1.16$ ), the burnout group's elevated heart rate was not considered a health risk (see 5.4.1; Ganz & Link, 2020). Van Doornen et al. (2009), who studied the differences in heart rate between

an experimental group consisting of individuals suffering from burnout and a control group, also noted only slight differences between the two groups' heart rate. They attributed this to the fact that the participants of the experimental group appeared to be in the early stages of developing burnout (Van Doornen et al., 2009). Van Doornen et al. (2009) postulated that individuals in the early stages of burnout are still able to, albeit to a lesser extent, function within their working environments. Such individuals, therefore, have not yet reach the final stage of the GAS (see 3.3.1.2 & 3.3.1.3).

Although the results discussed above indicate that burnout needs to be severe before it causes noteworthy damage to the cardiovascular system, it is theorised that the cardio stress index in particular could be used as a physiological marker of burnout. It should furthermore be noted that the sample for this part of the study was small and more research on a bigger sample might confirm the extent to which burnout causes the development of cardiovascular diseases.

#### **7.2.4.2 Alpha brain waves (Biopac)**

As was the case with the results of the cardio stress index and heart rate, only descriptive statistics could be employed to investigate if differences exist between the burnout and the non-burnout groups with regards to their EEG signals, with specific reference to alpha waves (see 4.5.3.2 and 5.4.2).

The burnout group displayed an elevated amplitude for alpha power across the spectrum measured when compared to those in the non-burnout group (see Figure 5.3). This elevated result was mostly evident when measured during closed eyes at both the frontal and temporal lobe positions. These results support the notion that determined where fatigue—a characteristic of burnout—was high, increased alpha power was observed. This is believed to be the result of increased efforts to maintain vigilance and wakefulness (Klimesch, 1999; Tement et al., 2016). This finding is in line with the GAS theory that the body puts in an effort to regain its performance after being exposed to threats and thereby come across as overly alert, yet unable to keep up with the pace (see 3.3.1.2). During this attempt to try and remain focused, the body tends to exhaust itself and become more prone to mistakes. The present results also align with the findings of Van Luijtelaaar et al. (2010), who discovered an increased alpha power when they studied the EEG parameters amongst clinical burnout patients.

Because of the small sample size, the above results should be interpreted with caution. The visible differences indicates that alpha brain waves may be used as a physiological marker of burnout. More research using a bigger sample might shed more light on this issue.

### 7.3 Qualitative results

The qualitative analyses conducted (see 4.7.2 & 6.2.4) during the last phase of the study, yielded three main themes and five sub-themes. The main themes were nature of the job, perception of burnout and the negative outcomes of burnout. Each theme will be discussed in turn.

#### 7.3.1 Nature of the job

The nature of the job (see 6.2.5.1) was identified as the first main theme and was subdivided into three sub-themes, namely: demands of the job, the type of organisation, and the position of the participant in the organisation. The participants indicated that those working in finance departments are more prone to burnout because of the extended work hours required in order to meet deadlines. In addition, the type of work they did added to their stress since they could not afford to make any mistakes. Mistakes made by those in leadership positions in finance departments are not tolerated as a result of the negative impact it could have on company productiveness and revenue. This is especially evident in Participant C's comments where she noted with regard to job demands the following: “...*definitely the extreme long hours that are required in this line of job. It is a very demanding job, it's very stressful in the sense that you need to be 100% accurate all the time, you cannot afford to make any mistakes and you are working with billions of Rands in terms of reporting figures. So, there is a very big reliance that you do everything 100% correctly and it is a job that is absolutely driven by deadlines so it is deadline on deadline on deadline*”. Participant D concurred to the knock-on effect and continuity of the deadlines. Participant A had the same sentiments, referring to “...*every function revolves around finance, every function in the entity functions on their own separately but the core is back to finance so finance is the link with the different divisions running with their information...*”.

In similar vein to the JD-R model's assumption of an often existing incongruity between demands and the resources to meet these demands, participants stated: “...**resources didn't meet the demands** ... *could probably have doubled up our team in size to really meet the job demands*”, as well as “**under-resourced staff, the over utilisation of people, to the maximum of where they leave, pushing those limits constantly**”. Mirroring the quantitative findings of higher levels of exhaustion and lower levels of psychological wellbeing among the participants of the burnout group, the subjective experiences also revealed that they perceived incongruity as both physically and emotionally draining.

Participants also reflected on their own leadership roles and how this made them vulnerable to burnout. Participant C stated “*I think obviously within the leadership level there is much more stress ...*”. The perceived higher risk for leaders themselves in terms of burnout, corresponds with already existing literature around leaders' demand for control, pure work-task related demands and leader resource depletion as antecedent of burnout (Klug et al., 2019; Walsh & Arnold, 2018; Wirtz et al., 2016).

In addition to being leaders in the organisation, the participants mentioned that a lack of leadership from those on higher levels in the leadership pipeline are problematic and perceived this as an additional contributor to the experience of burnout. Participants perceived their leaders as non-caring, forceful, and likely to discourage the display of emotional feelings. Participant A opined that her leaders to only want results, no matter what. She also stated “...*they don't have the patience to run people or to lead people*”. Participant C confirmed this lack of leadership and related forcefulness coupled with the sentiment of distancing emotions from the workplace, by saying “...*there is not always that appreciation for dealing with emotions and what people go through*”. She continued by adding “...*you just need to push, push, push and they just want to see physical results, they want to see profits, they do not really care about how you get there and the emotions behind it and what the person is really going through*”. These participants considered it unthinkable to approach their leaders to request more resources or time off to recover after a period of mounted pressure such as experienced during the financial year end. The participants noted that the workplace demands perfection with little to no leeway for the display of shortcomings. They concurred that a “cowboys don't cry” attitude was prevalent in their workplaces.

The overarching theme of the role that the nature of the job plays in the risk for burnout, confirm the findings of Jones et al. (2010), Stowe (2017) as well as Zincirkiran and Tiftik (2013). These researchers noted that an increase in work tempo, the overtime required to meet deadlines, the complexity of accounting standards, and leaders' expectations for financial staff to be perpetually on duty as contributing promoted the experience of burnout. Research done by Wirtz et al. (2016) also discovered that lack of leadership from leaders in positions further up in the leadership pipeline increase the risk for burnout among those who have to manage themselves and subordinates on the lower end of the leadership pipeline. Wirtz et al. (2016) noted that leader-follower exchanges, which are perceived to be helpful and therefore experienced in a positive light, can become a job resource in itself, thereby reducing the job demands and associated stress in the workplace. This in turn would most probably reduce the risk of burnout for mid-level leaders in the leadership pipeline (Wirtz et al., 2016).

### 7.3.2 Perception of burnout

The second main theme is perception of burnout. This theme includes the sub-themes of understanding and awareness of the construct of burnout and risk for burnout (see 6.2.5.2). This theme emulates the multidimensionality of burnout in the sense of having physical, psychological and emotional markers. Participants mentioned the extreme exhaustion that they experienced which iterates the findings of the quantitative phase of the study. Participant B captured her exhaustion experience as follow: *"it started with sleeplessness, very low energy, I am talking fatigue that you feel like you can go to the bathroom at 14h00 in the afternoon a 15 minutes power nap on the floor"*. Participant C also commented on being *"physically so tired..."* while both participants A and E considered themselves to be completely without energy.

In addition to experiencing debilitating exhaustion, participants also mentioned various other ailments that they tend to associate with their experience of burnout. Participant A mentioned the following: *"It taxes your whole body with malnutrition because if you are in that state that I know of you are in fight or flight mode, your body doesn't recover and stop in that sense. So, your major organs start functioning less, so I have stomach issues, I have reflux. I have diarrhoea without a virus, purely from that nervousness, I get palpitations, I get migraines, my eyes don't want to focus, I get light and noise sensitive..."*. She further mentioned that she

*“...now have this upper respiratory tract infection, I got fever blisters from my body just like rebelling to that”*. Participant C added to list of ailments by mentioning: *“...constantly stressed, headaches, you have stomach pain ...”*

The perceived exhaustion and occurrence of physical ailments correspond to the phases stressed individuals encounter according to the GAS. Particularly noticeable is that these individuals still maintain an outward display of normality, as if everything is still under control, as per resistance phase of the GAS (see 3.3.1.2). Participant B rightly confirmed this when saying: *“...spent about six months trying to figure out what actually happened with me ... health wise my whole body was fine but internally I was crumbling”*. She also indicated that *“you wake up and you are fine, no anxiety, you feel like you are your normal self and then something can trigger it and you start hyperventilating...”* Participants’ experiences suggest that they are on constant alert, commonly known as “on the edge”, which is not only likely to negatively impact their physical health, but also psychologically. Most of them explained that their brains just do not want to switch off. This experience in turn causes negative affect or as participant C stated: *“...feel down all the time...feel unhappy...start asking yourself the question: Do you still want to be here?”* Their perception of burnout thus relates to the reduced psychological wellbeing which was also noted in the quantitative findings.

Becoming more emotional and struggling to display emotions appropriately aggravate the abovementioned feelings of *being down*. This inability to display emotions appropriately appears to be in line with the significant difference obtained in the EQ of the two groups. Specifically relevant here is the levels of emotional self-management between the burnout group and the non-burnout group. In participant A’s words: *“burnout makes you more emotional and you can’t control your emotions as it should be...”* Participant B elaborated on this experience when saying: *“...I turned it into anger and then I started suppressing that anger and then that anger just started boiling up, boiling up...”* Participant F captured her emotional experience as *“You are expected to act and behave in a certain manner according to preconceived ideas of an accountant and you cannot be true to your own emotions and experiences”*, while participant E opined *“showing compassion and self-care are considered to be a weakness and not a necessity”*.

The above finding seems consistent with previous research that postulated a link between emotional suppression and poor health outcomes (Armon, 2014; Grandey, 2000; Karren et al., 2002). It also affirms research findings that suggest that the increase in EQ indeed leads to a decrease in the signs of burnout (Lavasani et al., 2017; Weinstein, 2011).

Participants in the current study further ascribed their burnout related emotional turmoil partially to their respective leaders' dismissal of the existence of emotions within the workplace. In their mind, those above them in the leadership pipeline—who are predominantly male—discourage emotional involvement by rather enforcing what they considered as 'rational thinking'. In participant C's words: "*...they just want to see physical results, they want to see profits, they do not really care about how you get there and the emotions behind it and what the person is really going through...*" Participant A voiced her opinion about the gender difference in terms of what is allowed for males but not females by saying: "*...a man being assertive is a good leader, a female being assertive is a bitch*".

The above sensitivity around understanding others and allowing for others to display their emotions appear in line with what Drotter and Charan (2001) highlighted as important in the transition passage from functional leader upwards on the leadership pipeline. These researchers stated that functional leaders in the wake of becoming business leaders should become skilled at working with a wider variety of people than ever before. They need to become more sensitive to functional diversity issues and able to communicate clearly and effectively. The current study's findings can therefore suggest two things. Firstly, the participants who predominantly served on a functional level in their organisation, have embraced the leadership transition and can therefore be considered ready to proceed upwards on the pipeline. Secondly, participants felt that their leaders have not yet succeeded in their transition towards business managers, thereby contributing to the congestion of the pipeline. Future longitudinal research studies or the inclusion of 360 evaluations would be ideal to further these preliminary findings on leadership development.

### **7.3.3 Negative outcomes of burnout**

The last theme addresses the implications and complications that occur when individuals suffer from burnout (see 6.2.5.3). Participants noted that their performance was negatively affected



as a result of suffering from burnout. According to participant B “*your production and output isn’t the same, your interactions in meetings isn’t the same because your brain isn’t there, you are not present... you just completely a nil on a contract*”. The affected performance became real to participant C as she “*can no longer focus fully on your work...struggle to remember the figures*”, which in turn result not only in her being more prone to mistakes, but also most probably starting to doubt herself. Not performing on par and given the almost perfectionistic nature of fulfilling a financial role reminds of decreased personal accomplishment which was identified as a dimension of burnout in 2.2.1.3. Previous research referred to this notion of decreased personal accomplishment as an absence of feelings of productiveness and competence (Coetzer, 2018; Naude & Rothmann, 2004; Schaufeli, 2003). Weinstein (2011) observed that individuals tend to belittle what was previously perceived as success and no longer feel as if they make an active contribution to both work and interpersonal interaction when they experience burnout. Participant A explained her experience in this regard as “*I completely lose track of people and what’s going on ... and I would feel even worse about it because I couldn’t connect on that emotional level with people...*” According to participant C, one starts to question one’s purpose and rationale for still doing one’s previously much loved job. Questioning the purpose of doing your job leads to a lack of respect for yourself and your time. This, in turn, makes it difficult for these individuals to set boundaries.

This theme also coincided with observations made during the previous themes, where participants were of the opinion that suffering from burnout often go unnoticed within the workplace. Because of the suppression of emotions and not being able to freely discuss their concerns around the incongruity between demands and resources, the leaders higher up on the leadership pipeline are likely to underestimate the prevalence of burnout. The current study’s findings assume that, by the time the individual’s suffering come to the fore, the damage to the organisation has already been done. It is difficult to ascribe monetary value to the damages sustained as the negative outcomes of burnout go hand in hand with reputational risks to the organisation. Participant F concurred to the reputational risk due “*disgruntled and burned out employees tend to badmouth the company in return*”. In the words of participant C: “*when employees are negative they talk about it outside of the company as well and the rumours are starting to spread in the public...cost of that is much bigger than any company can really calculate*”.

## 7.4 Integration of quantitative and qualitative findings

The study was conducted across three phases to allow for the inclusion of both quantitative and qualitative data. The findings of the first phase suggested that significant differences existed between the burnout group and non-burnout group with regard to the extent of the experience of burnout, EQ, and some aspects of psychological wellbeing. Stepwise multiple regression analyses in turn postulated that psychological wellbeing, with specific reference to environmental mastery and self-acceptance, could serve as predictor for burnout. It can be argued that an individual who possesses effective levels of environmental mastery and self-acceptance will display increased psychological wellbeing and therefore have a lower risk to develop burnout. Likewise, EQ elements, such as emotional management of the self and others, can also serve as buffer against the development of burnout. Emotional intelligence elements were confirmed in the qualitative findings on burnout when the participants were emotionally mismanaged by their respective seniors. Such mismanagement by seniors was not conducive to creating a positive emotional work environment. Likewise, burnout amongst participants who felt forced to act and display emotions based on preconceived ideas while at work were more prevalent.

The findings of the second phase elaborated on differences between the burnout group and non-burnout group by suggesting visible differences in terms of physiological markers of burnout. The third phase's findings confirmed the findings of the first two phases where participants mentioned issues related to exhaustion and noted the adverse effects of burnout on their physical health and psychological wellbeing.

In addition to the above, both the quantitative and qualitative findings highlighted the complexity and multidimensionality of burnout. It showed that burnout not only impacted individuals on an intra-personal level, but that it also affect them on an interpersonal level. It is noticeable that burnout leaves the individual at risk for; a) compromised physical, psychological and emotional wellbeing on an intra-personal level; and b) compromised interpersonal interactions with others by means of depersonalisation or poor leadership. The intra- and interpersonal affects in turn contribute toward reduced job performance and decreased personal accomplishment. Subsequently, burnout's negative effect on intra- and interpersonal levels inevitably spills over to the organisational level. Burnout becomes a

negative circle where organisational incongruity between job demands and resources leads up to burnout. The burnout of the individual in turn impacts the wellbeing of the organisation as a whole.

### **7.5 Limitations of study**

The purposive sample and mixed-method approach produced a wealth of findings, yet did not leave the present study free of limitations. There are a number of limitations to be taken into consideration when interpreting the results of this study:

- The sample obtained was a sample of non-probability and hence generalisations cannot be made to a larger population. The burnout and non-burnout groups also differed in size and therefore results should be interpreted with caution.
- The study was limited by the decrease in sample size during the second and third phases of the study. The results of this part of the study should therefore also be interpreted with caution. The sample size was influenced by the following factors:
  - Financial costs to conduct the physiological measurements.
  - Availability and willingness of participants given their already tight schedules.
  - Potential participants' openness towards research participation.
- The gender imbalance of the second and third phase, which included only female participants, is a limitation. Literature suggests that gender differences exist in the experience of burnout (Innstrand, Langballe, Falkum, & Aasland, 2011; Purvanova & Muros, 2010), as well as the awareness and display of emotions (Bindu & Thomas, 2006; Khalili, 2011; Van Rooy, Alonso, & Viswesvaran, 2005) and job outcomes (Guthrie & Jones, 2012). Because the sample who participated in the qualitative phase of the study consisted of only females, they described their experiences of burnout from a female perspective.
- The study was cross-sectional and only produced a snapshot during a specific point of time in the lives of the participants.

- Since all participants were still active in the workplace, it is assumed that they were still able to function to some extent albeit entering burnout. The study did not include individuals that experienced burnout to the level that they were not able to function psychologically or physiologically in their respective working environments anymore.
- Lastly, the study focused on comparisons with regard to psychophysiological and emotional markers between those at risk of burnout and those who were not at risk. The comparative nature of the study did not allow for the determination of correlations between the measures used. It is therefore unknown how the constructs measured by the OLBI correlate with those measured by the Genos or Ryff's SPWB. The same applies with the physiological markers, where it is unknown how cardio stress index or heart rate variability measured by the Vi-port, for example, correlates with alpha brain power measured by the biopac.

The above limitations should ideally be addressed and countered in future research studies. The next section will elaborate on these recommendations for future research.

## **7.6 Recommendations for future research**

In light of the discussion on the limitations of the study, the following recommendations are made for future research:

- Future research may benefit from a larger sample size that was randomly chosen to be more representative of the general population. The sample should also be more representative of males and females.
- Leaders from all levels of the leadership pipeline need to be represented in studies related to both the leadership pipeline and burnout in order to determine if burnout is experienced differently as leaders move through the leadership pipeline.
- Alternatives to the physiological instruments used in this study may be considered. Although the vi-port and biopac are highly recommendable for studies such as the present one, more cost and time effective measures may allow for adequate time to measure a bigger sample.

- Future researchers should consider longitudinal studies to study both psychophysiological and emotional markers of burnout across time. Such longitudinal studies would more likely provide insight into the development and experience of burnout as leaders move through the leadership pipeline.
- Researchers in the future should also consider making use of correlational research designs to determine the relationships between burnout and its psychological, emotional, and physiological markers.
- Finally, there is a lack of research focusing on burnout from a) a psychophysiological perspective; b) among those working in finance departments; and c) across the leadership pipeline. None were found within the South African context. Although this study represents an attempt to address this gap in the literature, future research on and an extension of this topic is encouraged.

## **7.7 Conclusion**

The primary aim of this study was to determine to what extent burnout exists amongst the South African leadership pipeline working within finance departments of corporate institutions and to investigate the prevalence and related emotional and psychophysiological markers thereof. In keeping with the aim and respective objectives, the study findings showed that, although the extent of the prevalence of burnout was not as high as expected, a substantial amount of participants still presented with burnout.

Significant and visible differences were obtained in relation to psychophysiological and emotional markers of burnout between the burnout and non-burnout groups. The burnout group presented with significant lower levels of both psychological wellbeing and EQ. Facets of both psychological wellbeing and EQ in turn appeared to be significant predictors of burnout. Visible differences were evident in terms of physiological markers, with specific reference to cardio stress index, heart rate and alpha power. The study's findings support the multidimensionality of the construct of burnout and suggest that psychological, emotional, and physiological markers could be used to assess for the presence of burnout. Whereas previous studies focused on the role of job satisfaction and job support in the development of burnout,

the present study indicates that other markers might be used to consider the occurrence of burnout.

Bearing the above in mind, it can be concluded that burnout is a reality amongst the South African leadership pipeline and specifically among those working in finance departments. Those at risk for burnout tend to suffer psychologically, physiologically, and emotionally. The cumulative result of the aforementioned suffering in addition to insufficient recovery, play out negatively within the workplace. This is as costly to the individual as it is to the organisation. Raising awareness and active prevention of burnout with specific focus towards more effective levels of emotional intelligence and psychological wellbeing, should be considered as key to organisations' employee wellness and leadership development programmes.

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## APPENDIX A | ELECTRONIC INVITE



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Faculty of Humanities  
Department of Psychology



# Burned Out?

*You are cordially invited to partake in research...*

**Title of the Study:** The Role of Emotion, Psychophysiological Markers of Burnout and Their Relevance Within the Leadership Pipeline

**Objective of the Study:**

- Primary: To determine the actual existence and/or prevalence of burnout or burnout related symptoms amongst those employees within the leadership pipeline
- Overall: To assist companies in retaining and uplifting their employees within their leadership pipeline, as well as ensure timeous intervention by sharing the study's outcome

**What is expected of you?** Step 1: Links and instructions to three computerised questionnaires will be e-mailed to you. It will take you approximately 45 minutes to complete all three questionnaires. You are more than welcome to complete one at a time or all three at once (as long as all three gets completed).

Should you be selected (only a few will be randomly chosen from the bigger sample), a second and/or third step may follow at a later stage:

- The second step will comprise of a physiological measurement.
- The third step will involve a semi-structured interview.

**Benefit of participation in the study:** Raising awareness of burnout and/or the identification of symptoms suffered may result in timeous intervention and/or suggested treatment of burnout.

Your participation will be highly appreciated. Should you be willing to participate you will receive more detail when the process commences. In order to see to the latter, kindly provide your contact details to the researcher:

Marli Jooste – [mi@marlijooste.co.za](mailto:mi@marlijooste.co.za) | +27 72 991 6992

Study Supervisor: Dr. Nicoleen Coetsee at the Department of Psychology (University of Pretoria) - [nicoleen.coetsee@up.ac.za](mailto:nicoleen.coetsee@up.ac.za) | +27 012 420 2919 (W)

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[www.up.ac.za/psych](http://www.up.ac.za/psych)

## APPENDIX B | PARTICIPANT INFORMATION SHEET



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Faculty of Humanities  
Department of Psychology

PARTICIPANT INFORMATION SHEET	
<i>Kindly complete the following and/or ✓ where applicable</i>	
Name and Surname	
Unique code (to be provided by researcher):	
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Age Group	<input type="checkbox"/> 20 – 30 <input type="checkbox"/> 31 – 40 <input type="checkbox"/> 41 – 50 <input type="checkbox"/> 51 – 60 <input type="checkbox"/> 60+
Contact details (for further research phases if need be)	
Email Address: Telephone / Cell Number:	
Highest qualification	<input type="checkbox"/> Grade 12 (Matric) <input type="checkbox"/> Certificate <input type="checkbox"/> Diploma <input type="checkbox"/> Undergraduate <input type="checkbox"/> Graduate <input type="checkbox"/> Post Graduate/Multiple Degrees <input type="checkbox"/> Other
Designation on leadership pipeline (e.g. manage self / manage team / manage function, etc.)	
_____	

## APPENDIX C | INTERVIEW GUIDE

### Semi-Structured Interview Guide | Phase 3

Name of interviewee / research participant:
Date and place of interview:
Job title:
Level on leadership pipeline:

- Given thanks for opportunity to interview.
- Explain confidentiality in relation to informed consent.

#### Probe Questions:

1. What would be your job's greatest challenges or expectations that you consider as rather taxing to your wellbeing?
2. Would you consider your job resources to be in line with, falling short or exceeding your probability to meet job demands or expected output? Explain your answer.
3. What is your understanding of the concept of Burnout?
4. What would you consider as the prevalence of burnout in your company?
5. Would there be in your mind a link between leadership and burnout? Explain your answer.
6. Do you consider employees fulfilling the financial function in a company as more prone to burnout? Explain your answer.
7. Would you consider yourself as burnt out or at risk for burnout?
8. What in your mind would give rise to burnout?
9. What physical symptoms do you experience that you relate to burnout?
10. What psychological or emotional symptoms do you experience that you relate to burnout?
11. Do you think there is a link between burnout and emotions? If so, what kind of link?
12. Do you recognize, acknowledge and/or value the importance of emotions in the workplace?
13. Would you express your emotions at work and if so, do you regard it as effective? Explain your answer.
14. What interventions or coping mechanisms are you utilizing to combat burnout?
15. What do you think would be the cost to the company of burnt out employees?
16. What possible preventions for burnout to occur would you suggest?

## APPENDIX D | ETHICAL CLEARANCE



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
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Faculty of Humanities  
Research Ethics Committee

17 March 2014

Dear Prof Maree

**Project:** The role of emotion, psychophysiological markers of  
burnout and their relevance within the leadership pipeline  
**Researcher:** M Jooste  
**Supervisor:** Dr N Coetzee  
**Department:** Psychology  
**Reference number:** 14003857

Thank you for your response to the Committee's correspondence of 5 March 2014.

I have pleasure in informing you that the Research Ethics Committee formally **approved** the above study at an *ad hoc* meeting held on 13 March 2014. Data collection may therefore commence.

Please note that this approval is based on the assumption that the research will be carried out along the lines laid out in the proposal. Should your actual research depart significantly from the proposed research, it will be necessary to apply for a new research approval and ethical clearance.

We wish you success with the project.

Sincerely

**Prof. Karen Harris**  
Acting Chair: Research Ethics Committee  
Faculty of Humanities  
UNIVERSITY OF PRETORIA  
e-mail: karemn.harris@up.ac.za

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Research Ethics Committee Members: Dr L Blokland; Prof M-H Coetzee; Dr JEH Grobler; Prof KL Harris(Acting Chair); Ms H Klopper; Dr C Panebianco-Warrens; Dr C Puttengill; Prof GM Spies; Dr Y Spies; Prof E Taljard; Dr P Wood

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## APPENDIX E | PARTICIPANT INFORMED CONSENT



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Faculty of Humanities  
Department of Psychology

Marli Jooste | Researcher  
Cell: 072 991 6992  
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Email: [mj@marlijooste.co.za](mailto:mj@marlijooste.co.za)

### PARTICIPANT INFORMED CONSENT

#### Title of the Study:

The Role of Emotion, Psychophysiological Markers of Burnout and the Relevance Thereof within the Leadership Pipeline

#### Declaration by Participant:

I, the undersigned ..... (Name) with ID No:  
.....hereby confirms that:

- a) I was invited to participate in the above-mentioned research study which is being done under the auspices of the Department of Psychology, Faculty of Humanities, University of Pretoria;
- b) The following aspects have been explained to me:

#### Purpose of the Study:

- To conduct a psychophysiological study on burnout and the relevant emotional markers as experienced by those in the South African leadership pipeline.

#### Procedure:

Should I decide to participate:

- j I will be requested to sign this document stating that I fully understand the nature of the study and that I voluntarily agreed to participate in the study.
- j I will be requested to complete the following:
  - j Three (3) computerised assessments in the format of questionnaires or inventories (links to be emailed to participants). It should take approximately an hour to an hour and a half (1½) altogether. Detailed instructions will be forwarded with the links.
  - j A sub-sample will be identified out of the initial sample group and should I be randomly chosen for the next tier of study, a brief physiological measurement will be taken. Clear instructions and an illustration will be provided prior the measurement.
  - j This physiological measurement will include the following:
    - o I will be supplied with the mobile EEG unit of the BIOPAC Smart Centre, to tune into electric signals produced by the brain to detect the user's brain waves in real time.
    - o I will also be supplied with a ViPort which measures Cardiovascular Stress Index, heart rate and rhythm. While in a seated position and maintaining an upright posture, the top two electrodes of the Viport are placed on the first intercostal space

of the participant. Once correctly placed on the participant, the Viport is started. The reading will be taken uninterruptedly for two minutes.

- j A sub-sample will be identified out of the 2<sup>nd</sup> tier sample groups and should I be chosen for the next tier of study, a semi-structured interview will be conducted. The interview will take approximately 30 minutes to an hour. The Researcher will make use of a digital recorder to record the interview.

**Risks:**

There are no risks associated with participation of the study. However, allergies should be reported prior to the physiological measurements. The latter with specific reference to the conducting gel used when applying the electrodes. In very few cases allergies were reported and precaution would be best.

**Participant's Rights and Confidentiality:**

- j Voluntary participation: I am participating out of free will and is or was not forced to do so. I may thus also exit from the study at any time should I wish to do so.
- j I have a right to confidentiality which will be guaranteed at all times; therefore my particulars will be treated as confidential and anonymity will be ensured.
- j I will have access to a referral list of professionals should I seek professional help or counselling. Should psychological trauma arise as a result of the research; debriefing and/or a counselling session will be provided by a professional at no cost.
- j I will have free access to the outcome of the study but no personal details will be revealed.
- j **Financial aspects:** I will not receive any remuneration for participating in the study. There will also not be any costs for me to participate in the study.
- j Findings may be used for future research purposes (data will be stored at the University of Pretoria for a period of 15 years); yet no personal details will be revealed that could relate back to me as participant.

**Right of Access to Researcher:**

Should any further clarity be needed, I do not have to hesitate to contact the researcher herself or the study's supervisor, Dr Nicoleen Coetzee. Contact details as follow:

- Dr. Nicoleen Coetzee at the Department of Psychology (University of Pretoria) - [nicoleen.coetzee@up.ac.za](mailto:nicoleen.coetzee@up.ac.za) | +27 012 420 2919 (W)
- Marli Jooste – [mj@marlijooste.co.za](mailto:mj@marlijooste.co.za) | +27 72 991 6992

The information above was explained to me. I was given the opportunity to ask questions and all these questions were answered satisfactorily. No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage.

I hereby consent voluntary to participate in the abovementioned project.

Signed at ..... (Place) on ..... 20 ..... (Date)

\_\_\_\_\_  
**Participant**

\_\_\_\_\_  
**Researcher**